

## QUARTERLY ACTIVITIES REPORT

### For the quarter ended 30 June 2023

#### Highlights

##### CORPORATE

- Cash balance A\$24.6 million, investments of A\$19.9 million and no debt.

##### CORE BATTERY MATERIALS BUSINESS UNITS

###### *Lithium-ion Battery ("LIB") Recycling (50% NMT via Primobius GmbH, an incorporated JV with SMS group GmbH)*

- Successful demonstration trial of process improvements to the refinery 'Hub' yielded outstanding recovery results exceeding EU Battery Regulation requirements - nickel, cobalt and copper recoveries (>95%), lithium (pending, previously >83%);
- Finalising engineering cost study ("ECS") for Hub section of a ~50tpd (21,000tpa) integrated LiB recycling plant; and
- Finalising front-end-engineering (FEED) and mechanical package supply contracts for 10tpd Mercedes Benz Spoke.

###### *Vanadium Recovery ("VRP") (72.5% NMT via Recycling Industries Scandinavia AB ("RISAB"), an incorporated JV with Critical Metals Ltd)*

- Ownership in the Finnish Vanadium Recovery Project ("VRP1") JV company increased to 72.5%;
- Financial Investment Decision ("FID") deadline for VRP1 extended until 30<sup>th</sup> September 2023 to align with approval timelines of banking syndicate led by the European Investment Bank; and
- Execution of Glencore offtake agreement for 100% of vanadium products subsequent to quarter end, removing volume risk and satisfying a key condition of debt financiers.

###### *Lithium Chemicals (earning into potential 50:50 JV with Bondalti Chemicals SA via Reed Advanced Materials Pty Ltd ("RAM") (70% NMT, 30% Mineral Resources Ltd)*

- Confirmation of potential industry-leading operating costs (€1,768/t lithium hydroxide) for the proprietary, patented ELi™ process in engineering cost study ("ECS") on a proposed 25,000tpa lithium-brine conversion plant in Portugal;
- Commencement of pilot test work program in Canada with focus on brine purification stage before electrolysis; and
- Design work advanced on planned demonstration plant at Bondalti's Estarreja chlor-alkali operation.

##### UPSTREAM – MINERAL EXTRACTION

###### *Barrambie Titanium and Vanadium ("Barrambie") (100% NMT)*

- Pre-feasibility study update for direct shipping ("DSO") and mixed gravity concentrate ("MGC") operation delivers ~\$A375 NPV<sub>10</sub> over a 13-year operation with a 2.9yr payback at an IRR of 45% p.a.; and
- Continued negotiations for binding offtake agreement with Jiuxing Titanium and contract mining and crushing contractors to minimise capital outlay and maximise intrinsic value of Barrambie for shareholders.

## Company Overview

Neometals is an emerging, sustainable battery materials producer. The Company is commercialising three environmentally-friendly processing technologies that will primarily produce lithium, nickel, cobalt and vanadium at lowest quartile costs with minimal carbon footprint.

Neometals' and its partners have been recognised internationally for sustainable approaches that combine industry leading costs with circular economic principles, reducing the reliance on traditional upstream mining-based supply chains with recycling and waste recovery. The Company's three core business units, listed below, are commercialising these proprietary technologies in incorporated joint ventures:

- Lithium-ion Battery ("**LiB**") Recycling (50% technology) – providing recycling as a service and plant supply under JV or technology licensing business models via Primobius GmbH (NMT 50% equity). All plants built by Primobius' co-owner (SMS group, 50% equity), a 150-year old German plant builder with 14,000 employees. Primobius is recycling technology partner and plant supplier to Mercedes-Benz. Commercial 10tpd shredding 'Spoke' facility operational in Germany and investment decision for Primobius' first commercial 50tpd plant with Stelco in Canada expected Q4 (NMT 25% equity).
- Vanadium Recovery (100% technology) – aiming to produce high-purity vanadium pentoxide from processing of steelmaking by-product ("**Slag**"). Planned 9,000tpa operation in Pori, Finland (NMT 72.5% equity) courtesy of 10-year Slag supply agreement with SSAB. Investment decision with JV partner, Critical Metals, expected Q3 2023. MOU with H2Green Steel for potential second, larger operation in Boden, Sweden; and
- Lithium Chemicals (70% technology) – aiming to produce battery quality lithium hydroxide from brine and/or hard-rock feedstocks using patented ELi™ electrolysis process co-owned 30% by Mineral Resources Ltd. Co-funding Pilot Plant Q2/Q3 2023 and Demonstration Plant H1 2024 preceding potential commercial operation with Bondalti Chemicals in Portugal.



Figure 1: Location map of Neometals' Projects together with partner developments

## Core Battery Materials Business Units



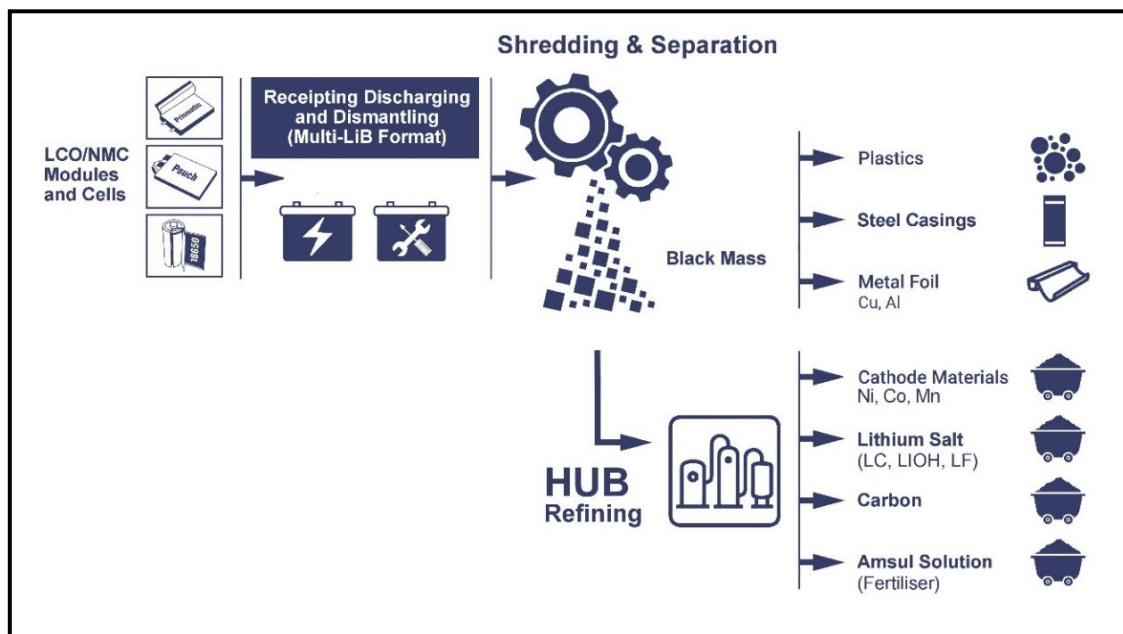
### Lithium-ion Battery Recycling

(Intellectual Property - NMT 50%, SMS 50%)

Commercialising via Primobius GmbH, a 50:50 incorporated JV with SMS group GmbH

Primobius GmbH (“**Primobius**”) is the 50:50 incorporated joint venture established in 2020 to co-fund the commercialisation of the lithium-ion battery recycling technology (“**LIB Recycling Technology**”) originally developed by Neometals.

