## NOVONIX LIMITED

# Graphite

Quarterly Activities Report July – September 2021

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### NOVONIX Notable Milestones

PHILLIPS SAMSUNG Nasdaq ASX 22 Dec 2020: Expanded 09 Aug 2021: Phillips 66 19 Jan 2021: Leading 12 Feb 2021: NOVONIX 09 May 2021: Filed draft announced US\$150m collaboration with Samsung 26 Feb 2021: Completion of researcher, Dr. Jeff Dahn ASX equity raise of A\$115m strategic investment in to utilize the next entered into a new five year registration statement with appointed as Chief Scientific U.S. SEC in connection with generation technology being research sponsorship to support growth of NOVONIX, advancing developed with Harper Advisor, effective July 2021 agreement with Mark NOVONIX Anode Materials a potential initial public NOVONIX's production of with an additional ~A\$16m offering in the U.S. via synthetic graphite for high-International, with deliveries Obrovac's Research Group set to commence in the of Dalhousie University from directors Nasdag performance lithium-ion second half of 2021 batteries December 2020 Todav Harper Harper Emera Apr 2021: Completed 23 Jun 2021: Under contract 20 Oct 2021: 7hanna 22 Dec 2020: Strategic installation of first 21 Jan 2021: NOVONIX 19 Feb 2021: Emera and to purchase and retrofit Golodryga joins the Board of NOVONIX partner on Generation 2 furnace alliance announced with US-Anode Materials selected to former Alstom building in Directors as Phillips 66 right system built by Harper receive US \$5.57mm grant based Harper International to innovative residential Chattanooga, TN. - 400k+ to nominate a Director. Ms. develop specialized furnace from the US Department of energy storage technology under our strategic sqft and will accommodate Golodryga is the SVP, Chief technology to enhance Energy partnership program and planned 8k+ tonne per year **Digital and Administrative** NOVONIX's synthetic graphite initiated build of first Gen 3 production<sup>1</sup> Officer for Phillips 66 manufacturing process furnace 1. Purchase completed on July 28, 2021

ASX: NVX



## Corporate Activities (1 of 2)

#### July – September 2021

- Prof. Jeff Dahn joined NOVONIX team as Chief Scientific Advisor 1 July 2021 (See slide 11)
- Joined Battery Materials Technology Coalition to advocate for development of the US LIB supply chain 7 July 2021
- Corporate Connect Research initiated research coverage on NVX 26 July 2021
- Completed purchase of NOVONIX Riverside facility for 10k tonne per annum anode expansion in Chattanooga 28 July 2021
- Presented at ShareCafe Webinar 30 July 2021
- Phillips 66 Announces Strategic Investment in NOVONIX 9 August 2021
- 2021 Annual Report to Shareholders released 26 August 2021
  - Cash balance as of 30 September 2021: \$290.9 million AUD



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## Corporate Activities (2 of 2)

#### Post-September Quarter and Ongoing:

- Post-September Quarter:
  - S&P Dow Jones Indices announced NOVONIX inclusion in S&P/ASX 300 Index 3 September 2021
  - Shareholders approved share issuance to Phillips 66 24 September 2021
  - Phillips 66 nominated Zhanna Golodryga to NOVONIX board 20 October 2021 (see slide 12)
- NOVONIX continues to:
  - Monitor clean energy policies in North America and Europe and liaise with relevant agencies
  - Provide samples of anode product and engage in qualification programs and production capacity planning with prospective cell manufacturer and automotive OEM customers
    - Engage and progress relationships with multiple international partners for potential technology partnership opportunities
  - Assess opportunities to develop the Mt. Dromedary high grade graphite deposit asset located in Northern Queensland, Australia

Leverage NOVONIX Battery Technology Solutions' (BTS) position in the market to identify strategic partnership opportunities for new technology development with new and existing customers



## NOVONIX Anode Materials Activities

#### July – September 2021

- Closed on new 'NOVONIX Riverside' facility to support 10k tonne per annum anode materials facility in Chattanooga and awarded incentive packages related to hiring, power consumption and capital investment
  - Production Equipment and Capacity:

