

Andromeda Metals Limited ABN: 75 061 503 375

### Corporate details:

ASX Code: ADN Cash: \$1.774 million

(as at 30 September 2018)

Issued Capital:

1,079,361,560 ordinary shares 486,280,451 ADNOB options 2,476,507 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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### METALS

# **ASX Announcement**

24 October 2018

# Exploration Licence Application for Mount Hope Halloysite Kaolin

## **Summary**

- Andromeda Metals has applied for an exploration licence for 227 square kilometres of land in the Mount Hope area, about 80 kilometres northwest of Port Lincoln in South Australia.
- Previous exploration at Mt Hope in 1973 identified a historical kaolin resource of 12.26Mt, consisting of approximately 74% filler quality and 26% coating quality material. This mineral resource estimate is not reported in accordance with the JORC 2012 Code and investors are cautioned that the Company has not yet completed the work to verify the historical resource estimate¹ (Appendix A).
- Two Mining Leases were previously granted for this deposit and a 40 tonne sample was collected and shipped to Germany for testing.
- Technical work conducted on samples taken from later RC drilling confirmed the existence of high value halloysite kaolin material equivalent to the Poochera Project Carey's Well deposit.
- Previous companies were targeting paper grade kaolin at Mount Hope, but that is an application where halloysite is not desirable so the Exploration Licence and Mining Leases were dropped.
- The market price for halloysite kaolin is growing due to closure of large production facilities in China by government environmental authorities.
- Halloysite kaolin is now recognised as a high value form of kaolin and demand is growing.

<sup>&</sup>lt;sup>1</sup>A competent person has not done sufficient work to classify the historical estimates as mineral resources in accordance with the JORC 2012 Code and it is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources in accordance with the JORC 2012 Code.

### **Discussion**

Andromeda Metals (ASX: ADN) is pleased to announce that an application has been made for an Exploration Licence covering a 227<sup>2</sup> km region in the Mount Hope area of South Australia. Mount Hope is approximately 80 kms northwest of Port Lincoln and has had several stages of exploration conducted over an almost thirty-year period by companies looking for a kaolin that was suitable for use in paper applications.

The previous work resulted in a historical kaolin resource of 12.26Mt consisting of approximately 74% filler quality and 26% coating quality material (see Appendix A), along with the granting of two Mining Leases and the collection of a 40 tonne bulk sample. Subsequent mineralogical analysis by the South Australian Department of Mines and Energy in 1989 showed the presence of a significant amount of halloysite kaolin, which is a rare and higher value form of the mineral, although not suitable for use in paper making.

Chinese porcelain manufacturing companies have already signed non-binding Letters of Intent for offtake in excess of 200,000Mtpa of Carey's Well halloysite kaolin product (Poochera Project), and there is considerable interest in Direct Shipping Ore (DSO) business from kaolin processors.

Chinese Government anti-pollution measures have resulted in the closure of numerous mines in China. This combined with limited global availability of high quality halloysite kaolin has Chinese porcelain producers concerned for supply security and has resulted in price increases.

Many large-scale Chinese kaolin processors also now have significant spare capacity due to the decrease in availability of high-quality raw materials, combined with higher demand from the domestic porcelain sector. This makes any additional halloysite kaolin material at Mount Hope a valuable potential resource for future business.

