

29 January 2021

QUARTERLY ACTIVITIES REPORT Quarter Ended 31 December 2020

Zeotech Limited (ASX: ZEO, “Zeotech” or “the Company”) an emerging industrial kaolin and mineral processing technology company provides the following quarterly update and commentary for the December 2020 quarter.

HIGHLIGHTS

- Patent Application lodged for the Synthesis of Zeolites from Lithium Refinery Process Residue;
- Commercial Grade Zeolite Type A produced from Lithium Refinery Process Residue; and
- Notice of Assignment of Intellectual Property relating to the Mineral Processing Technology for the manufacturing (synthesising) of Zeolites.

SYNTHETIC ZEOLITE MINERAL PROCESSING TECHNOLOGY

Patent Application lodged for the Synthesis of Zeolites from Lithium Refinery Process Residue

On 21 October 2020, the Company announced the University of Queensland’s technology transfer company UniQuest, had filed a provisional patent application (“Provisional Patent”) for the manufacturing (synthesising) of zeolites from lithium refinery process residue derived from the production of lithium concentrates from spodumene (“Li Process Residue”).

On 1 August 2020, the Company executed an accelerated research program with the University of Queensland’s School of Chemical Engineering (“UQ”), focused on evaluating the potential to efficiently synthesize zeolites from mine tailings and process residues.

During this dedicated research program UQ developed a novel process (flowsheet) for the manufacture of synthetic zeolites from Li Process Residue (leached spodumene).

The novel and proprietary process leverages low energy and production time efficiencies of Zeotech’s existing intellectual property portfolio – creating an innovative and cost-effective approach for the manufacture of zeolites from Li Process Residue.

The Provisional Patent and associated intellectual property will form part of the exclusive global zeolite technology license held by the Company¹ (Zeotech notes that assignment of intellectual property² from UQ when completed will include Li Process Residue technology).

¹ ASX announcement 07/04/20 “MSE secures exclusive global licence on UQ developed synthetic zeolite processing technology”.

² ASX announcement dated 08/12/2020 “Notice of Assignment of Intellectual Property relating to Zeolite Mineral Processing Technology”

Zeotech considers the ability to convert Li Process Residue into high value zeolite holds tangible promise in improving economic and environmental outcomes for lithium refineries by offering an integrated solution capable of improving downstream margins by consuming Li Process Residue streams.

As lithium battery demand grows its anticipated that the lithium refinery sector will produce significant amounts of Li Process Residue, hence innovative cleantech solutions are needed.

The production of lithium concentrates from spodumene, results in the generation of a material proportion of fine leached spodumene ending up in processing residue stream (in some cases up to 70%).

UQ's novel flowsheet has been successful in producing synthetic zeolite from Li Process Residue.

Commercial Grade Zeolite Type A produced from Lithium Refinery Process Residue

On 28 October 2020, the Company announced the successful synthesis of commercial grade zeolite Type A also known as Linde Type A ("LTA") from leached spodumene process residue using patent-pending technology ("IP") developed by the University of Queensland ("UQ"). This promising result was the product of a dedicated accelerated mine-tailings and process residues research program.

ZEO has been actively seeking mine tailings and process residues for testing under conditions of patent-pending technology developed by UQ to aid the development of a potential commercial remediation solution for the mining industry.

To date interest has surfaced from two Australian mining companies and a leading synthetic zeolite producer in China to assess the potential of ZEO mineral processing technologies to convert mine tailings and process residue streams into commercially-saleable zeolites. To date ZEO has received the following potential feed materials:

- coal tailings;
- Li Process Residue; and
- coal gangue.

On 1 August 2020 ZEO executed an accelerated research program with the UQ School of Chemical Engineering, focused on processing mine tailings and process residues under the conditions of ZEO patent-pending technologies to produce high value zeolites. The mine waste and process residue to zeolite research program is running in parallel with the Company's core research agreement with UQ which commenced on the 1 June 2020.³

During this dedicated research program UQ developed a novel process (flowsheet) for the manufacture of synthetic zeolites from Li Process Residue (leached spodumene). A provisional patent application for the manufacturing (synthesising) of zeolites from Li Process Residue was lodged on 21 October 2020.⁴

³ ASX announcement 07/05/20 "Synthetic Zeolite Research Agreement signed with the University of Queensland"

⁴ ASX announcement 21/10/20 "Patent Application lodged for the Synthesis of Zeolites from Lithium Refinery Process Residues"

ZEO has engaged a senior process engineer to work in unison with the UQ lab team during the accelerated research program to develop detailed metallurgical simulation models to aid economic understanding and development of the zeolite process flowsheet and enhance potential for future commercial outcomes.