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- Optimizing production of material through Generation 2 system to support next steps in customer qualification programs
  - Providing mass production qualification samples to Samsung SDI, recurring production shipments to commence this fiscal year
  - First mass production materials from Generation 2 have been shipped to Sanyo for qualification
- First Generation 3 furnace system received and currently being installed in Tennessee
- Second Generation 3 furnace system expected to arrive before the end of calendar year
- Continued ordering and installation of additional necessary equipment to meet ongoing production targets
- Significant progress on NOVONIX Riverside engineering for process optimization to maximize facility throughput
- Initiating site selection process for 30k tonne per annum anode materials facility
- Continued process technology development and partnership discussions with equipment and material suppliers
- Progressed additional customer relationships with strong growing demand in the United States for local supply of synthetic graphite (see slides 13 and 14)



## Battery Technology Solutions (BTS) Activities

#### July – September 2021

- Continued strong revenue growth and expansion of hardware sales and R&D service offerings
- Completed ~8,600 sq ft building addition to Bluewater Rd. facility for cell assembly and testing, increasing to total new size of ~22,000 sq ft
- Closed on new ~35,000 sq ft facility in Halifax in May, facility renovations ongoing, move-in expected January 2022. Facility will be dedicated to hardware development and cathode pilot line
  - Cathode Synthesis Technology Activities:
    - Expanding internal cathode development team and capabilities
    - Continued process development internally and collaboratively with Dr. Obrovac's group at Dalhousie pursuing new IP
    - Equipment ordered for 10 tonne per annum capable demonstration line to be installed in new BTS facility in 2022
    - Received approval for \$475,000 CAD grant from NRC-IRAP to support expansion of cathode development team
    - \$1.675M CAD grant from Canadian federally funded non-profit organization to support expansion of cathode synthesis technology
    - Other funding opportunities initiated to support scale up for cathode commercialization program



## Cathode Synthesis Technology Update

#### Opportunity

- Cathode synthesis technology focused on lowest cost of production of high nickel cathode materials through precursor manufacturing and "finishing"
- Precursor NiCoMn pre-lithiated material (primary technology)
- Finishing lithiation and surface treatment

#### Status

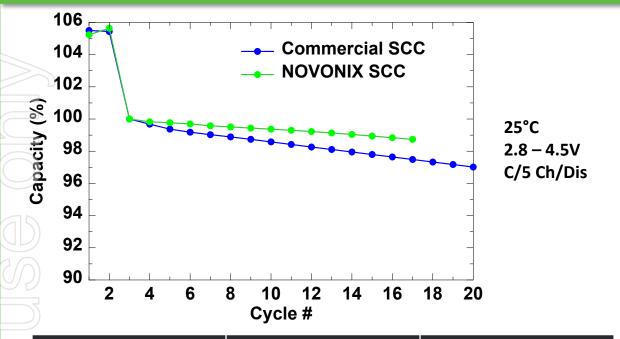
- 3 patent applications in progress
- More IP being developing internally and from Dalhousie University
- Expanded small scale production and performance characterization (kg level)
- New facility including
  - 11,000 sq. ft. for 10 tpa capable pilot line processing equipment
  - 2,000+ sq. ft. for lab (gram to kilogram scale) synthesis level processing, and
  - 1,000+ sq. ft. analytical lab

#### **Next Steps**

- Build full cells for performance comparisons while continuing to improve on NOVONIX precursor and finishing technology
- Continue work on higher nickel content and cobalt free materials
- Working on LFP synthesis methodology leveraging existing cathode synthesis IP

## Early Cathode Synthesis Technology Results Demonstrate Results Better or Comparable with Long Life Commercial Single Crystal Cathode (SCC)

Normalized Electrochemical Results (Coin Cell)