The LIB Recycling Technology recovers materials contained in LIB production scrap and end-of-life cells that might otherwise be disposed of in land fill. Current LIB recycling processes predominantly rely on high carbon emission pyrometallurgy processes. Primobius’ two stage process recovers nickel, cobalt, lithium and manganese battery materials (and physically recovers metals and plastics) into saleable products that can be reused in the LIB supply chain. The LIB Recycling Technology prioritises maximum safety, environmental sustainability, and product recoveries, to support the circular economy and decarbonisation.



**Figure 2:** High level flowsheet showing the movement of materials from Shredding and Beneficiation ('Spoke') through to refining ('Hub') stages for the LIB Recycling Technology

The LIB Recycling Technology comprises two stages:

1. **"Spoke"** - Comprising of LIB receipting, sorting, discharging, disassembly together with shredding and separation, to physically separate all of the components of LIBs received, by metal casings, electrode foils, plastics and active battery materials; and
2. **"Hub"** - Comprising of leaching, purification, and crystallisation of the active materials suitable for use in production of LIB precursor, via a hydrometallurgical refining process.

## Operations Status

### Hilchenbach Operations

The Spoke section of the demonstration plant in Hilchenbach Germany ("**Hilchenbach Spoke**") is currently being ramped up to the facility's maximum permit capacity of 9tpd of LIBs.

The Hilchenbach Spoke is providing commercial LIB disposal services and the hydrometallurgical refinery 'Hub' continues to operate as a demonstration plant. Namely, for discrete trials for internal flowsheet optimisation and to generate customer product samples. Black Mass feedstock for Hub trials is diverted from Spoke instead of being sold.

During the quarter, the Hilchenbach Spoke continued to produce intermediate mixed nickel/cobalt product ("**Black Mass**"). The typical LIB contains approximately 48% Black Mass which Primobius is currently recovering at high levels and selling to a number of global offtakers on a spot basis with pricing set according to nickel and cobalt content. Importantly, the Hilchenbach Spoke has switched to three shifts daily and is operating 5 days a week.

Primobius' current revenue model contemplates the following sources:

1. LIB disposal fees (for LIBs supplied by multiple waste aggregators delivering predominantly whole modules);
2. Sale of products from the Hilchenbach Spoke (metallic scrap, chemical intermediates and chemicals purchased by various recyclers and smelting customers); and
3. Mechanical plant and equipment package supply (Stelco and Mercedes) and associated technology licensing royalties.

### Activity Summary

During the quarter, Primobius made significant process improvements during Hub demonstration trials and further progressed engineering and commercial activities across the business unit. The period also marked the fourth quarter of modest revenue generation from the Hilchenbach Spoke and from front-end engineering and design services rendered to Primobius' customers in preparation for the offer and award of recycling mechanical plant and equipment package supply agreements.

Significant activities comprised:

#### Technical

- Interpretation of Hub demonstration trial data and progress towards completion of the Engineering Cost Study for the hydrometallurgical refinery ("**Hub ECS**") and subsequent Class 3 engineering cost study was made. Spoke ECS (completed) and Hub ECS contemplate the development of a 50tpd integrated LIB recycling operation at a green-fields site within in an existing industrial park in Kaiserslautern, Germany. The hypothetical operation would process 50tpd LIB (30% cells and 70% modules) through the Spoke, producing 12,000tpa of Black Mass as feed to the Hub;
- Proposed LIB recycling requirements of the pending EU Battery Regulations were met during Hub process improvement demonstration trials that yielded outstanding results with nickel, cobalt, and copper recoveries of >95% (from previous process recovery >83%); and
- A new lithium extraction process was trialled, and recovery data is pending.

## Commercial Activity Background

Primobius' key near-term commercial agreements are summarised below:

- A Cooperation Agreement with Mercedes-Benz's ("**Mercedes**") ("**Mercedes Cooperation**") for the engineering, plant and equipment supply and installation for a fully integrated, closed loop recycling plant ("**Mercedes 10tpd Spoke**" followed by "**Mercedes 10tpd Hub**"), a non-exclusive technology licence and long-term research collaboration<sup>1</sup>; and
- Technology licensing agreement and an option agreement to purchase up to 50% of a subsidiary of Stelco Inc. ("**Stelco**") ("**Stelco Agreements**") which plans to secure large volumes of end-of-life vehicles in North America for scrap steel and recycle LIBs in a proposed 50tpd integrated operation ("**Stelco 50tpd Spoke**" followed by "**Stelco 50tpd Hub**") at Stelco's Hamilton Works, Ontario, Canada<sup>2</sup>

### Commercial

- The Hilchenbach Spoke continues to be ramped-up to permitted capacity (9tpd of LIBs);
- Continued revenue generation from Hilchenbach Spoke via disposal fees and Black Mass product sales as well as engineering and design activities;
- Primobius plant development status now allows the offer of mechanical plant and equipment package supply contracts for the 10tpd integrated (Spoke and Hub) recycling plants. 'Product Readiness' for the larger proposed 50tpd Spoke and Hubs will follow further to more detailed engineering studies being undertaken for Stelco;
- Pursuant to the Mercedes Cooperation, Primobius has been awarded a number of purchase orders ("**PO's**") for engineering and design packages. As a result, Primobius has offered mechanical plant and equipment supply packages for the integrated Mercedes 10tpd Spoke and Hub to be installed in Kuppenheim Germany. Primobius now awaits award of PO's for the Spoke and Hub supply, having completed all contractual arrangements with Mercedes. Primobius expects to receive the PO's in Q3 2023 pending Mercedes confirmation of grant funding from the Battery Innovation Support Program administered by the German Federal Ministry for Economics and Climate Protection ("**Kuppenheim Grant**"); and
- Ongoing business development activities to build a global pipeline of potential future recycling plants.

### Corporate

- Continued recruitment activities to expand the Primobius technical, operational, commercial and management teams in line with corporate milestones and to be able to offer mechanical plant and equipment package supply contracts as demand grows.



