ASX: **A4N**
ASX Announcement
28 October 2022
(9 pages)

Alpha HPA
The Manager Companies - ASX Limited
20 Bridge Street
Sydney NSW 2000

ACTIVITIES REPORT FOR THE QUARTER ENDED 30 SEPTEMBER 2022

HIGHLIGHTS

STAGE 1 – PPF: NOW COMMISSIONING

- Mechanical completion achieved and all civil works completed
- Mains electricity connected – supplied with 100% renewable energy
- Control system installed and operational
- Test runs complete on key utilities and equipment
- Administration and lab buildings installed and occupied
- Plant commissioning commenced
- First aluminium feedstock and SX chemical deliveries received
- Federal Government Critical Minerals grant of $15.5M to fund Stage 1 expansion confirmed

PRODUCT MARKETING

- MoU signed with Brenntag – world's largest chemical distributer
- Expanded US and Japan marketing
- Increased interest and product orders from US semiconductor sector
- Gamma HPA qualified and bid submitted with EU catalyst end-user
- HPA order received for delivery from Stage 1 - PPF
- Further Al-nitrate sales
- Li-ion anode and cathode coating test work expands
- Nano-HPA powder qualified with Japanese -based LED chemical company
- Successful development of 5N purity anhydrous Al-sulphate precursor
- Test orders under manufacture across LED, Li-ion battery, semi-conductor and sapphire glass sectors

STAGE 2 – FULL SCALE PROJECT

- Federal Govt $45.0M MMI-C grant advanced for Stage 2
- Lender due diligence advanced
- Product optimisation studies advanced

CORPORATE

- Appointment of Dr Regan Crooks as Non-Executive Director
- Receipt of $2.0M R&D Tax Incentive refund for the 2020/21 financial year

HPA FIRST PROJECT
SUPPLYING DE-CARBONISATION

The Board of Alpha HPA Limited ('Alpha' or 'the Company') is pleased to provide the September 2022 quarterly activities report.

Alpha remains strongly focused on the delivery of the HPA First Project in Gladstone, Queensland, which represents the commercialisation of the Company's proprietary aluminium purification and refining technology. The HPA First Project will deliver a range of ultra-high purity aluminium products that are critical materials to the supply chains of key de-carbonising high-technology sectors including:

- LED lighting;
- Lithium-ion batteries; and
- Semi-conductors.

Activities in the September 2022 quarter were focused on:

- construction and commissioning activities related to the delivery of the Stage 1 Precursor Production Facility ('PPF'). The Stage 1 PPF is the Company's first commercial production facility representing the acceleration of commercial production and cashflows through the Company's ultra-high purity aluminium precursors. At the end of the quarter the Company announced that installation of all mechanical equipment had been completed and commissioning activities had commenced;
- ongoing product marketing and product development activities of the Company's suite of ultra high-purity precursor and alumina products including marketing trips to the US and Japan to further technical and commercial discussions with a potential end users. Marketing efforts have been substantially boosted by the opening of overseas travel; and
- continuing to advance a number of the conditions precedent to the Final Investment Decision (FID) on the full scale HPA First Project.

Further details on these activities are outlined below.

STAGE 1 - PPF

Mechanical completion and commencement of commissioning

The end of the September quarter saw the milestones of mechanical completion and the commencement of commissioning of the Stage 1 PPF. A mechanical completion certificate was issued by the SMP (Structural, Mechanical and Piping) installer.

In addition, all civil works are now complete and electrical and instrumentation (E&I) installation finalised.

During the quarter, the Stage 1 PPF was connected to mains electricity supplied via CleanCo QLD generated from 100% renewable sources.

Commissioning activities have now commenced as summarised below:

Process control and equipment testing

The process control system is now installed and under commissioning including staging valves, test running electrical equipment including filter presses and bump testing of agitators and pumps.

Process utilities testing

The following process utilities have now been test run and vendor commissioned:

- main air compressor;
- demineralised water system;
- cool water/ chiller and cooling fan;
- hot oil system; and
- fume extraction and scrubber system.

Reagent and chemical deliveries have commenced with LPG and solvent extractant received. Immediately post-quarter end the first aluminium feedstock from Rio Tinto Aluminium has been received, with first reagent deliveries from Orica scheduled to be received in early November.