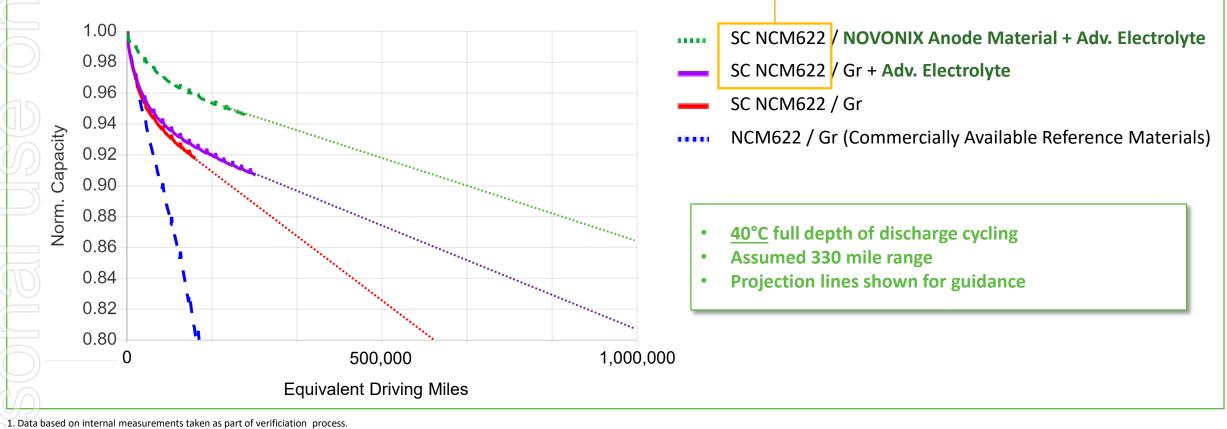
Product:	Commercial SCC	NOVONIX SCC
Reversible Capacity:	100%	104%
First Cycle Efficiency:	100%	101%

## **Key Observations** Normalized electrochemical results in coin cell tests show NOVONIX outperforming in reversible capacity, first cycle efficiency, and cycling performance NOVONIX continues to optimize material through processing as well as through the use of coatings and dopants to further improve performance Polycrystalline cathode comparative performance test work also ongoing, with polycrystalline cathodes having some advantages over SCC

#### NOVONIX's Complete Battery Cell Technology is Leading the Way for Next Generation EV Batteries

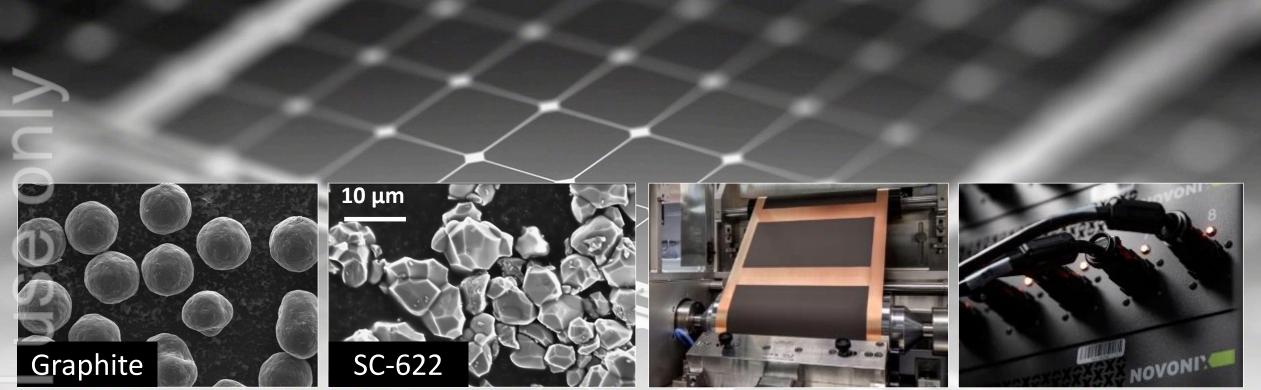
Demonstrated and Projected Performance Predicted to Exceed 1 Million Miles<sup>(1)</sup>