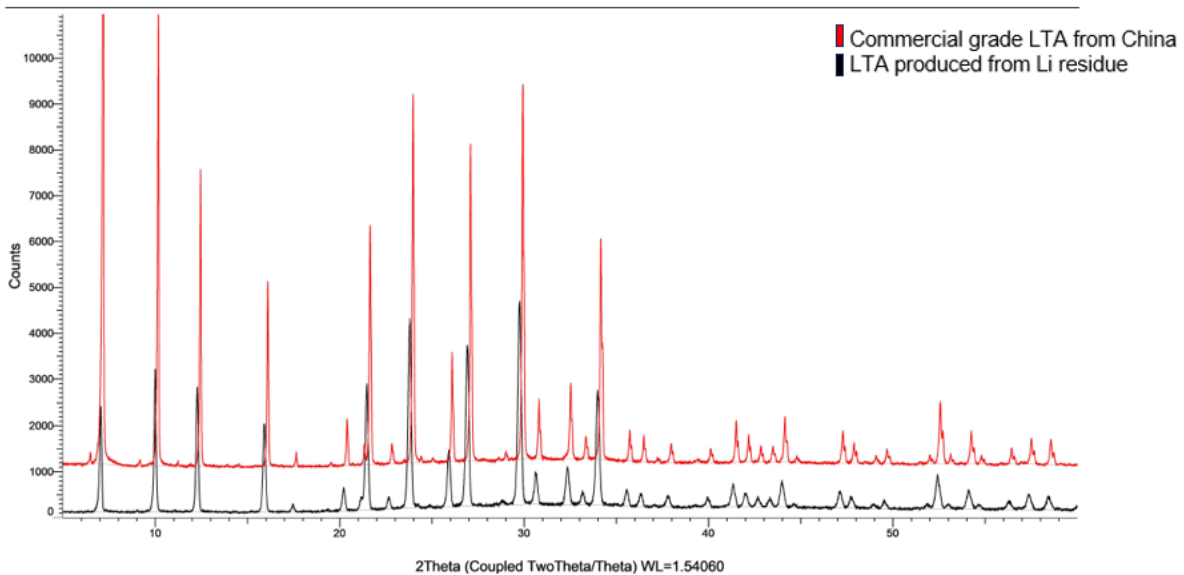
Initial UQ lab-scale testwork targeted establishing the ability to convert leached spodumene residue under ZEO technology conditions into commercial grade zeolite. During this program UQ successfully produced pure Linde Type A zeolite (“LTA”) under a novel patent-pending process flowsheet from leached spodumene residue.



pictures courtesy of Dr. Hong (Marco) Peng - The University of Queensland

UQ analysis confirms XRD pattern (below) for zeolite LTA produced from Li Process Residue mirrors signature of commercial grade zeolite from one of China’s leading zeolite manufacturers.

(Coupled TwoTheta/Theta)



The ability to apply suitable mine and/or process residue streams as a zero-cost feed in the production of high value zeolites offers an integrated approach that can potentially improve a mining project’s margins by adding downstream revenues.

UQ has confirmed that the potential exists to optimise the novel and proprietary zeolite LTA flowsheet to enable the synthesis of a range of zeolite Type A molecular sieve products cost effectively.

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Zeolite Type A

Zeolite Type A is a sodium aluminosilicate and is utilized as a builder in tablets and detergent powders for the water-softening in washing process. This type of zeolite is also known as Linde Type A (LTA), which belongs to the aluminosilicate molecular sieves family. There are various zeolite type A products, which include:

- 4A applications include detergent builder and polyvinyl chloride (PVC) heat stabiliser. 4A molecular sieve can be used for the deep drying of air, natural gas, alkaline, refrigerants and other gases and liquids.
- 3A is a molecular sieve that has a pore size that is 3 angstroms (3A), hence it will not adsorb any molecules larger than 3A. It is a very effective and reliable desiccant (drying agent) and is used in a wide variety of commercial applications, some of which include, natural gas drying, refrigerant drying, moisture removal in polyurethane plastic/paint, static drying of insulating glass units and is also applied in method of drying that is used by fuel ethanol producers.
- 5A is a molecular sieve that has a pore size that is 5 angstroms (5A). It cannot adsorb any molecules smaller than 5A and primary applications are separation of alkane types, co-adsorption of carbon dioxide and moisture, along with pressure swing adsorption (PSA) for gases.

Zeotech's novel and proprietary mineral processing technology provides access to the A\$2.6 billion global Type A zeolite market⁵.

Notice of Assignment of Intellectual Property relating to Zeolite Mineral Processing Technology

On 8 December 2020, the Company announce it had issued the University of Queensland's (UQ) technology transfer company UniQuest, a notice requesting the assignment to Zeotech for its intellectual property (IP), (Licenced IP) regarding patent-pending mineral processing technology for the manufacturing (synthesising) of zeolites⁶.

Zeotech advised that binding terms within the exclusive global licence agreement⁷ executed on 6 April 2020, with UniQuest ("Licensor") include clauses which have been triggered based on the successful achievement of certain conditions by Zeotech, enabling the Company to give notice to the Licensor, requesting the assignment of the licensed IP, which will facilitate the transfer of ownership of the IP to Zeotech.

UniQuest has agreed to assign all its rights, title, and interest in, and to, the licensed IP free of any encumbrances to Zeotech subject to payment of a \$500,000 Assignment Fee at execution, in accordance with the terms of a Deed of Assignment that formed part of the licence agreement.

The opportunity to move from a licensee to an IP owner is a major step for the Company.