First feedstock ready for feed preparation

Hydrostatic testing

Hydrostatic (water) testing and pneumatic testing of all major vessels and piping was well advanced at the end of the quarter.

Administration and lab buildings

Installation and certification of administration and laboratory buildings was completed and formally occupied by the Alpha operations team. The operations team has now moved to 24/7 shift operations and finalising training, plant inspections and testing.

Operations readiness

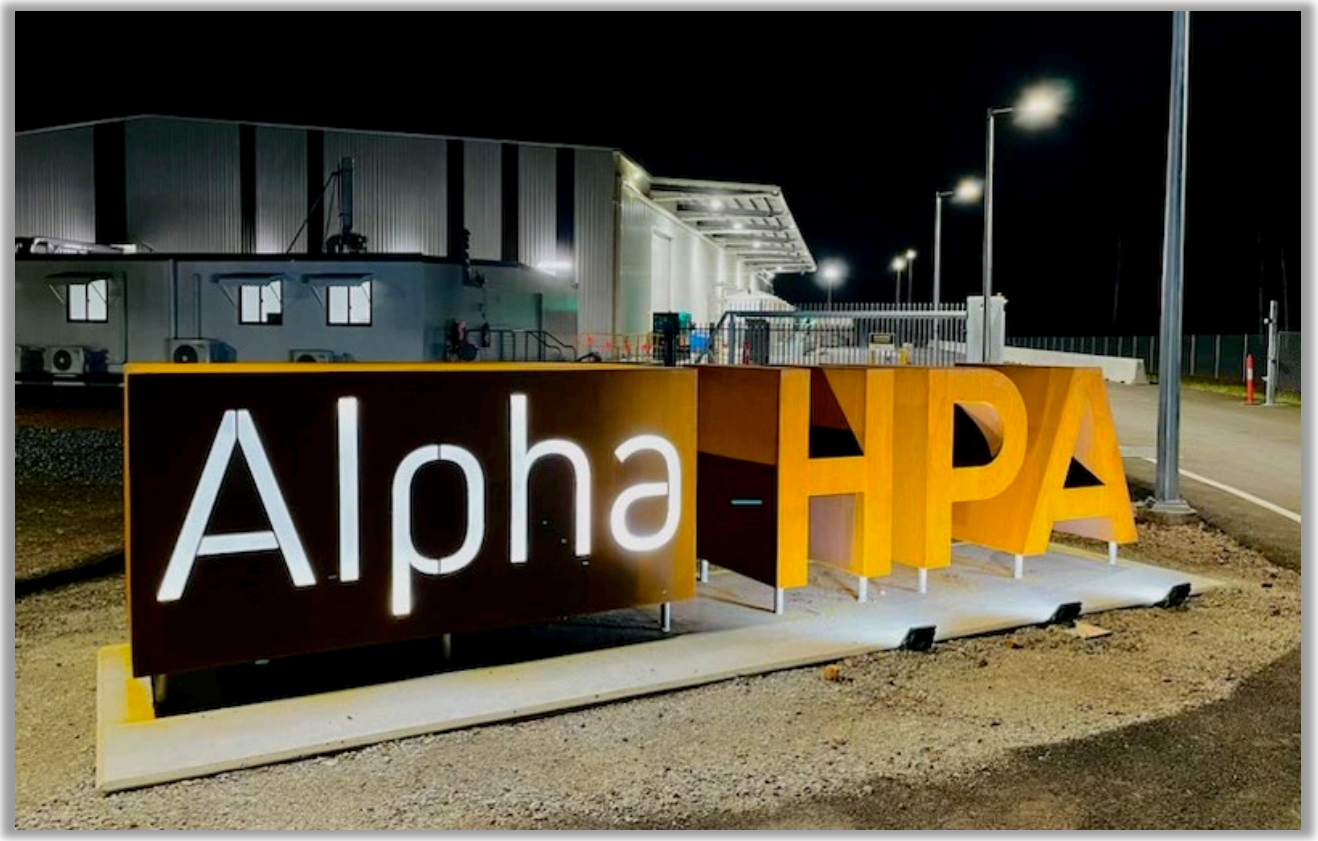
Senior operations leadership and technical staff have now relocated to Gladstone to focus on operations readiness.

All technical and operations positions have now been filled with the final cohort starting 5 September. With the remaining Stage 1 operation staff commencing, Alpha currently has a 44% female workforce.

