



Alpha HPA

ASX: A4N
ASX Announcement
30 January 2019

The Manager Companies
ASX Limited
20 Bridge Street
Sydney NSW 2000

(5 pages by email)

REPORT ON ACTIVITIES FOR THE QUARTER ENDED 31 DECEMBER 2018

HIGHLIGHTS

RELEASE OF 'HPA FIRST' PRE-FEASIBILITY STUDY

- The 'HPA First PFS' has delivered a compelling business case for the development of a High-Purity Alumina (HPA) production facility using the Company's licenced proprietary solvent extraction (SX) and refining technology.
- PFS highlights include:
 - Production rate of 10,200tpa HPA.
 - Unit cash costs of A\$8,538 (US\$6,403)/t HPA after by-product credits.
 - Annual EBITDA of A\$248M (US\$186M).
 - Project CapEx of A\$215M (US\$161M).
 - Capital intensity of A\$21,043 (US\$15,783)/t HPA.
 - Sensitivity analysis shows a highly resilient project that is strongly profitable at HPA prices as low as US\$10,000/t.
- The Company is now committed to immediately transitioning to a higher-confidence Definitive Feasibility Study to position the Company to make a Final Investment Decision.

PROCESS IMPROVEMENTS ACHIEVED ON 2nd SX MINI-RIG RUN

- Continued HPA purity improvement, reaching high quality 4N purity of 99.994%.
- Improved aluminium extractions reaching 87.4%.
- Extended 6-day SX campaign demonstrates process stability.

CORPORATE

- Change of Company name from Collierina Cobalt Limited (ASX:CLL) to Alpha HPA Limited (ASX:A4N).
- Strong interest received following SE Asian marketing visit to potential HPA offtake parties.

HPA FIRST PRE-FEASIBILITY STUDY

On 20 November 2018 the Company was pleased to release the outcomes of the Pre-Feasibility Study (PFS) on the HPA First Project. The HPA First Project is the application of the Company's licenced proprietary SX and refining technology to produce HPA from an industrial feedstock, as adopted by the Company in July 2018.

The PFS delivered a highly attractive business case, capable of delivering the production of 10,200tpa 4N (99.99% purity) HPA into the HPA market.

PFS highlights included:

- **Production rate of 10,200tpa HPA.**
- **Unit cash costs of A\$8,538 (US\$6,403)/t HPA after by-product credits.**
- **Annual EBITDA of A\$248M (US\$186M).**
- **Annual pre-tax free cash flow (FCF) of A\$247M (US\$185M).**
- **Project CapEx of A\$215M (US\$161M).**
- **Capital intensity of A\$21,043 (US\$15,783)/t HPA.**
- **Sensitivity analysis shows a highly resilient project that is strongly profitable at HPA prices as low as US\$10,000/t.**

PFS Summary

The key financial metrics of the PFS are presented below.

As the HPA First Project is not constrained by mine life, there is no fixed project life, and therefore a discounted cash flow (DCF) analysis was not performed. Rather, the financial analysis was presented on an EBITDA basis. Subject to the assumptions made, Alpha HPA expect the projected earnings to be maintained over the long term, providing an extremely attractive investment proposition.

HPA First Project Key Project Parameters	A\$	US\$
	A\$/US\$ Exchange Rate	0.75
HPA Production (t/y)	10,200	
HPA Price Assumption (\$/t HPA)	\$33,333	\$25,000
Annual Revenue (including by-products)	\$384 million	\$288 million
Annual Average Cash Operating Cost	\$131 million	\$98 million
Unit Cash Cost (\$/t HPA)	\$12,852	\$9,639
Unit Cash Cost accounting for by-products (\$/t HPA)	\$8,538	\$6,403
Annual Free Cash Flow (FCF)	\$247 million	\$185 million
Annual EBITDA	\$248 million	\$186 million
Aluminium Feedstock Processed (t/y)	65,753	
Pre-Production Capital Cost	\$215 million	\$161 million
Capital Intensity (CapEx\$/ per tpa HPA)	\$21,043	\$15,783
Gross margin % (FCF/ Revenue)	64%	
Payback (years)	Less than 2 years	

The Company confirms that all material assumptions underpinning the PFS production target and the forecast financial information derived from the production target continue to apply and have not materially changed.

Managing Director, Rimantas Kairaitis, commented “*We are delighted that the PFS has delivered such a compelling business case for the HPA First Project. These highly attractive financial metrics capture the unique opportunity that the Company has to supply the fast growing HPA market as it expands with the burgeoning battery sector. The Company is now committed to immediately transitioning to a higher-confidence Definitive Feasibility Study to position the Company to make a Final Investment Decision.*”

Next Steps

Based on the PFS having delivered a technically viable project with a very attractive business case, the Company is now transitioning to a Definitive Feasibility Study (DFS) for the purposes of validating the project to the detail to allow the Company to make a Final Investment Decision. The DFS is expected to be significantly based off a pilot scale processing plant, to be constructed and run within the dedicated secure premises in Brisbane which housed the recent second mini-rig SX program. The pilot plant program will seek to validate the process at a larger scale and on a continuous basis, to further de-risk the process flow sheet. The Company has already built a pilot plant equipment list and placed orders for a number of long-lead items required for the pilot plant.

The DFS pilot plant has been scheduled to run from March to May 2019.

In parallel, the Company has set out plans for a program of technical interim works, required to maximise the technical confidence of the upcoming DFS.