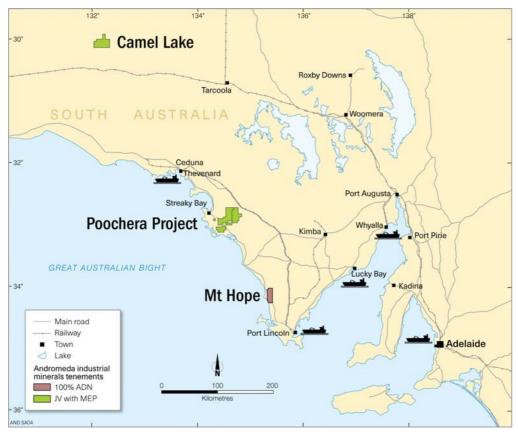


Figure 1 – Andromeda Metals Halloysite-Kaolin interests

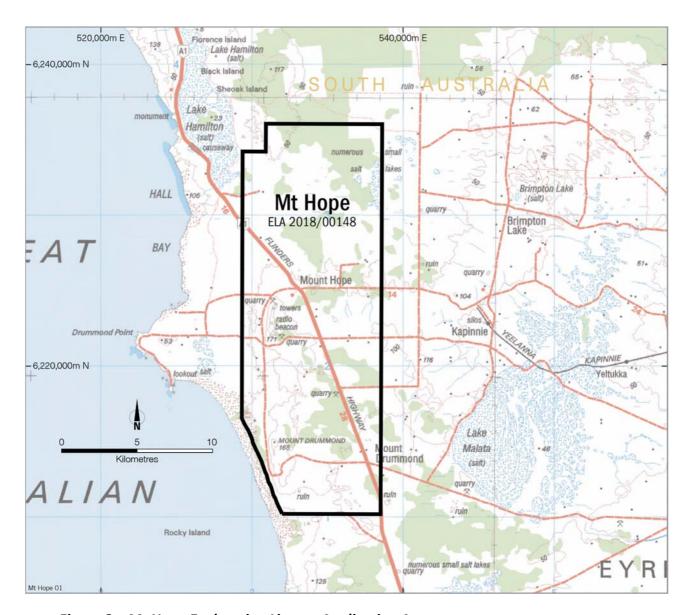


Figure 2 – Mt Hope Exploration Licence Application Area

### **Contact:**

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# **Peter Taylor**

**Investor Relations** 

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### **Competent Person's Statement**

Information in this announcement has been compiled by Mr Rhoderick Grivas, a member of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Grivas is an employee of the Andromeda Metals Limited, has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr Grivas consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

# Cautionary statement:

The historical estimate of Mineral Resources is not reported in accordance with the JORC 2012 Code. A Competent Person has not done sufficient work to classify the estimate of Mineral Resources in accordance with the JORC 2012 Code. It is possible that following evaluation and/or further exploration work the currently reported historical estimate may materially change and hence will need to be reported afresh under and in accordance with the JORC 2012 Code. ADN will need to complete replacement drilling to validate the historical estimate and therefore is not to be regarded as reporting, adopting or endorsing the estimate.

# Appendix A

As required under ASX listing rules, Chapter 5, 'Requirements applicable to reports of historical estimates and foreign estimates of mineralisation for material mining projects', the following information is provided as support for the historical mineral resource estimate.

5.12.1 - The source and date of the historical estimates	.Mt Hope Kaolin Deposit - Progress and final reports to licence renewal for the period 30/3/1973 to 29/9/1974, Abaleen Minerals NL - Summers, G.; Stadler, G.; Werner, H.; Boeck, G SARIG (South Australian Resources Information Gateway)
5.12.2 - Whether the historical estimates use categories of mineralisation other than those defined in Appendix 5A (JORC Code) and if so, an explanation of the differences.	The Mt Hope Deposit historical estimate was pre-JORC Code 1989  First Edition and used inappropriate categorisation of Indicated  Reserve and is <i>not compliant with JORC (2012) or any previous JORC Codes</i> .
5.12.3 - The relevance and materiality of the historical estimates to the entity.	The Mt Hope Deposit historical estimate is relevant and material as the Company has applied for an Exploration License over the deposit with the stated aim of further drilling and delineation of a JORC 2012 Mineral Resource. The historical estimate provides a defined location to re-drill and test. No halloysite analysis included in the historical estimation.
5.12.4 - The reliability of the historical estimates, including by reference to any of the criteria in Table 1 of Appendix 5A (JORC Code) which are relevant to understanding the reliability of the historical estimates.	The Mt Hope Deposit kaolin historical estimate was based on a manual polygonal estimate of 36 'air rotary flush' (air core) holes from an approximate total 65-70 holes, some 26 holes were cased to the overburden/kaolin interface. Holes were drilled vertically and surveyed for N, E, RL. Samples were collected as slurry and contamination was minimised by cleaning out the hole at the end of each rod. Contamination was easily determined visually due to changing colorations.
	Database integrity was not provided although data was manually recorded and reported. Holes were geologically logged and sampled on visual kaolin whiteness. Geological sections were used to determine the upper and lower limits of the kaolin mineralization and calculate widths.
	Samples were sent to Amdel in Adelaide (independent laboratory) for sizing, brightness, yellowness, viscosity and elemental analysis. The -20micron fraction ranged from 27-68% and the -2micron fraction was used for chemical analysis.
	A 40 tonne bulk sample was collected from within the resource envelope and sent to Germany for analysis, including whiteness, hue, grit content and grain size distribution. Results determined that the R457 whiteness of 82% and other measures were equivalent to English and American paper coating clays. Based on the 40t bulk sample results it was estimated 35% of the kaolin ore was kaolin final product with an estimated 74% filler quality and 26% coating quality. No halloysite analysis was included in the historical estimation.
	The estimation technique was appropriate for the time and for the