Other site activities

Other site activities include:

- security fence and gate installed;
- fire tanks filled and pump system tested and commissioned; and
- final landscaping underway.



Stage 1 PPF - external night view

Federal Government $15.5M Critical Minerals Grant Confirmed

In September 2022 Alpha was notified that the $15.5 million grant approved under the Critical Minerals Development Program (CMDP) had been confirmed. The CMDP grant was formerly named the Critical Minerals Accelerator Initiative (CMAI).

The $15.5M CMDP grant funds will be applied towards immediately expanding and accelerating the production capability of the PPF.

Specifically, this CMDP grant funding will be directed towards:

- further expanding Stage 1 PPF production capacity of aluminium nitrate and aluminium sulphate;
- facilitating up to 10tpa of additional capacity of High Purity Alumina (HPA) production;
- facilitating up to 10tpa of additional capacity of High Purity Boehmite production;
- facilitating the addition of tableting capacity to produce HPA tablets for sapphire glass growth; and
- installation of a large rooftop solar array and battery storage capacity to manage peak demand.

Access to the grant funds will follow completion of the grant agreements, expected in November 2022. Alpha will then immediately commence procurement of several pieces of capital equipment, enabling several existing tonnage-scale product orders to be fulfilled.

PRODUCT MARKETING

MOU signed with Brenntag

Alpha has signed a Memorandum of Understanding (MoU) with the world's largest chemical distributer, Brenntag Holding GmbH (Brenntag) for the potential sale and/or distribution of Alpha's products within Europe, Middle East and Africa (EMEA). Alpha and Brenntag will work co-operatively and on a non-exclusive basis to develop end-user markets and logistics solutions to the battery chemical markets.

The MoU also considers potential commercial collaboration in test and/or commercial production facilities.

Expanded US and Japan Marketing

During the September quarter Alpha completed marketing visits to the US and Japan to visit existing and prospective end-users as well as to attend the North American Battery Show in Detroit. The Li-ion battery sector in North America in particular, has recently seen a dramatic increase in capital and technology investment, accelerated by the Production Tax Credits and Consumer Tax Credit incentives within the US Inflation Reduction Act (IRA).

Highlights from the Company's recent marketing trips include:

- test orders for each of Alpha's high purity precursors to a rapidly growing US-based cathode manufacturer and for a US based R&D facility of a global chemical company and cathode developer;
- expanded interest from anode and cathode active material manufacturers leading directly to four new test work programs placing high-purity aluminium oxide particle coating using Alpha's aluminium nitrate precursor; and
- expanded interest in the US semi-conductor sector (see below).

Increased interest and product orders from US semiconductor sector

Similar to the Li-ion battery sector, the US domestic semiconductor sector is undergoing strong capital and supply chain expansion through re-shoring initiatives stimulated by the US CHIPS Act.

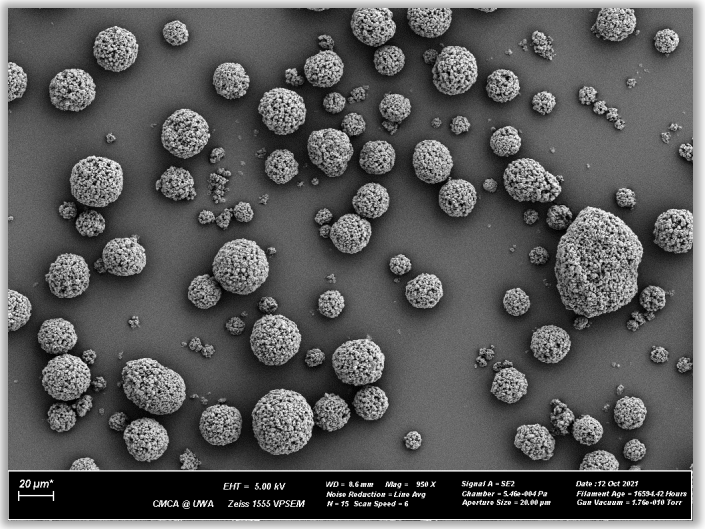
The recent US marketing trip included a technical meeting at the headquarters of a global manufacturer of semiconductor polishing slurries (CMP slurries) to define supply and change management conditions and further product orders of nano-alumina for CMP polishing testwork.

