NEOMETALS ZEOLITE PRODUCT EVALUATION RESULTS

HIGHLIGHTS

- **Neometals has successfully produced commercial grade samples of Type X zeolite from both Mt Marion and third-party sourced spodumene leach residue via its patent pending technology**
- **The Neometals products have been evaluated against a leading Japanese synthetic zeolite product and found to be comparable in terms of quality and impurity content**
- **Product evaluation success provides confidence ahead of planned pilot plant to support the Class 3 Engineering Study evaluation**
- **Manufacturing zeolites from spodumene leach residue could eliminate waste disposal and associated costs from lithium production and generate significant co-product revenue.**

Neometals Ltd (**ASX: NMT**) (**"Neometals"** or **"the Company"**) is pleased to announce the results from Queensland University of Technology (**"QUT"**) comparative analysis on the specification of several Neometals zeolite products against leading commercial counterparts in the market ("**Test-work**"). Test-work results showed Neometals product quality to be comparable to industry leading zeolite products from a reference Japanese manufacturer.

The Test-work was part of the continued development and optimisation of Neometals' patent pending process for the conversion of spodumene leach residue into advanced industrial materials known as synthetic zeolite. Synthetic zeolites are used for water treatment, gas adsorption and green chemistry applications. Late 2018 feedback from early engagement with market participants on Type A zeolite led to bench-scale process optimisation and the subsequent manufacture of a higher value Type X zeolite product.

Demonstrating that Type A zeolites could be produced from lithium refinery waste represented a lab scale breakthrough. Subsequent production of other types of synthetic zeolite, from various sources of lithium refinery waste, at or close to commercial benchmarks is extremely encouraging. Neometals has engaged global engineering company Exyte to complete a Class 4 Engineering Cost Study based on the current test work. A Class 3 Engineering Cost and Feasibility Study is planned to follow successful completion of the pilot plant demonstration of the process.

Neometals' Managing Director Chris Reed said

"The unequivocal demonstration of the ability to convert lithium refinery leach residue waste into high value zeolite products further demonstrates the Company's ability to identify and develop an opportunity to improve the economics and environmental sustainability of our downstream lithium chemical strategy.

We look forward to announcing the expected capital and operating costs when they become available."

ACN 099 116 361
Level 3, 1292 Hay Street
West Perth WA 6005

Locked Bag 8
West Perth WA 6872

T: +61 8 9322 1182
F: +61 8 9321 0556

info@neometals.com.au
neometals.com.au

Background

Zeolite materials are produced as both naturally occurring and synthetic materials. Synthetic zeolites such as those produced by Neometals' process at bench-scale, are typically used in more demanding industrial applications such as molecular sieves for natural gas dehydration, air and hydrocarbon purification. According to Markets and Markets (2017), the global zeolite market was approximately 2.4Mtpa with a total estimated value in excess of US$13B per annum.

The initial driver for the development of zeolite from lithium refinery leach residue was to minimise the waste footprint from the Company's proposed lithium refinery (LR) whilst generating a co-product revenue stream to improve the LR competitive cost position.

Neometals previously demonstrated its ability to synthesize zeolite from Mt Marion spodumene leach residue (lithium hydroxide processing waste) by producing an initial evaluation sample that meets commercial specifications (*see Neometals' ASX Announcement dated 5th September 2018*).

Technical Program

Neometals has developed two commercial grade synthetic zeolite materials (for different applications) from Mt Marion and third-party feed stocks. QUT has bench marked the Neometals evaluation samples against commercial products from a leading Japanese supplier and found the specifications to be remarkably similar. See below for the outcomes as they relate to zeolite powder Type X below:

Parameter	Leading Japanese Zeolite Type X Powder	Neometals Zeolite Type X Powder
Zeolite X Crystallinity (wt%)	84.9	79.7 to 80.3
Sodalite Content (wt%)	0.4	0.01 to 0.34
Quartz Content (wt%)	2.6	1.3 to 2.2
BET Surface Area (m^2/g)	451	401
Pore Size (Å)	22.1	20.7
Pore Volume (cm^3/g)	0.21	0.18

Next steps

The success of the bench scale process and product specifications has justified Neometals progressing to the next phase of development, being demonstration of the technology at pilot scale. QUT has commenced with the procurement of critical equipment for the pilot plant scheduled to commence in the September quarter of 2019. Assuming a successful pilot test-work program, the Company plans to use the data derived from the pilot plant to commence a Class 3 Engineering Cost and Feasibility Study. This work will be undertaken in parallel with further market evaluation with a view to securing formal product validation from zeolite manufacturers and end-users.

ENDS

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. 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:

- Lithium Refinery Project – Progressing evaluation activities for the development of India's first lithium refinery with Manikaran Power Limited to supply lithium hydroxide to the battery cathode industry, underpinned by a binding life-of-mine annual offtake option for 57,000 tonnes per annum of Mt Marion 6% spodumene concentrates. Commercial development decision expected in the 1H CY2021.
- Lithium-ion Battery Recycling – a proprietary process for recovering cobalt and other valuable materials from spent lithium batteries. Pilot plant testing currently underway with commercial development decision expected in the March Q 2020; and
- Barrambie Titanium and Vanadium Project - one of the world's highest-grade hard-rock titanium-vanadium deposits, working towards a development decision by end 2020;