style of mineralization, based on a simple large contiguous geological model of an industrial mineral. The areal extent was based on the polygonal area determined from the drilling. The thickness was based on a conservative average thickness of 35 drillholes. A SG of 2.4 was used although no evidence was provided as to how this was calculated. No allowance appears to have been made for the local moisture content. A rudimentary scoping study was completed based on the resource and the bulk sample results and therefore mining and processing factors were considered.

The estimation was pre-JORC and classified as a reserve by a geologist who appears to have had had international kaolin experience, however using current classifications this historical resource would at best only meet the lowest resource classification. The author and Competent Person has not visited Mt Hope, although has visited kaolin resources in the area.

5.12.5 - To the extent known, a summary of the work programs on which the historical estimates are based and a summary of the key assumptions, mining and processing parameters and methods used to prepare the historical estimates.

The Mt Hope Deposit and surrounds were drilled with approximately 65-70 'air rotary flush' hole drilled between Feb 1972 and May 1973 including and within 3km of the deposit, with 26 holes cased to the overburden/kaolin interface. Holes were geologically logged and sampled on visual kaolin whiteness. 36 of the holes showed good consistent areal extent and thickness of white kaolin averaging 14m thick. Independent lab, Robertson Research (Australia) PL on the early samples conducted brightness, yellowness and viscosity measurements with brightness determination of 87 and yellowness of 2 with no bleaching. And after intense tests a viscosity index of 69.9 weight %. Geologisches Landesamt Westphalia , Germany conducted sizing distribution on 82 samples finding 39.1% passes -20 micron representing pure kaolin, of that 13.3% pass -2micron , indicated 2/3 of the kaolin could be utilised for filler and 1/3 for coating.

5.12.6 - Any more recent estimates or data relevant to the reported mineralisation available to the entity.

To the best of the Company's knowledge there are no more recent estimates or data that is relevant to the Mt Hope Deposit historical mineral resource estimate.

5.12.7 - The evaluation and/or exploration work that needs to be completed to verify the historical estimates mineral resources in accordance with Appendix 5A (JORC Code).

Once the Exploration License is granted the Company intends to commence a drilling campaign that will be aimed at confirming and /or extending the mineralisation at Mt Hope. The work will involve redrilling the deposit completely using the existing information as a guide to locate drilling. This new drilling will then be used to determine the quality of the kaolin material and to determine the quantity of the halloysite. If appropriate a mineral resource estimate for kaolin and halloysite will be completed that will conform to JORC (2012) reporting requirements.

5.12.8 - The proposed timing of any evaluation and/or exploration work that the entity intends to undertake and a comment on how the entity intends to fund that work.

A drilling campaign to confirm and/or expand the historical resource at Mt Hope can commence on the approval of the exploration license and approval from landowners to access their properties. This can take a number of months very time dependent on the departmental and landowner approvals. If approved within the next 6-9 months the company has sufficient funds to complete exploration including drilling into the historical resource envelope.