CONTINUED PROCESS IMPROVEMENT ON 2ND SX MINI-RIG RUN

During the quarter the Company successfully completed a second SX mini-rig test run to produce HPA using the HPA First Process. The second SX mini-rig run incorporated a number of process improvements identified from the first SX mini-rig and HPA refining run (refer ASX Release: 6 August 2018).

The second run operated continuously for 6 days at the Company’s dedicated laboratory in Brisbane. Key outcomes from this second SX mini-rig and HPA refining run included:

- Substantial improvement in process stability indicated by the extended 6-day continuous run.
- Substantially higher aluminium extractions, reaching 87.4% recovery under steady state conditions.
- Continued HPA purity improvement, reaching high quality 4N purity of 99.994%.

HPA Refining and Assay

Sub-samples of strip liquors for each day of the SX run were refined into HPA (see Figure 1, below). Assay results indicated further improvements in rejection of impurities with HPA purity reaching 99.994% purity (elemental basis) and 99.992% purity (oxide basis). These results are consistent with the existing market requirements for high quality 4N HPA, which attracts premium 4N HPA pricing. Preliminary offtaker feedback indicates that there are no impurities present which represents any concern for dis-colouration in sapphire glass, and so is immediately suitable for the LED market.

In addition, X-Ray Diffraction (XRD) analysis of the HPA samples returned as 100% alpha (α) crystal form, matching the requirements of producers of sapphire glass and lithium-ion battery separators.

The successful completion of an extended, higher volume solvent extraction run provides validation of the quality and stability of our HPA First process and provides confidence of its scalability to commercial levels of production.



Figure 1: High Purity Alumina produced from the second SX mini-rig run

COLLERINA PROJECT

(100% Alpha HPA and subject to commodity split agreement)

Nickel-Cobalt-Scandium Potential

The HPA First Project provides the opportunity for the cheaper, faster and more readily permitted component of the Collerina Project to be fast tracked. The Company still considers that the chemical characteristics of the Collerina Project ore represent a unique opportunity to produce nickel, cobalt, scandium (and HPA), when compared to other nickel-cobalt laterite proponents. However, further studies will be required to assess the technical and financial case for the integration of the Collerina Project into the HPA First Project and to expand the revenue base into these other products. The Company remains committed to realising full value for shareholders from the advancement of its Collerina Project.

Further information on the Company's 'HPA First' Pre-feasibility Study can be found in the ASX release dated 20 November 2018 – *HPA First Pre-Feasibility Study (PFS)*

WONOGIRI PROJECT – INDONESIA

(45% Alpha HPA)

The Company is continuing the advancement of its AMDAL study (environmental impact study) for the Randu Kuning gold-copper deposit and associated aggregate deposit. A field visit by the DLHK (Environmental and Hygiene Office) and also an expert team was conducted in December 2018 where plans for infrastructure including pit, processing plant and tailings locations were reviewed.

The Company plans to make a formal submission and presentation of its AMDAL in the March 2019 quarter, the acceptance of which will see the Company awarded a 20-year operation production IUP (with 10-year extension) for the Randu Kuning gold-copper deposit and an initial 5 year aggregate operation licence, which can be extended for two additional 5 year terms.

The Company has also lodged a request to have the suspension of its licence renewed to allow it to complete the AMDAL and believes that the extended suspension should be awarded.

CORPORATE

Change of Company Name

Following shareholder approval the Company's name was changed from Collerina Cobalt Limited to Alpha HPA Limited and the Company's shares commenced trading under the ASX stock code 'A4N'.

South East Asian Marketing

In December the Company completed two marketing trips to South East Asia to meet with direct HPA offtake counterparties, as well as market intermediaries and battery industry advisors. The visits consolidated two positive findings relevant to the company's HPA First Project, namely:

- That both existing and new-entrant electronic vehicle (EV) battery separator manufacturers are committing large scale Capital Expenditure on battery separator facilities this calendar year to be positioned to meet the government mandated Chinese EV battery demand, and;
- That the purity and morphology of the HPA produced by the Company's process is well suited to battery separator applications and is considerable a desirable product, particularly with the volumes and CapEx requirement as set-out on the HPA First PFS.

Follow up visits are planned in the March 2019 quarter.

Issuance of options to Managing Director

Following shareholder approval, 10,000,000 unlisted options were granted to Managing Director Rimas Kairaitis. The options have an exercise price of 15c and expire on 31 October 2020.

Issuance of options to Intellectual Property Licensor

During the quarter the Board approved the issuance of 10,000,000 unlisted options to the Licensor of the Company's proprietary SX and refining technology it is utilising to produce HPA. The options have an exercise price of 20c and expire on 31 July 2022.

For further information, please contact:

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Competent Persons Statement (Exploration Results)

The information in this report that relates to Exploration Results is based on information compiled by Rimas Kairaitis, who is a Member of The Australasian Institute of Mining and Metallurgy. Rimas Kairaitis is Managing Director of the Company and has sufficient experience which is 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.' Mr Kairaitis consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Competent Persons Statement (Process Development Testwork)

Information in this announcement that relates to metallurgical results is based on information compiled by or under the supervision of Dr Stuart Leary, an Independent Consultant trading as Delta Consulting Group. Dr Leary is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Dr Leary has sufficient experience to the activity which he is undertaking to qualify as a Competent Persons under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Leary consents to the inclusion of the technical data in the form and context in which it appears.

For further information on testwork results and processes see ASX announcements dated 4 December 2018, 20 November 2018, 6 September 2018, 31 August 2018, 9 July 2018, 30 April 2018, 26 April 2018, 21 March 2018, 6 March 2018, 21 February 2018, 8 December 2017, 30 November 2017, 29 November 2017, 24 November 2017 and 13 November 2017.

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