- SC NCM622 shown here is the same Commercial SCC reference material shown in previous slide ٠
- Next step to build full cells for performance testing to include in this data set and demonstrate NOVONIX anode, cathode and electrolyte technologies in a single cell





## NOVONIX

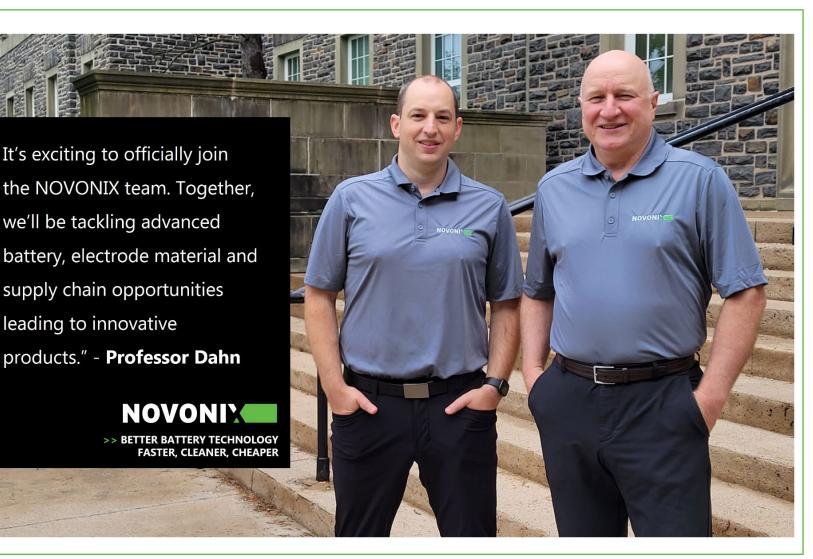


## Appendix

## Prof. Jeff Dahn Joined NOVONIX – 1 July 2021

#### **Professor Jeff Dahn Overview**

- Leading researcher in the field of lithium-ion batteries and materials
- Currently holds the title of NSERC/Tesla Canada Industrial Research Chair with Dalhousie University
- Long career across both industry and academia, and has spent the last 25 years as a professor at Dalhousie University, with support from 3M Company and most recently, from Tesla
- Co-authored 730 papers and has 73 inventions with patents issued or filed, including some of the early patents related to Li[NiMnCo]O2 (NMC) cathode material in 2001





## Zhanna Golodryga Joined NOVONIX – 20 October 2021

#### Zhanna Golodryga Overview

- Zhanna Golodryga joins the Board of Directors as Phillips 66 (NYSE: PSX) right to nominate a Director pursuant to their strategic investment in NOVONIX
- Ms. Golodryga is the SVP, Chief Digital and Administrative Officer for Phillips 66
- Over 30 years of experience in the energy industry and the information technology field
- Currently serves on the boards of Regions Financial Corp. (NYSE: RF), and Memorial Hermann Foundation, and chairs the AspenTech Executive Advisory Board
  - Holds a master's degree in mechanical engineering from Kiev Engineering and Construction Institute in the Ukraine

#### We are thrilled to welcome Zhanna Golodryga to our Board of Directors

"At Phillips 66, we are working with NOVONIX on expanding the U.S. battery supply chain as part of our commitment to developing lower-carbon solutions," Ms. Golodryga said. "I am looking forward to working with the NOVONIX team to find ways to successfully scale the company's technology."







#### NOVONIX Enables the Only Fully Domestic US Supply Chain of EV Battery Anode Material (BAM)

#### **Chinese Synthetic Graphite Supply Chain**

#### 1. Needle coke ships to Qingdao from Humber, UK (12,500 miles)

2. Road transport of precursor to grinding site near Shanghai (450 miles)

**3.** Road transport of ground needle coke to Inner Mongolia **(1,050 miles)** 

**4.** Graphitization in Inner Mongolia powered by brown coal with no environmental standards or emissions controls

**5.** Road transport of graphite to southern China **(1,500 miles)** 

6. Processing of graphite into BAM

7. Land transport of BAM to China port (50 miles)

8. BAM ships to US port in CA (7,300 miles)

9. Land transport of BAM to end-user in TN (1,800 miles)

#### 24,650 Total Miles



#### **NOVONIX Supply Chain**



**1.** Needle coke transported from Lake**2.** All processing of precursor to BAMCharles, LA to Chattanooga, TNin Chattanooga under strict(670 miles)environmental standards