**Figure 3:** 3D render showing Mercedes' proposed Kuppenheim facility to house the LICULAR 10tpd Hub

<sup>1</sup> (for full details refer to Neometals ASX announcement headlined "Cooperation Agreement with Mercedes Benz" released on 13<sup>th</sup> May 2022)

<sup>2</sup> (for full details refer to Neometals ASX announcement headlined "Battery Recycling – Binding Agreements with Stelco for NA" released on 31st December 2021)



Data from recent Hub demonstration trials is being fed into the Hub ECS which must be completed to a level of confidence to enable the offer to Stelco of 50tpd integrated Spoke and Hub plant supply agreements. The offer of a 50tpd Spoke supply agreement to Stelco will open a thirty-day window in which Primobius can exercise its option to acquire up to 50% equity in Stelco's subsidiary which holds the licence to the LIB Recycling Technology in North America. The Stelco 50tpd Spoke and Hub plants will be staged to enable the production and sale of Black Mass during the construction and commissioning of the Hub reducing overall financing requirements.

Primobius' rollout of Spokes starts to address the immediate need for safe disposal and recovery of LIB materials, ahead of an absolute requirement to "close-the-loop" with integrated Hubs, producing products used as inputs to the manufacturing of LIB precursors for new LIBs. Primobius is actively prosecuting its flexible approach through its three business models – as principal (Hilchenbach), as a potential 50:50 joint venture with Stelco and a licensed, fully integrated plant supply package to Mercedes.

### Indicative Commercial Rollout Timeline

JunQ 2023	SepQ 2023	DecQ 2023	MarQ 2024	JunQ 2024	Sep2024
Complete Hub process improvement demo trial <input checked="" type="checkbox"/>  Progress Hub ECS <input checked="" type="checkbox"/>	Deliver Hub ECS  Receipt of MB Spoke PO	Receipt of MB Spoke PO  Commence MB Spoke installation**  Deliver AACE Class 3 engineering on integrated ~50tpd Spoke and Hub  Offer Stelco 50tpd Spoke*	Progress detailed engineering for integrated ~50tpd Spoke and Hub plant  Complete MB Spoke installation  Complete MB Hub installation**	Deliver detailed engineering for integrated ~50tpd Spoke  Progress detailed engineering integrated ~50tpd Spoke and Hub  Complete MB Hub installation	Commence installation of ~50tpd Spoke for Stelco*  Progress detailed engineering integrated ~50tpd Spoke and Hub plant

#### Stelco Feedstock and Offtake Negotiations

\* Subject to Primobius GmbH and Neometals Limited Board of Directors Approvals  
 \*\* Subject to PO issue by Mercedes ("MB")

Figure 4: LIB Recycling Indicative Timeline



### Vanadium Recovery

(NMT 100% Intellectual Property)

NMT holds 72.5% equity in an Incorporated Joint Venture with Critical Metals Ltd

Neometals is commercialising its sustainable, proprietary vanadium recovery process (“VRP Technology”) to produce vanadium products for battery and aerospace alloying applications from stockpiles of vanadium-bearing steel making by-product. Neometals is currently evaluating two distinct opportunities in Scandinavia and has ambitions to build a pipeline of suitable feedstock sources to increase future production:

1. ‘VRP 1’ (SSAB feedstocks, plant location Pori, Finland); and
2. ‘VRP 2’ (H2GS feedstock, plant location Boden, Sweden).

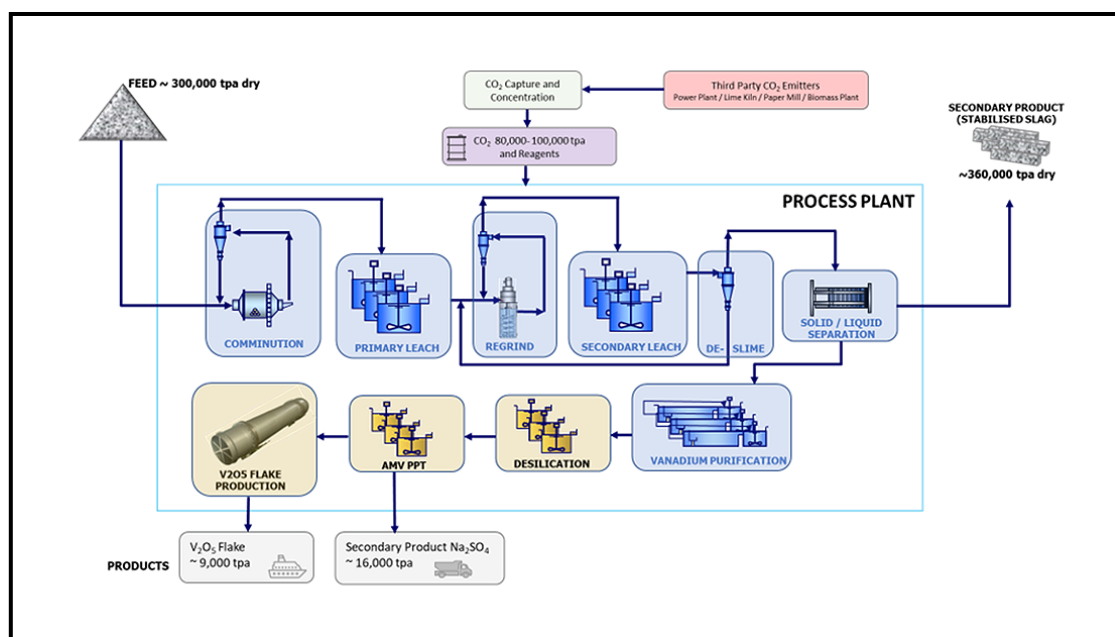


Figure 5: Project flowsheet proposed VRP1 processing plant at Tahkoluoto port, Pori, Finland

VRP1 offers a compelling opportunity which is underpinned by:

- Access to very high-grade vanadium feedstocks without upstream mining costs/risk/carbon footprint;
- Potential lowest-quartile operating costs<sup>3</sup>
- A processing flowsheet utilising conventional equipment at atmospheric pressure, mild-temperatures, and non-exotic materials of construction; and
- Likely very low or net zero greenhouse gas footprint given the absence of mining and a processing route requiring the mineral sequestration of CO<sub>2</sub> into a potentially saleable carbonate by-product which sequesters CO<sub>2</sub>.

<sup>3</sup> (for full details refer to Neometals ASX announcement headlined “Vanadium Recovery Project Delivers Strong feasibility Results” released on 8<sup>th</sup> March 2023).

## VRP 1 (SSAB)

Neometals and unlisted Scandinavian-focused explorer, Critical Metals Ltd (“**Critical**”), are jointly evaluating the feasibility of recovering high-purity vanadium pentoxide (“**V<sub>2</sub>O<sub>5</sub>**”) from high-grade vanadium-bearing steel by-product (“**Slag**”) in Scandinavia. Neometals has funded and managed evaluation activities earning a 72.5% interest in an incorporated JV (Recycling Industries Scandinavia AB (“**RISAB**”)) with Critical.

*Note: An environmental permit has been granted by the Regional State Administrative Agency for Southern Finland for production of approximately 9,000tpa of V<sub>2</sub>O<sub>5</sub> at the VRP1 operation<sup>4</sup>.*

A take or pay VRP1 offtake agreement has been struck with Glencore International AG (“Glencore”) and the project is at the financing stage ahead of a decision to construct and produce high-purity vanadium pentoxide (“**V<sub>2</sub>O<sub>5</sub>**”) from high-grade vanadium-bearing steel making by-product (“**Slag**”) generated by SSAB EMEA AB and SSAB Europe Oy (collectively “**SSAB**”) in Scandinavia.