By mid-October the Company had received and partially fulfilled multiple product orders for both nano-alumina and high purity boehmites, for testing by two further US based end users within the semiconductor industry.

The final application for each is believed to be for polishing slurries for semi-conductor substrates (CMP Slurries).

Gamma HPA qualified and bid submitted with EU catalyst end-user

Alpha has qualified one its high-purity gamma alumina products with an EU based catalyst end-user. This product is a spherical gamma powder, specifically developed for specialist, high value catalyst applications. Bid pricing and freight terms have been requested and supplied, with expected first deliveries in 2023 if successful.



SEM image of Alpha's high purity, special gamma HPA powder

Nano HPA qualified and bids submitted with Japan-based LED chemical company

In mid-October Alpha was notified of successful qualification of Alpha's nano-alumina with a Japanese based chemical company which manufactures specialist materials for the LED sector. Price bids have been now submitted through Alpha's Japanese marketing agents.

HPA order received for delivery from Stage 1 PPF

Following successful qualification, Alpha received a sales order from a US based lithium-ion battery manufacturer for an initial 1 metric tonne of HPA for delivery from the Stage 1 PPF in April 2023. The customer is in the early stages of scaling their manufacturing, with larger volume demand forecast from 2024.

Further Al-nitrate sales

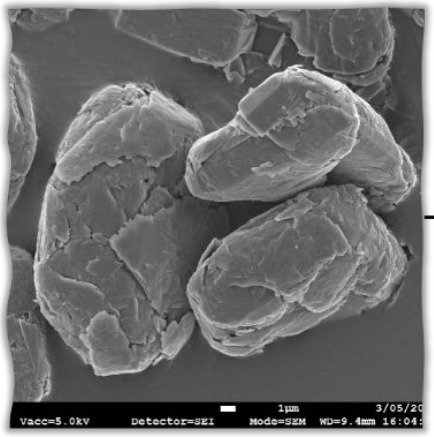
During the quarter Alpha received a further high-price sales orders via a US based web-catalogue platform for a further 9kg @ US$350/kg. The order is part of an ongoing series of sales over the previous 12 months delivering high purity aluminium nitrate to researchers and end-users. Alpha is anticipating larger volume orders through this avenue as the Stage 1 PPF ramps up production making commercial volumes available for manufacturing applications.

Anode coating test work expands

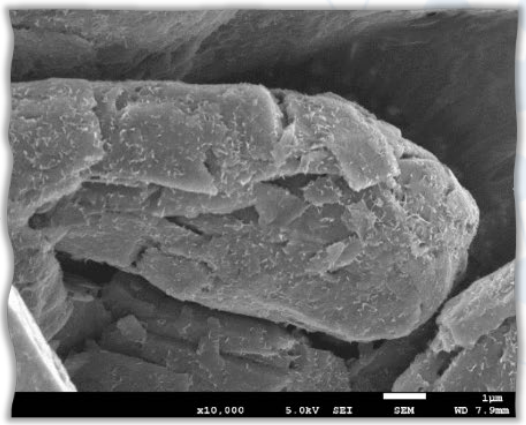
Alpha has further expanded its test work in aluminium-oxide coating of both lithium-ion cathode and anode active material utilising the Company's 5N purity aluminium nitrate as the chemical precursor.

The coating process is capable of delivering a fine controlled coating of either high purity alumina (Al_2O_3) or high purity boehmite (Al-O-OH) on either lithium-ion battery anode or cathode particles. The coating delivers a number of benefits including increased rate performance, improved safety and faster charging. First stage electrochemical results have proved strongly encouraging, particularly for the boehmite coating path, which as a lower temperature process, represents a significantly lower cost coating.

The test work is specifically designed to facilitate increased end-user acceptance of Alpha's 5N purity aluminium nitrate precursor as the key ingredient in the coating process.



SEM image of raw, uncoated graphite anode particles



SEM of ultra fine (10-20nm) Boehmite (Al-O-OH) *coated anode particles*

Subsequent to quarter end, Alpha announced that a further four Li-B anode groups, including both existing large scale anode manufacturers as well as anode developers, will commence aluminium oxide coating testwork using Alpha's aluminium nitrate as a precursor.

Alpha now has active coating test work underway or commencing with eight separate counterparties including large scale battery manufacturers as well as anode and cathode developers.

