



# BATTERY RECYCLING DEMONSTRATION PLANT – STAGE 2 COMMISSIONING COMMENCES

## HIGHLIGHTS

- Primobius commences wet commissioning of Stage 2 hydrometallurgical refinery;
- Stage 2 takes black mass and uses solvent extraction to recover active cathode materials (lithium, nickel, cobalt, and manganese) as individual high-purity chemicals for re-use in the production of new lithium-ion batteries; and
- Demonstration trials scheduled to commence in October and conclude in November.

Innovative project development company, Neometals Ltd (ASX: NMT) (“**Neometals**” or “**the Company**”), is pleased to announce that Primobius GmbH (“**Primobius**”), the joint venture (“**JV**”) company owned 50:50 by Neometals and SMS group GmbH (“**SMS group**”), has commenced wet commissioning the hydrometallurgical refining circuits of its showcase lithium-ion battery (“**LIB**”) recycling demonstration plant (“**DP**”).

The DP, located in Primobius’ leased building within the SMS group engineering competence centre in Hilchenbach, comprises a fully constructed Shredding and Beneficiation Circuit (Stage 1) and a Hydrometallurgical Refining Circuit (Stage 2). The entire leaching and solvent extraction circuits has been water tested and leaching of intermediate active material (“**Black Mass**”) from Stage 1 and filtering the carbon anode residue has commenced. The individual solvent extraction circuits (to recover copper, manganese, cobalt, nickel and lithium) will then be sequentially commissioned.

The fully integrated, continuous process DP trial constitutes one of the key evaluation activities required for the JV to make an investment decision relating to construction of Primobius’ first commercial integrated (Stage 1 and 2 combined) LIB recycling plant (“**50tpd Integrated Plant 1**”). Commencement of Stage 2 commissioning is another significant milestone for Primobius and the subsequent trials remain on schedule.

The integrated DP trials are expected to commence in October 2021 with completion by the end of November 2021. Thereafter, the DP will be modified, and sections moved to meet the requirements of the 10tpd Shredder Plant which is due to offer commercial LIB recycling services in Q1 2022 (*for further details see Neometals announcement titled “Battery Recycling - Decision to fund commercial operations” dated 19<sup>th</sup> August 2021*).