### Activity Summary

During the quarter, RISAB delivered on the remaining milestones required for conclusion of project financing activities to enable a VRP1 financial investment decision in the coming quarter.

Significant activities comprised:

#### Technical

- Feasibility study (“VRP1”) data<sup>5</sup> has been shared and ‘stress tested’ with preferred project financing counterparties;
- Equipment design and engineering equipment supply activities continued with Metso; and
- Selection activities undertaken for the preferred EPCM bidder with an award expected in the coming quarter.

#### Commercial

- VRP1 offtake agreement signed with Glencore International AG (“Glencore”) for 100% of vanadium products produced (“Offtake Agreement”) <sup>6</sup>. Offtake Agreement covers an initial 5-year period, which can be automatically extended, by mutual agreement, in 2-year increments and removes volume risk on production to satisfy project financiers;
- Extension to VRP1 FID deadline until 30<sup>th</sup> September 2023 to allow for additional due diligence and negotiations with potential financiers. Importantly, SSAB has been supportive of the progress that RISAB has made and the parties (RISAB and SSAB) will formalise a corresponding extension to the FID deadline under the SSAB slag supply agreement; and
- Ongoing test-work with potential by-product (stabilised slag material, SSM) off-taker, Betolar, to progress towards a take or pay offtake agreement.

# GLENCORE

<sup>4</sup> (for full details refer to Neometals ASX announcement headlined “Vanadium Recovery Project Environmental Permit Granted” released on 24<sup>th</sup> October 2022).

<sup>5</sup> (for full details refer to Neometals ASX announcement headlined “Vanadium Recovery Project Delivers Strong Feasibility Results” released on 8th March 2023)

<sup>6</sup> (for full details refer to Neometals ASX announcement headlined “Vanadium Recovery Project Offtake Executed with Glencore” released on 12<sup>th</sup> July 2023).

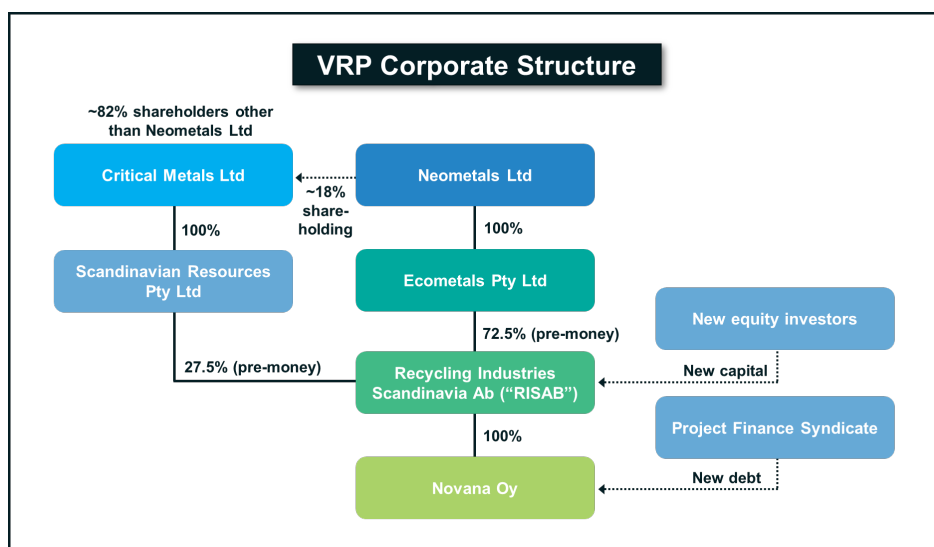




**Figure 6:** Aerial schematic showing location for the proposed VRP1 processing plant at Tahkoluoto port, Pori, Finland

#### Corporate

- Neometals, via its wholly owned subsidiary Ecometals Pty Ltd ("**Ecometals**"), increased by 22.5% its ownership of RISAB equity (now at 72.5% in total) from the conversion of its A\$3,000,000 shareholder loan. Critical moved down to 27.5% ownership of RISAB after contributing A\$300k capital to the JV<sup>7</sup>; and
- RISAB has engaged leading Nordic investment banks SEB and Avenum Partners to lead the equity and project financing processes respectively. Strong interest has been received from investment and commercial banks in Europe with debt due diligence led by the European Investment Bank and a preferred banking club. The Glencore Offtake Agreement has materially advanced the Project Financing process which will conclude to allow the FID in SepQ23.



**Figure 7:** VRP Corporate Structure

<sup>7</sup> (for full details refer to Neometals ASX announcement headlined "Neometals to Increase Holding in Vanadium Recovery Project" released on 6<sup>th</sup> April 2023).

## VRP1 Indicative Timeline

JunQ 2023	SepQ 2023	DecQ 2023	Q1 2026
Term Sheets for Offtake <input checked="" type="checkbox"/>	Binding offtake <input checked="" type="checkbox"/>	First slag being transported to Tahkolouto**	First production from the plant**
Binding Term Sheets for Project Financing	Award EPCM contract	Commence civil works for processing plant	
Novana trade name registered <input checked="" type="checkbox"/>	Novana making a positive FID on or before 30 September		
Vendor basic engineering in progress <input checked="" type="checkbox"/>	Novana pre-payment for 700kt of slag stockpiled at Lulea*		
EPCM Engineer ready to award** <input checked="" type="checkbox"/>			

\* Pre-payment to be paid within 72 hours after the Buyer's Positive Investment Decision

\*\* Subject to FID, approvals and finance

Figure 8: VRP Indicative Timeline

## VRP 2 (H2GS)

In the MarQ 2021, Neometals announced that Critical (via RISAB) entered into a non-binding memorandum of understanding with H2 Green Steel AB ("H2GS") ("H2GS MoU"). The H2GS MoU outlines an evaluation framework on a potential new source of vanadium bearing Slag that could underpin a second, larger vanadium production operation ("VRP2") capable of processing 400,000tpa of Slag. The H2GS MoU also outlines key commercial terms for a potential Slag supply agreement. No activity was undertaken during the quarter.