**3.** Delivery of BAM to end-user in Chattanooga, TN **(34 miles)** *VW, for illustrative purposes* 

704 Total Miles

NOVONIX facilitates a cleaner, more secure, supply chain of high-quality synthetic anode material to the North American market vs. Chinese competitors



## Battery Manufactures and Auto OEMs have Announced New Gigafactories to Support NA EV Growth

Battery Manufacturer	Auto OEM	Investment	2025E Capacity	Status	State	Battery Manufacture
LG Chem	GM	\$300M	16 GWh	Operating	MI	
Panasonic SANYO	Ŷ	NA	53 GWh	Operating	NV	iM3NY
Envision	TESLA			- ··		🕒 LG Chem
AESE	NISSAN	NA	10 GWh	Operating	TN	SK innovation
LG Chem	<u>GM</u>	\$2.3B	15 GWh	Announced Dec'19	ОН	SK innovation (BlueOvalSK JV)
TESLA	TESLA	\$1B	95 GWh	Operating 2021	тх	<b>6 K O R E</b> P O W E
SK innovation		\$1.7B	10 GWh	Operating 2022	GA	BRITISHVOL
90)						LG Energy Solut
otal:		\$5.3B	199 GWh			

Gigafactories Announced since 2021					
Battery Manufacturer	Auto OEM	Investment	2025E Capacity	Status	State
		\$185M	5 GWh	Operating 2022	QC
iM3NY	NA	NA	32 GWh <sup>(1)</sup>	Operating 2022	NY
🔁 LG Chem	GM	\$2.3B	35 GWh	Operating 2023	TN
SK innovation		~\$0.8B	12 GWh	Operating 2023	GA
SK innovation (BlueOvalSK JV)	Ford	\$11.4B	129 GWh <sup>(2)</sup>	Operating 2025	KY/TN
🏟 K O R E P O W E R	NA	NA	12 GWh	Operating Q2 2023	AZ
BRITISHVOLT	NA	NA	60 GWh <sup>(3)</sup>	NA	QC
C LG Energy Solution	STELLONTIS	NA	40 GWh 40 GWh	Operating Q1 2024 Operating 2025	TBD
ТОУОТА ТОУОТА ТБИБНО	ΤΟΥΟΤΑ	\$1.3B	NA	Operating 2025	TBD
Total:		\$16.0B	365 GWh		

Source: Company press releases and management analysis.

1) Expected capacity by 2028. (2) Expected capacity by 2025 across 3 plants: 2 in Kentucky and 1 in Tennessee. (3) Included in 2030 implied Anode and Cathode material demand.



ASX: NVX OTCQX: NVNXF

## **Contact Information**

**NOVONIX Anode Materials** 

353 Corporate Place, Chattanooga, TN, 37419, USA



1029 West 19th Street, Chattanooga, TN, 37408, USA



#### NOVONIX BTS

177 Bluewater Road, Bedford, NS B4B 1H1, Canada



#### 110 Simmonds Drive, Dartmouth, NS B3B 1N9, Canada



Send all investor queries to: IR@novonixgroup.com

This announcement has been authorised for release to the ASX by the Chairman, Tony Bellas.