Figure 1 – Primobius DP Stage 2 Refinery Circuit

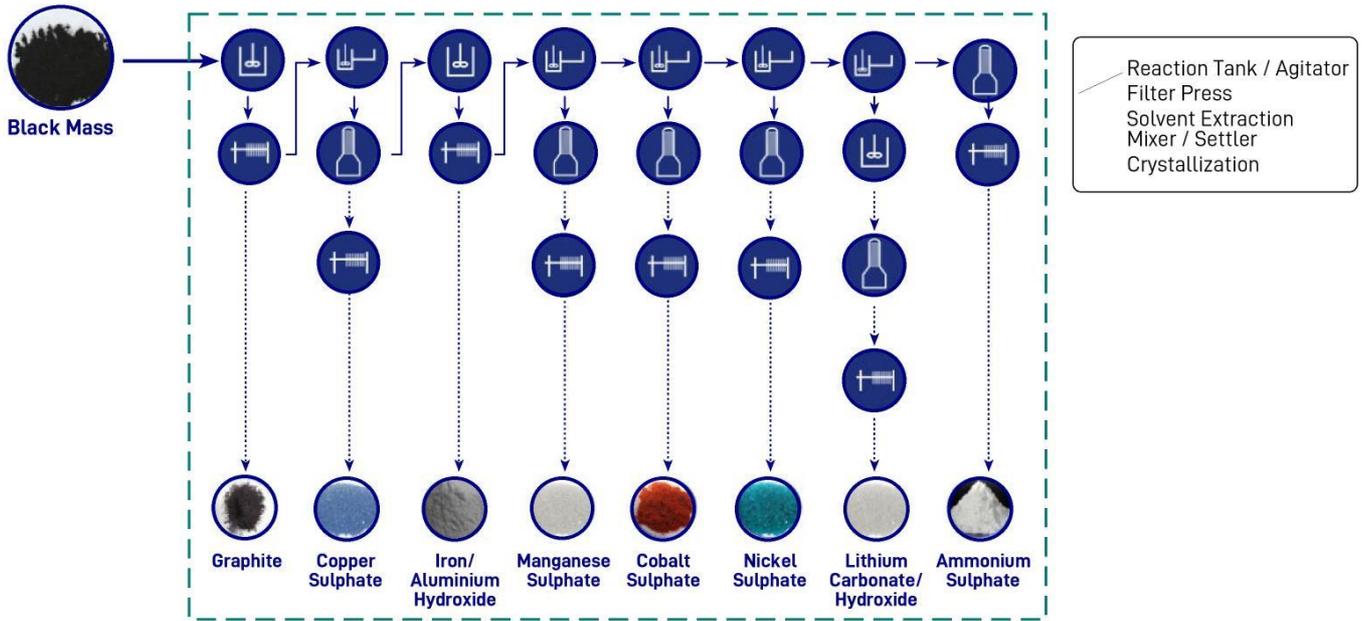


Figure 2 – Primobius Patent-pending Stage 2 Flowsheet

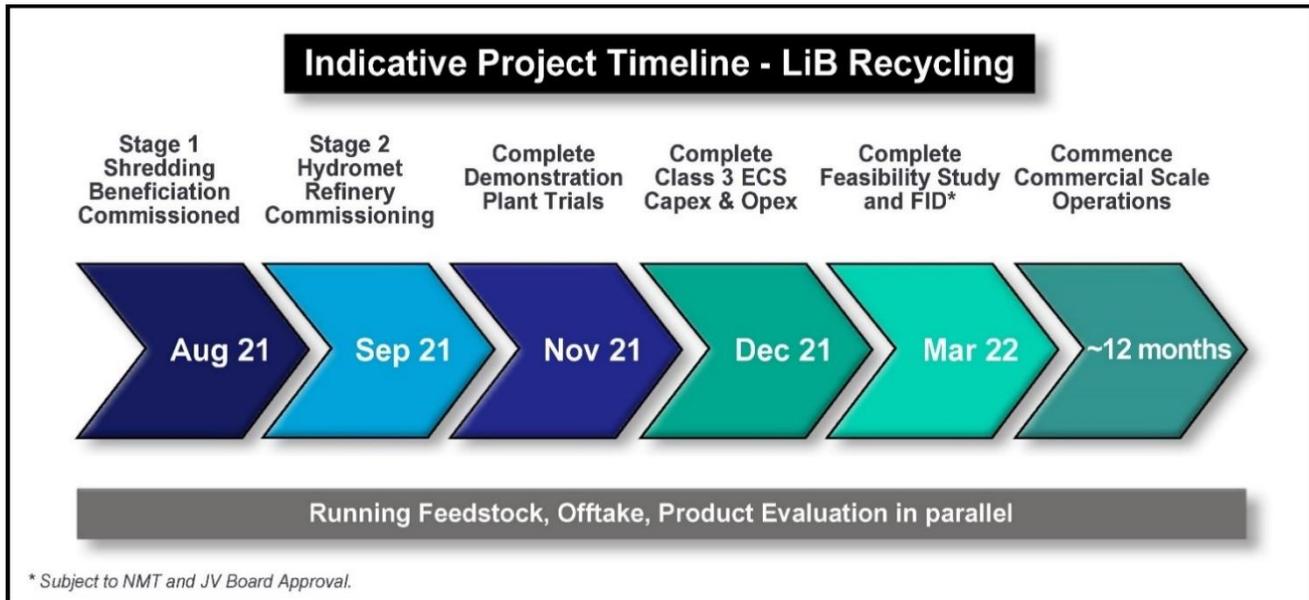


Figure 3 – Primobius Indicative Timeline for 50tpd Integrated Plant 1 Evaluation

Authorised on behalf of Neometals by Christopher Reed, Managing Director

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For further information, please contact:

**Chris Reed**  
 Managing Director  
 Neometals Ltd  
 T: +61 8 9322 1182  
 E: info@neometals.com.au

**Jeremy Mcmanus**  
 General Manager - Commercial and IR  
 Neometals Ltd  
 T: +61 8 9322 1182  
 E: jmcmanus@neometals.com.au

## About Neometals Ltd

Neometals innovatively develops opportunities in minerals and advanced materials essential for a sustainable future. With a focus on the energy storage megatrend, the strategy focuses on de-risking and developing long life projects with strong partners and integrating down the value chain to increase margins and return value to shareholders.

Neometals has three core projects that support the global transition to clean energy and span the battery value chain:

Recycling and Resource Recovery:

- Lithium-ion Battery Recycling – a proprietary process for recovering nickel, cobalt and other valuable materials from spent and scrap lithium batteries. Showcase demonstration plant trials targeted for DecQ 2021 with 50:50 JV partner SMS group. Targeting a development decision in Mar Q 2022; and
- Vanadium Recovery – sole funding evaluation studies to form a 50:50 joint venture with Critical Metals Ltd to recover high-purity vanadium pentoxide from processing by-products (“Slag”) from leading Scandinavian steelmaker SSAB. Underpinned by a 10-year Slag supply agreement, Neometals is targeting an investment decision to develop a 200,000tpa processing plant in DecQ 2022.

Upstream Industrial Minerals:

- Barrambie Titanium and Vanadium Project - one of the world's highest-grade hard-rock titanium-vanadium deposits, working towards a development decision in 2022 with potential operating JV partner IMUMR and potential cornerstone product off-taker, Jiuxing Titanium Materials Co.