Figure 9: Map showing potential Vanadium Recovery Plants (Pori (SSAB Feed) and Bodén (H2GS Feed)) and SSAB Slag stockpiles



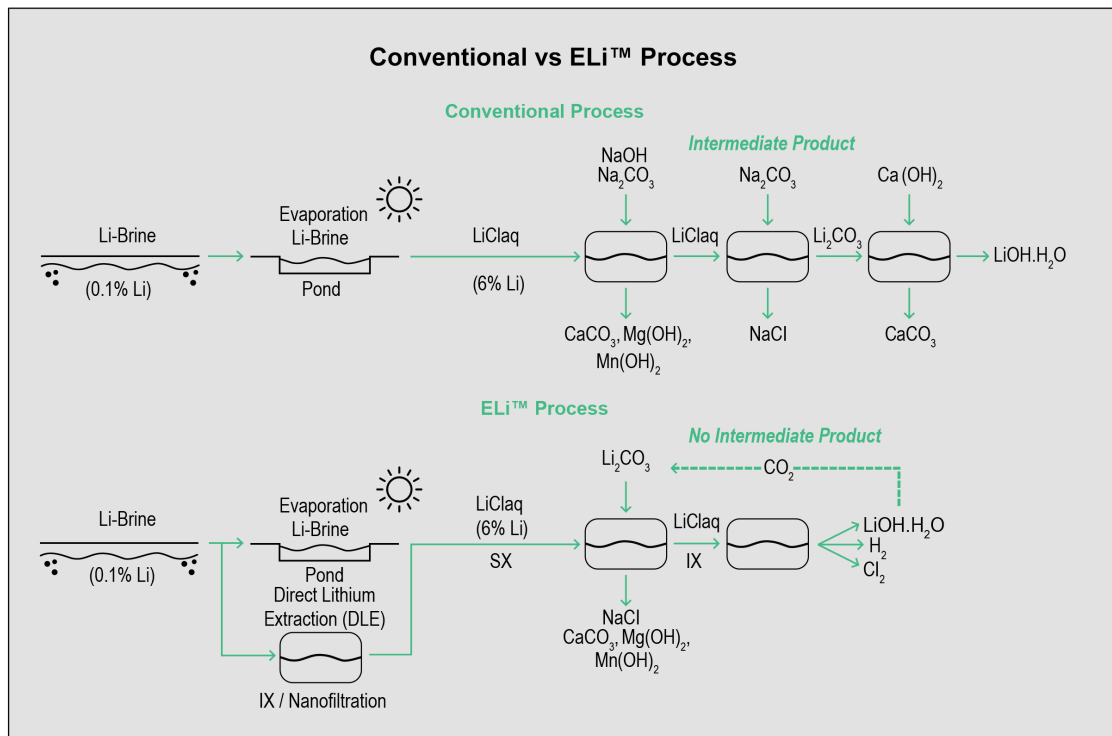
### Lithium Chemicals

(Intellectual Property held in Reed Advanced Materials PL – NMT 70%, Mineral Resources Ltd 30%)

Reed Advanced Materials PL (“RAM”) Earning into 50:50 JV with Bondalti Chemicals SA

Neometals, through RAM, is commercialising its proprietary process (**ELi Processing Technology** (“**ELi™**”)) to produce lithium hydroxide from lithium chloride solutions using electrolysis. A feasibility study in 2016 indicated the potential for ELi™ to significantly reduce the cost and carbon footprint associated with production, transport and consumption of the carbon-intensive reagents that are used in conventional lithium processes.

Neometals has used ELi™ to convert lithium chloride solutions produced from both natural spodumene and brine feedstocks at semi-pilot scale. ELi™ has the flexibility to produce lithium hydroxide and lithium carbonate and at a significantly lower operating cost than for conventional commercial production processes. ELi’s key economic advantage lies in the potential to replace costly, imported bulk reagents for traditional carbonation and causticising processing steps with electricity and low-cost internally generated reagents. RAM holds 17 granted patents in the hard rock and brine producing countries and has a further 14 pending patent applications.



**Figure 10:** Schematic showing a comparison of the conventional flowsheet for the production of lithium hydroxide from brines with the patented ELi™ process

RAM can potentially deploy ELi™ as principal or in joint venture with other partners, to generate revenue from processing of lithium raw materials (such as the proposed Estarreja Lithium Refinery). Further, the business model also accommodates licensing ELi™ in return for royalty payments.

## Bondalti (Estarreja) Project

In the December quarter 2021, RAM entered into a binding Co-operation Agreement (“**ELi Co-operation**”) with Portugal’s largest chlor-alkali producer, Bondalti. Bondalti is part of the Jose De Mello Group, one of Portugal’s largest conglomerates, family owned and founded in 1898.

Bondalti and RAM are co-funding evaluation activities required for a decision to form a 50:50 incorporated joint venture (“**JVCo**”) to construct and operate a lithium refinery (“**Estarreja Lithium Refinery**” or “**ELR**”) adjacent to Bondalti’s chlor-alkali operations in Estarreja, Portugal. The evaluation activities include pilot testing and completion of a feasibility study (“**ELi™ Feasibility Study**”). Upon completion of the ELi™ Feasibility Study, a decision to incorporate the JVCo will be made to enable the construction of a Demonstration Plant and commencement of the Front-End Engineering and Design Study (“**ELi™ FEED Study**”). Upon incorporation, RAM would issue JVCo a royalty-free commercial operations licence that is exclusive in the territory of the EU Patent Treaty.

### Activity Summary

The ELi™ Cooperation and ELR opportunity were progressed during the quarter with strong focus on technical studies, pilot trial activities and sourcing feedstocks for pilot, future demonstration and longer term commercial operations.

### Technical

- Completion of ECS for planned 25,000tpa ELR confirms potential industry-leading costs using proprietary ELi™ process (“**ELR ECS**”)<sup>8</sup>;
- Completed brine purification and electrolysis bench-scale testing in Canada under supervision by RAM technical staff to confirm process parameters suitable for the feed source for pilot trials and commenced pilot trials; and
- Design work advanced on planned demonstration plant at Bondalti’s Estarreja chlor-alkali operation.

Table 1: Key ELR ECS Metrics

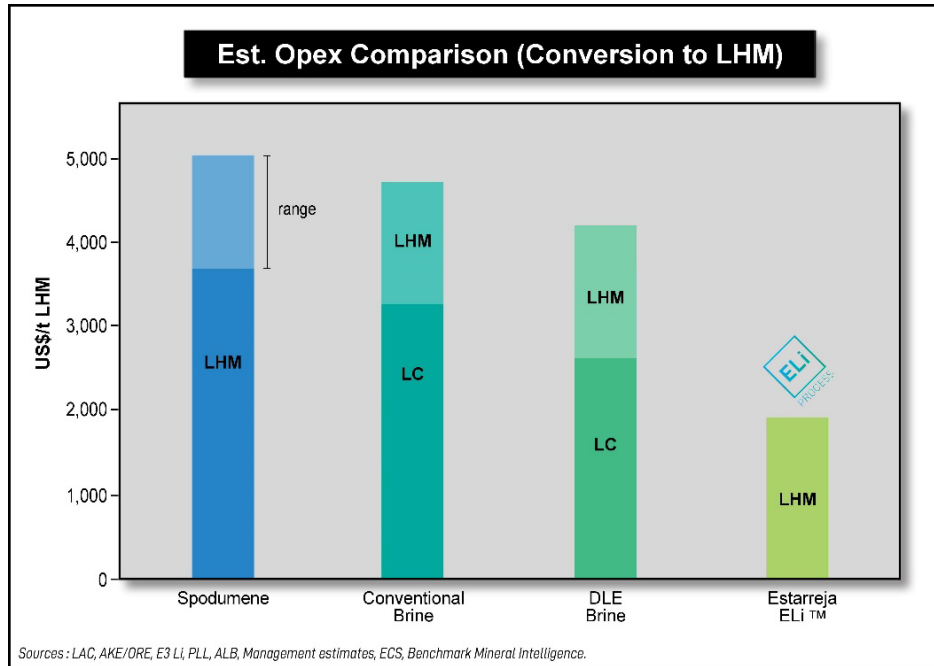
ECS Metrics (100% ownership basis)	
Annual Production	25,000tpa LHM
Annual Throughput	80,000 tpa Brine @ 6% Li
Average Operating Cost (±15%)**	€1,768/t (US\$1,945/t) LHM
Total initial capital costs (±15%)***	€405M (US\$446 M)
Capital Intensity****	€16,200/t (US\$17,840/t) LHM capacity