Based on the expanding interest in this application, Alpha considers the wider adoption of the coating process to be capable of driving commercial volume demand for the Company's 5N purity aluminium nitrate.

Project site visit by Li-B cathode manufacturer

Alpha has recently hosted a site visit from a large European Li-B cathode manufacturer with whom Alpha is in product qualification testing. The site visit is a required component of the on-boarding of their new suppliers.

PRODUCT DEVELOPMENT

Successful development of 5N purity anhydrous Al-sulphate precursor

Following interaction with a significant lithium-ion cathode manufacturer, Alpha's product development team have successfully developed an anhydrous form of its aluminium sulphate precursor at 5N purity.

Alpha is now marketing both anhydrous and hydrated aluminium sulphate precursors, per below:

- Hydrous Al-sulphate >> $Al_2(SO_4)_3.16H_2O$
- Anhydrous Al-sulphate >> $Al_2(SO_4)_3$

In the September quarter, test samples of anhydrous aluminium sulphate were delivered to two cathode manufacturers.

STAGE 2 - FULL SCALE PROJECT

In parallel with the delivery of the Stage 1 PPF, the Company maintains a number of workstreams directed at completing the remaining conditions precedent to the full scale HPA First Project Final Investment Decision (FID):

Federal Govt $45M MMI-C grant advanced

Alpha has been notified that $45 million grant approved under the Modern Manufacturing Initiative, collaborations stream (MMI-C) is proceeding to negotiation of a grant agreement. Funding under this MMI-C grant will only be available once the Company reaches FID on Stage 2 of the HPA First Project.

Product Optimisation

Alpha has substantially progressed a study on the full-scale facility to accommodate marketing feedback and indicative product demand. The optimised Project will include higher volumes of aluminium precursors and capacity to deliver specific products to the sapphire glass, Li-ion battery, LED and catalyst sectors. The re-configured HPA First Project product scenarios will form the final basis for Project financing.

Multi-product engineering advanced

Alpha has advanced engineering studies to incorporate multiple high purity aluminium products into Stage 2 of the HPA First Project. The Company has engaged an engineering and Structural, Mechanical & Piping (SMP) firm that specialises in off-site plant pre-assembly with a view to delivering material capital expenditure reductions in a final delivered plant.

Lender due diligence advanced

Alpha continues to advance the lender due diligence process. Following the completion of technical ITE (Independent Technical Engineer) reports and the third party, independent Environment & Social (E&S) reports, Alpha has now provided lenders with third party CO_2 modelling data and updated Project marketing status.

Lender and strategic investor site visits

Alpha recently hosted site visits from two key potential Stage 2 Project financiers and has a site visit for a potential strategic investor planned for November.

CORPORATE

Appointment of Non-Executive Director

In September the Company announced the appointment of Dr Regan Crooks as a Non-Executive Director. Regan is a Chemical Engineer who brings a wealth of experience in technology commercialisation and corporate strategy at a critical time in Alpha's development as a world class industrial chemical company.

Working in senior executive and consulting roles over the last 20 years, Regan has supported numerous multinationals, start-ups, research and venture capital groups to develop innovative products and to rapidly scale and enter global markets. As consulting CEO for private companies including Future Feed Pty Ltd and Growave Pty Ltd, Regan has been directly involved and responsible for securing numerous international licensing and collaboration partnerships and bringing new technologies to market.

Regan also has direct experience in the chemicals market having spent 7 years as R&D Manager at Solvay, a leading multinational chemical company, where she was a part of a senior management team developing and commercialising new products.

Receipt of $2.0M R&D Tax Rebate

In August Alpha announced that it had received an R&D Tax Incentive refund of $2.0 million for the 2020/21 financial year.

The R&D Tax Incentive is an Australian Government program under which companies receive cash refunds for 43.5% of eligible expenditure on research and development.

Related Party Expenditures

During the September quarter, the aggregate amount of payment to related parties and their associates totalled $348,000 comprising $214,000 of payments to Directors or Director related entities for Directors' consulting fees and $134,000 in fees were paid to MIS Corporate Pty Limited ('MIS'), an entity in which Directors Norman Seckold and Peter Nightingale have a controlling interest. MIS provides full administrative services, including administrative, Project commercial services, accounting and investor relations staff, rental accommodation, services and supplies to the Group.