#### Appendix 4C

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

Name of entity				
NOVONIX LIMITED				
ABN	Quarter ended ("current quarter")			
54 157 690 830	30 September 2021			

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	1,664	1,664
1.2	Payments for		
	(a) research and development	(906)	(906)
	<ul> <li>(b) product manufacturing and operating costs</li> </ul>	(1,448)	(1,448)
	(c) advertising and marketing	-	-
	(d) leased assets	-	-
	(e) staff costs	(3,717)	(3,717)
	(f) administration and corporate costs	(2,399)	(2,399)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	-	-
1.5	Interest and other costs of finance paid	(277)	(277)
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	147	147
1.8	Other	-	-
1.9	Net cash from / (used in) operating activities	(6,936)	(6,936)

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	(68,255)	(68,255)
	(d) investments	-	-
	(e) intellectual property	-	-

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
	(f) other non-current assets	(55)	(55)
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 – Payments for security deposits	(20,133)	(20,133)
2.6	Net cash from / (used in) investing activities	(88,443)	(88,443)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	208,138	208,138
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(1,191)	(1,191)
3.5	Proceeds from borrowings	42,159	42,159
3.6	Repayment of borrowings	(131)	(131)
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	(104)	(104)
3.10	Net cash from / (used in) financing activities	248,871	248,871

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	136,664	136,664
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(6,936)	(6,936)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(88,443)	(88,443)

ASX Listing Rules Appendix 4C (01/12/19) + See chapter 19 of the ASX Listing Rules for defined terms.

Con	solidated 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)	248,871	248,871
4.5	Effect of movement in exchange rates on cash held	815	815
4.6	Cash and cash equivalents at end of period	290,971	290,971

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	280,971	121,378
5.2	Call deposits	10,000	10,000
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)	290,971	131,378

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	735
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

Payments to related parties (directors and Nick Liveris) includes director fees, salary and wages, bonuses and superannuation.

+ See chapter 19 of the ASX Listing Rules for defined terms.

#### 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.

- 7.1 Loan facilities
- 7.2 Credit standby arrangements
- 7.3 Other (please specify)
- 7.4 Total financing facilities

Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
50,862	48,814
-	-
-	-
50,862	48,814

#### 7.5 Unused financing facilities available at quarter end

2,048

- 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.
- Loan facility with BDC for CAD\$2,680,000 secured by first mortgage over the group's freehold land and buildings. The facility is repayable in monthly instalments ending 15 November 2042. Interest rate is variable and is currently 4.55%. As at 30 September 2021 the facility had CAD\$547,000 available.
- On 28 May 2021, the Group purchased commercial land and buildings in Nova Scotia, Canada for CAD\$3,550,000 from which the Cathode business will operate. The Group entered into a loan facility with BDC to purchase the land and buildings. The total available amount under the facility is CAD \$4,375,000 and it has been drawn down to CAD\$3,169,000 as at 30 September 2021. The balance of the facility will be used to fund renovations to the building. The full facility is repayable in monthly instalments, commencing 31 May 2022 and ending 30 April 2047. The land and buildings have been pledged as security for the bank loan.
- Contribution agreement with Atlantic Canada Opportunities Agency (ACOA), for CAD\$1,000,000. As at 30 September 2021 it has been fully drawn down and the balance outstanding is CAD\$785,000. The facility is interest free and repayable in monthly instalments.
- Contribution agreement with Atlantic Canada Opportunities Agency (ACOA), for CAD\$250,000. As at 30 September 2021 it has been drawn down to CAD\$125,000. The facility is interest free and repayable in monthly instalments.
- On 28 July 2021, the Group purchased commercial land and buildings in Chattanooga for USD \$42.6M to expand the NAM business. The Group entered into a loan facility with PNC Real Estate to purchase the land and buildings. The total available amount under the facility is USD\$30,100,000 and it has been fully drawn down as at 30 September 2021. The facility is repayable in monthly instalments, commencing September 2021 and ending August 2031. The land and buildings have been pledged as security for the loan.

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8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (Item 1.9)	(6,936)
8.2	Cash and cash equivalents at quarter end (Item 4.6)	290,971
8.3	Unused finance facilities available at quarter end (Item 7.5)	2,048
8.4	Total available funding (Item 8.2 + Item 8.3)	293,019
8.5	Estimated quarters of funding available (Item 8.4 divided by Item 8.1)	42.2

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

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: N/A

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: N/A

#### **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: 29 October 2021

Authorised by: By the Chairman of 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.