\*\* from receipt of 6% Li brine concentrate to packaged high purity “battery grade” lithium hydroxide product, excluding by-product credits

\*\*\* Total of direct and indirect capex including 15% contingency, EPC fees and design post-Class 3

\*\*\*\* Based on total capex and 25,000tpa LHM capacity

<sup>8</sup> (for full details refer to Neometals ASX announcement headlined “Portugal Lithium Refinery Study Confirms Step-change Opex of ELi™ Technology” released on 26<sup>th</sup> April 2023).



**Figure 11: ELR ECS Opex comparison showing significantly reduced operating costs to generate LHM when compared to conventional Brine and spodumene routes (noting that conventional Brine processing is a two-stage process with lithium carbonate ("LC") produced before additional processing into LHM).**

#### Commercial

- Commercial dialogues were progressed with aspiring and existing producers of lithium brine concentrates to develop terms of supply to the ELR; and
- Commercial discussions progressed with potential lithium hydroxide offtake partners.

#### Lithium Chemical Indicative Timeline

JunQ 2023	SepQ 2023	DecQ 2023	MarQ 2024	JunQ 2024
Complete Bench-scale Trials <input checked="" type="checkbox"/>	Complete Pilot Trials	Sample LHM product produced	Bondalti JV Investment Decision*	Complete construction of Demo Plant
Complete AACE Class 3 ECS by Primero <input checked="" type="checkbox"/>	Validation of process model	Complete ECS update to AACE Class 3 Feasibility Study	Commence siteworks for Demo Plant	Commence Demonstration Trials
Receipt of Pilot Trial brine feedstocks, Canada <input checked="" type="checkbox"/>	Demo Plant long lead items*	Commence consideration of decision to Incorporate Bondalti JV *	Ship Demo Trial feedstocks to Portugal	Appoint Class 2 Study Contractors*
Commence Pilot trials, Canada <input checked="" type="checkbox"/>	Vendor evaluation for Class 2 Study			

\*Subject to Board &/or Steering Committee Approvals

**Figure 12: Indicative Timeline for the ELR**



## Upstream – Mineral Extraction


**Barrambie Titanium/Vanadium Project**  
**(Neometals 100%)**

The Barrambie Vanadium and Titanium Project in Western Australia ("**Barrambie**") is one of the largest vanadiferous-titanomagnetite ("**VTM**") Mineral Resources globally (280.1Mt at 9.18%  $\text{TiO}_2$  and 0.44%  $\text{V}_2\text{O}_5$ )\*, containing the world's second highest-grade hard rock titanium Mineral Resource (53.6Mt at 21.17%  $\text{TiO}_2$  and 0.63%  $\text{V}_2\text{O}_5$ ) and high-grade vanadium resource (64.9Mt at 0.82%  $\text{V}_2\text{O}_5$  and 16.9%  $\text{TiO}_2$ ) subsets (referred to as the Eastern and Central Bands respectively) based on the latest Neometals 2018 Mineral Resource Estimate<sup>9</sup>.

Barrambie is located approximately 80km north-west of Sandstone in Western Australia and the Mineral Resource is secured under a granted mining lease. Neometals secured environmental approval in 2012 to mine and construct a 3.2 Mtpa processing plant (Ministerial Statement 911), extended the timeframe for implementation in 2019 (Ministerial Statement 1119) and is currently in the process of securing a further extension of the timeframe for project implementation. The project also has a granted mining proposal to extract approximately 1.2Mtpa of mineralisation.

Neometals has invested in excess of \$A40 million in the acquisition, exploration and evaluation of Barrambie since 2003. The Company has in more recent times maintained a primary focus on recovering a titanium product from Barrambie to realise maximum value for shareholders.

A 2021 Neometals memorandum of understanding regarding binding take-or-pay product offtake with Jiuxing Titanium Materials (Liaoning) Co. Ltd ("**Jiuxing MoU**")<sup>10</sup> ("**Jiuxing**"). The Jiuxing MoU has been superseded by a term sheet ("**Term Sheet**") outlining key principles that will form the basis for a binding take-or-pay offtake agreement ("**Offtake Agreement**")<sup>11</sup>.

Jiuxing is one of the leading chloride-grade titanium slag producers in China and is a key supplier to BAOTi Huashen Titanium Industry Co., Ltd., a joint-stock enterprise controlled by BAOTi. BAOTi Huashen is the most advanced sponge titanium full process large-scale smelting enterprise in China.

**Activity Summary**

Barrambie continued its progress towards binding offtake with updated financial metrics and an offtake term sheet with its Chinese partner, Jiuxing. The strategic review to determine the best pathway to return Barrambie value to shareholders continued in parallel.

<sup>9</sup> (for full details refer to ASX announcement headlined "Barrambie Project - Mineral Resource Update" released on 17 April 2018 and Table 3 (Appendix 1))

<sup>10</sup> (for full details refer to Neometals ASX announcement headlined "MoU for Barrambie Concentrate Offtake" released on 16<sup>th</sup> April 2023) and Neometals ASX announcement headlined "Barrambie Pilot Plant and Offtake Update" released on 23<sup>rd</sup> December 2021)

<sup>11</sup> (for full details refer to ASX announcements headlined "Offtake Term sheet with Jiuxing Titanium Executed" released on 20th April 2023)

*Technical*

- During the quarter, Neometals announced the completion of an update to its Association for the Advancement of Cost Engineering (“AACE”) Class 4 (+/- 25%) PFS12 for the production of DSO and MGC from Barrambie (“PFS Update”) 13.
- PFS Update assumed mining from titanium-rich Eastern bands at Barrambie with a staged capital efficient approach to development:
  - Initial A\$78.1m capital requirement for 1 year production of DSO with mining, crushing, and screening only;
  - Followed by a further A\$137.2m to construct a crush, mill, beneficiate (“CMB”) plant for a further 12 years of MGC production.
- The PFS Update delivered compelling financial metrics (see Figure 13 below) allowing the project to move into a definitive feasibility study phase while partner and offtake dialogues continue with Jiuxing.