About the HPA First Project

The Company's HPA First Project represents the commercialisation of the production of high purity alumina (HPA) and related high purity precursor products using the Company's proprietary licenced solvent extraction and HPA refining technology. The disruptive, low-carbon process technology provides for the extraction and purification of aluminium from an industrial feedstock to produce 4N (>99.99% purity) alumina and 5N (>99.999% purity) for sale into the lithium-ion battery and LED lighting industry.

Alpha completed a Definitive Feasibility Study in March 2020 following a successful pilot plant campaign in 2019. Alpha has since upscaled its Brisbane facility to demonstration scale and has now recorded over 8,000 operating hours and delivered an expanded range of over 100 high purity product orders to end-users globally.

Alpha is fully funded to the commercial production at its Stage 1, Precursor Production Facility which has now commenced commissioning ahead of commercial production of the Company's high purity Aluminium Precursors in the December quarter 2022.

The Company is now in the mature phases of market outreach and project financing with respect to the full scale HPA First Project, with the expectation of positioning the HPA First Project to Final investment Decision.

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Appendix 4C

Quarterly cash flow report for entities subject to Listing Rule 4.7B

Name of entity	
Alpha HPA Limited	
ABN	**Quarter ended ("current quarter")**
79 106 879 690	30 September 2022

Consolidated statement of cash flows		**Current quarter $A'000**	**Year to date (3 months) $A'000**
1.	**Cash flows from operating activities**		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) research and development	(1,200)	(1,200)
	(b) product manufacturing and operating costs	-	-
	(c) advertising and marketing	-	-
	(d) leased assets	-	-
	(e) staff costs	(921)	(921)
	(f) administration and corporate costs	(773)	(773)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	42	42
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	2,001	2,001
1.8	Other (provide details if material)	-	-
1.9	**Net cash from / (used in) operating activities**	**(851)**	**(851)**

2.	**Cash flows from investing activities**		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	(11,714)	(11,714)
	(d) investments	-	-
	(e) intellectual property	-	-

Consolidated statement of cash flows		Current quarter $A'000	Year to date (3 months) $A'000
	(f) other non-current assets	-	-
2.2	Proceeds from disposal of:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	**Net cash from / (used in) investing activities**	**(11,714)**	**(11,714)**

3.	**Cash flows from financing activities**		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	3,540	3,540
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(18)	(18)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	**Net cash from / (used in) financing activities**	**3,522**	**3,522**

4.	**Net increase / (decrease) in cash and cash equivalents for the period**		
4.1	Cash and cash equivalents at beginning of period	16,825	16,825
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(851)	(851)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(11,714)	(11,714)

Consolidated statement of cash flows		Current quarter $A'000	Year to date (3 months) $A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)	3,522	3,522
4.5	Effect of movement in exchange rates on cash held	1	1
4.6	**Cash and cash equivalents at end of period**	**7,783**	**7,783**

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter $A'000	Previous quarter $A'000
5.1	Bank balances	7,783	16,825
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	**Cash and cash equivalents at end of quarter (should equal item 4.6 above)**	**7,783**	**16,825**

6.	Payments to related parties of the entity and their associates	Current quarter $A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	348
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.

Director fees, salaries and superannuation payments.

7.	**Financing facilities** *Note: the term "facility' includes all forms of financing arrangements available to the entity.* *Add notes as necessary for an understanding of the sources of finance available to the entity.*	**Total facility amount at quarter end $A'000**	**Amount drawn at quarter end $A'000**
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	**Total financing facilities**	**-**	**-**

7.5	**Unused financing facilities available at quarter end**	-

7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.

	N/A

8.	**Estimated cash available for future operating activities**	**$A'000**
8.1	Net cash from / (used in) operating activities (item 1.9)	(851)
8.2	Cash and cash equivalents at quarter end (item 4.6)	7,783
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	7,783
8.5	**Estimated quarters of funding available (item 8.4 divided by item 8.1)**	9.15

Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.

8.6 If Item 8.5 is less than 2 quarters, please provide answers to the following questions:

8.6.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer: Not applicable.

8.6.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer: Not applicable.

8.6.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Not applicable.

Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.

Compliance statement

1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.

2 This statement gives a true and fair view of the matters disclosed.

Date: 28 October 2022

Authorised by: By the Board.
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.

2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.

3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [*name of board committee – eg Audit and Risk Committee*]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".

5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.