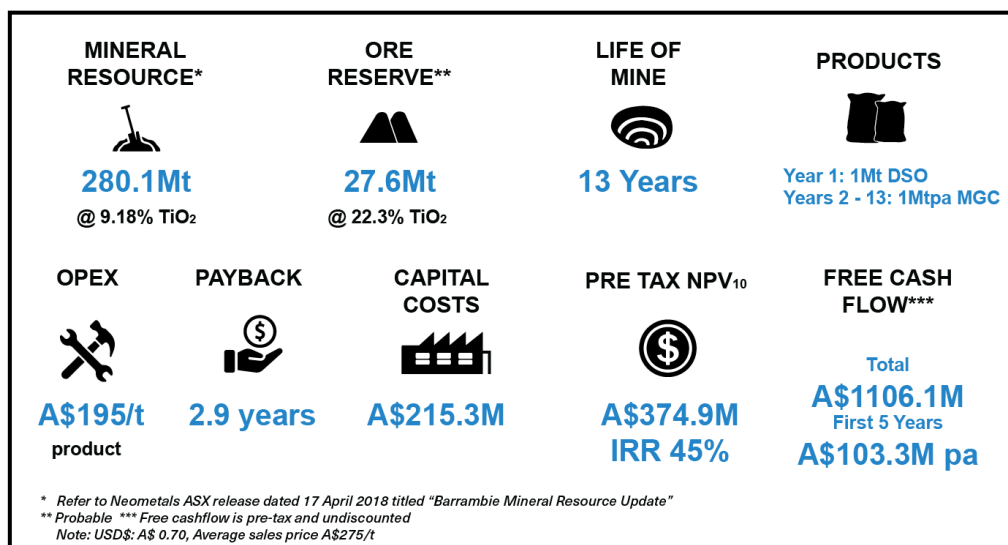


Figure 13: Highlights of PFS Update

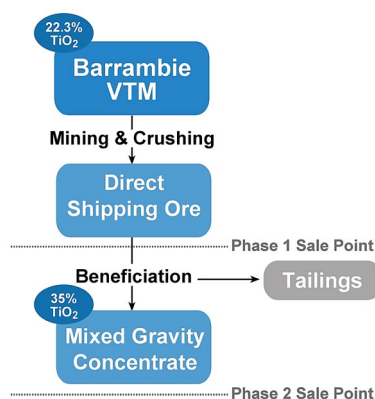
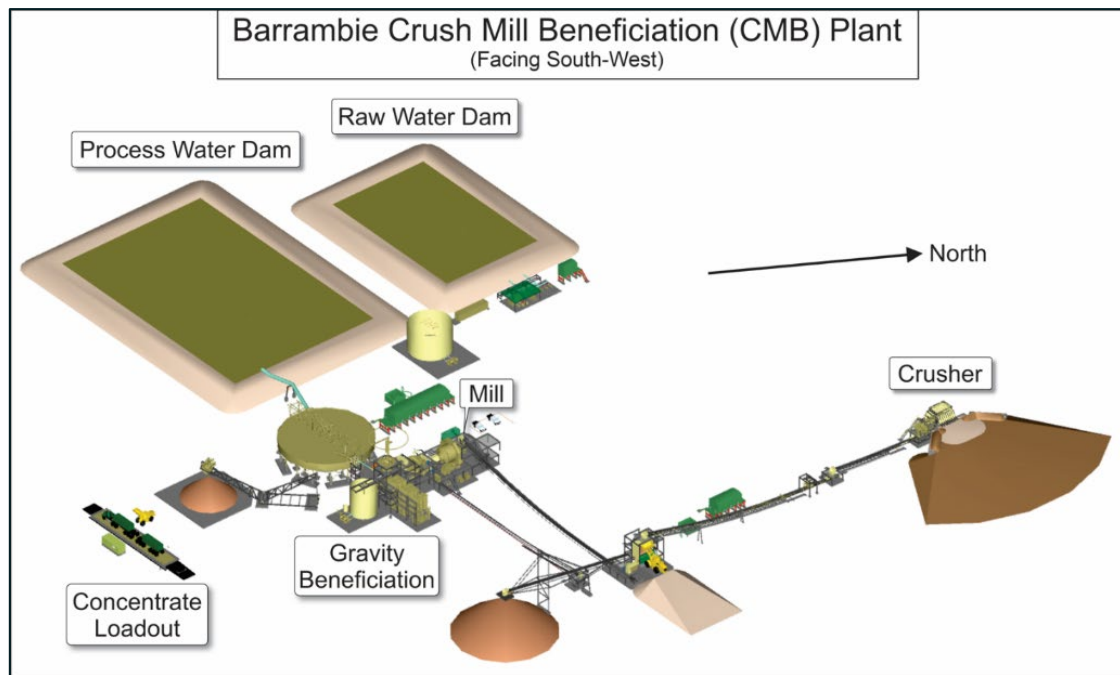


Figure 14: Simplified overview of product pathways investigated in the Barrambie Updated PFS

<sup>12</sup> (for full details refer to Neometals ASX announcement headlined “Barrambie Titanium – Robust PFS Results” released on 17<sup>th</sup> November 2022).

<sup>13</sup> (for full details refer to Neometals ASX announcement headlined “Barrambie Titanium Project PFS and Ore Reserve Update” released on 15<sup>th</sup> May 2023).



**Figure 15: 3D Representation of Barrambie CMB Site**

#### Commercial

- Neometals announced execution of an offtake Term Sheet with Jiuxing for both DSO and titanium-rich MGC. The Term Sheet outlines the key principles that will form the basis for execution of the Offtake Agreement<sup>14</sup>;
- In addition to Jiuxing, Neometals has interest from other Chinese and Western titanium producers for offtake of both MGC and ilmenite products; and
- Data from an earlier smelting trial and the Barrambie PFS data sets are being used by potential mining, crushing, and screening contractors for a potential DSO operation and the same is being used by 'build-own-operate-transfer' partners for the planned CMB plant at Barrambie. This development model was used successfully by Neometals and its partners to develop its former Mt Marion Lithium Project in 2015, which is now the world's second largest producer of spodumene (hard-rock lithium).

<sup>14</sup> (for full details refer to ASX announcement headlined "Offtake Term Sheet with Jiuxing Titanium Executed" released on 20<sup>th</sup> April 2023)

Table 2: Summary of Jiuxing offtake Term Sheet key parameters

Summary of Key Offtake Parameters		
Term	Years	5
Term (DSO)	Years	1
Volume (DSO)	Mtpa	1
Price	US\$/wmt CIF basis	Actual delivered cost, plus fixed margin
Term (MGC)	Years	4
Volume (MGC)	Mtpa	0.8
Price (MGC)	US\$/wmt CIF basis	% Australian Ilmenite Price with fixed floor (upwards CPI indexed)
Payment Terms		Letter of Credit

### Corporate

In parallel with its evaluation and commercial activities, Neometals continues to assess the optimal strategy to return Barrambie value to shareholders. Work continues with Azure Capital which has been appointed corporate advisor.



\*Subject to Board Approval

Figure 16: Barrambie Indicative Timeline

## Corporate

### FINANCIAL

#### *Hannans Limited (ASX:HNR) (Hannans) (Yilgarn Nickel/Lithium/Gold/Battery Recycling)*

As at 30 June 2023 Neometals held 879,812,014 ordinary fully paid shares (~26% of the issued capital) in Hannans on an undiluted basis. Hannans holds exclusive technology licences to Neometals' original LIB Recycling Technology in Italy and the Balkans, a non-exclusive licence in the United Kingdom and it is earning a 50% interest in an exclusive licence for Scandinavia held by Critical Metals.

#### *Critical Metals Limited (Unlisted, Scandinavian Lithium/Cobalt/Base Metals)*

Neometals holds ~18% of unlisted public company Critical Metals Ltd, a company which holds an exclusive licence to Neometals' original LIB Recycling Technology in Scandinavia and 72.5% interest in RISAB which is developing VRP1 and VRP2.

#### *Finances (unaudited)*

Cash and term deposits on hand as of 30 June 2023 totalled \$24.6 million, including \$0.2 million in restricted use term deposits supporting contractual obligations. The Company has net receivables of \$1.7 million and investments totalling \$19.9 million.

Related Party payments for the quarter outlined in the ASX Appendix 5B released contemporaneously at section 6.1 total \$333,444 and are made up of Director fees and superannuation.

#### *Issued Capital*

The total number of shares on issue as at 30 June 2023 was 552,741,176.

Authorised on behalf of Neometals by Christopher Reed, Managing Director.

### **ENDS**

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### Compliance Statement

The information in this report that relates to Mineral Resource Estimates for the Barrambie Vanadium/Titanium Project is extracted from the ASX Announcement listed below, which is also available on the Company's website at [www.neometals.com.au](http://www.neometals.com.au).

17/04/2018      Barrambie – Updated Barrambie Mineral Resource Estimate

*The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original market announcements.*

## APPENDIX

## Appendix 1: Global Resource

Table 3: Barrambie Mineral Resource Estimate, April 2018\*

Global Resource as at 17 April 2018 <sup>1</sup>			
	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	187.1	9.61	0.46
Inferred	93.0	8.31	0.40
<b>Total</b>	<b>280.1</b>	<b>9.18</b>	<b>0.44</b>
High Grade V <sub>2</sub> O <sub>5</sub> Resource (at 0.5% V <sub>2</sub> O <sub>5</sub> cut-off) <sup>2</sup>			
	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	49.0	16.93	0.82
Inferred	15.9	16.81	0.81
<b>Total</b>	<b>64.9</b>	<b>16.90</b>	<b>0.82</b>
High TiO <sub>2</sub> Resource (14% TiO <sub>2</sub> cut-off) <sup>2</sup>			
	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	39.3	21.18	0.65
Inferred	14.3	21.15	0.58
<b>Total</b>	<b>53.6</b>	<b>21.17</b>	<b>0.63</b>

\*Refer to Neometals ASX release dated 17 April 2018  
title 'Updated Barrambie Mineral Resource Estimate'

(1) Based on Cut-off grades of ≥10% TiO<sub>2</sub> or ≥0.2% V<sub>2</sub>O<sub>5</sub>  
(2) The high-grade titanium and vanadium figures are a sub-set of the total Mineral Resource. These figures are not additive and are reporting the same block model volume but using different cut-off grades.

**Appendix 2: Tenement Interests**

As at 30 June 2023, the Company has an interest in the following projects and tenements in Western Australia.

Project Name	Licence Name	Beneficial Interest	Status
Barrambie	M57/173-I	100%	Live
Barrambie	E57/769-I	100%	Live
Barrambie	E57/770-I	100%	Live
Barrambie	E57/1041-I	100%	Live
Barrambie	E57/1220	100%	Pending
Barrambie	E57/1244	100%	Pending
Barrambie	E57/1245	100%	Pending
Barrambie	E57/1379	100%	Pending
Barrambie	E20/1030	100%	Pending
Barrambie	E20/1037	100%	Pending
Barrambie	L57/0030	100%	Live
Barrambie	L57/0064	100%	Pending
Barrambie	L57/0065	100%	Pending
Barrambie	L57/0066	100%	Pending
Barrambie	L20/0055	100%	Live
Barrambie	L20/0080	100%	Live
Barrambie	L20/0081	100%	Live
Yellowdine	E77/2809	100%	Pending
Queen Victoria Rocks	E15/1416-I	100%	Live

*Changes in interests in mining tenements Interests in mining tenements acquired or increased*

Project Name	Licence Name	Acquired or Increased
Barrambie	L57/0066	Application

*Interests in mining tenements relinquished, reduced, or lapsed*

Project Name	Licence Name	Acquired or Increased
N/A	N/A	N/A

**About Neometals Ltd**

Neometals is an emerging, sustainable battery materials producer. The Company is commercialising three environmentally-friendly processing technologies that will primarily produce lithium, nickel, cobalt and vanadium at lowest quartile costs with minimal carbon footprint.

Neometals' and its partners have been recognised internationally for sustainable approaches that combine industry leading costs with circular economic principles, reducing the reliance on traditional upstream mining-based supply chains. The Company's three core business units are commercialising these proprietary technologies in incorporated joint ventures:

- **Lithium-ion Battery ("LIB") Recycling (50% technology)** – providing recycling as a service, plant supply under JV, or technology licensing business models via Primobius GmbH (NMT 50% equity). All plants built by Primobius' co-owner (SMS group 50% equity), a 150-year old German plant builder with 14,000 employees. Primobius is recycling technology

partner and plant supplier to Mercedes-Benz. Commercial 10tpd shredding 'Spoke' facility operational in Germany and investment decision for Primobius' first commercial 50tpd plant with Stelco in Canada expected Q4 (NMT 25% equity).

- **Vanadium Recovery (100% technology)** – aiming to produce high-purity vanadium pentoxide from processing of steelmaking by-product ("Slag"). Planned 9,000tpa operation in Pori, Finland (NMT 72.5% equity) courtesy of 10-year Slag supply agreement with SSAB. Investment decision with JV partner, Critical Metals, expected Q3 2023. MOU with H2Green Steel for potential second, larger operation in Boden, Sweden; and
- **Lithium Chemicals (70% technology)** – aiming to produce battery quality lithium hydroxide from brine and/or hard-rock feedstocks using patented ELi™ electrolysis process co-owned 30% by Mineral Resources Ltd. Co-funded Pilot Plant trials Q2/Q3 2023 and Demonstration Plant trial H1 2024 preceding potential commercial operation with Bondalti Chemicals in Portugal.