⁵ Aranca: Global Analysis 4A detergent grade and 3A, 4A and 5A molecular sieves grade Nov 2020

⁶ ASX announcement dated 08/12/2020 "Notice of Assignment of Intellectual Property relating to Zeolite Mineral Processing Technology"

⁷ ASX announcement dated 07/04/2020 "Exclusive Licence Agreement to Produce Synthetic Zeolite"

It offers Zeotech shareholders and potential commercial partners certainty that the IP is held directly by the Company, without any encumbrances, beyond Zeotech's ongoing obligation to pay royalties and performance milestone shares (or cash equivalent) to UniQuest.

Zeotech's novel and proprietary mineral processing technology provides access to the A\$2.6 billion global Type A zeolite market⁸, with a focus on high value molecular sieve zeolites, which achieve prices in excess of A\$2,850 per tonne.

Zeotech considers the ability to produce high value zeolites from low value mineral and/or zero-cost mine tailing/process residues is a compelling advantage and will enable higher margin monetisation of Abercorn kaolin, which is an optimal feedstock for zeolite production using the patent-pending mineral processing technology.

CORPORATE

Subsequent to the end of the quarter, the Company completed a \$1.7 million placement at \$0.05 per share to sophisticated and professional investors.

Proceeds from the Placement will be used to advance ZEO'S strategy to produce high value Type A molecular sieve synthetic zeolites using the Company's novel and proprietary mineral processing technology, developed by the University of Queensland ("UQ").

THE ABERCORN PROJECT

The Abercorn Project is a large-scale kaolin prospect, located in central Queensland and has demonstrated it contains a resource of significant scale, and a very consistent, high quality grade of kaolinite mineralisation.

The resource remains open in all directions with less than circa 10% of the Project area being drilled, leaving potential for substantial future upgrade.

The total number of holes drilled into the project is now 86 for a total of 3,172m.

- Large scale mineralised system from surface;
- 86 RC holes drilled - kaolinite intersected in every hole;
- Resource remains open in all directions;
- Low-cost operation - straight forward open cut mining;
- Little to no overburden;
- Low impurities;
- Mains power on site / major power transmission line within 5km of site; and
- Large water supply nearby and within EPM.

The Abercorn Project is situated approximately 135km south of the deep-water port of Gladstone and 125km west of the deep-water port of Bundaberg in central Queensland. Both major ports are connected to the Abercorn Project by sealed roads. The Burnett highway bisects the tenements.

No on-groundwork was undertaken during the quarter.

⁸ Aranca: Global Analysis 4A detergent grade and 3A, 4A and 5A molecular sieves grade Nov 2020

KRAAIPAN PROJECT, BOTSWANA

Kraaipan Gold-Nickel-Copper-PGM Project

Zeotech's 100% owned Kraaipan Gold-Nickel-Copper-PGM Project comprises Prospecting Licence, PL232/2016 and covers approximately 50 kilometre strike extent of the Kraaipan Greenstone Belt in southern Botswana. The Kraaipan Project is part of the larger NNW trending Amalia-Kraaipan-Greenstone-Terrane ('AKGT') of the Kaapvaal Craton. The AKGT in Botswana is directly along strike from significant gold deposits, as well as adjacent to significant PGM deposits, across the border in South Africa.

No on-groundwork was undertaken during the quarter.

APPENDIX 5B – QUARTERLY CASH FLOW REPORT

The cash position of the Company on 31 December 2020 was \$2.652 million.

Details of mining exploration activities

Details of exploration activities during the quarter are set out above.

Exploration and evaluation expenditure for the quarter comprised Abercorn resource evaluation work \$33,000 and rents, rates, tenement management and miscellaneous expenses \$6,000.

Other associated R&D project costs of \$81,000.

Details of mining production and development activities

No production and development activities were undertaken during the quarter.

Details of related party payments

The aggregate amount of payments to related parties and their associates included in the current quarter Cash flows from operating activities were \$107,000, comprising director salaries (inclusive of superannuation), directors fees and consulting fees.

This Announcement has been approved by the Board.

- End -

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About Zeolites

Zeolites play an important role in a cleaner and safer environment.

- zeolites are an effective substitute for harmful phosphates in powder detergent, now banned in many parts of the world because of blue green algae toxicity in waterways;
- as catalysts, zeolites increase process efficiencies = decrease in energy consumption;
- zeolites can act as solid acids and reduce the need for more corrosive liquid acids;
- zeolites adsorbent capabilities see them widely used in water treatment i.e., heavy metal removal including those produced by nuclear fission; and
- as redox catalyst sorbents, zeolites can help remove exhaust gases and CFC's.

About Zeotech

Zeotech is an emerging industrial kaolin and mineral processing technology Company.

We are working with the University of Queensland to commercialise novel and proprietary zeolite mineral processing technology, whilst continuing to explore the development of our Queensland based Abercorn Kaolin Project, acquired in August 2019.

Zeotech's novel and proprietary mineral processing technology provides access to the A\$2.6 billion global Type A zeolite market⁹.

Zeotech aspires to improve environmental outcomes by building on the potential of its zeolite mineral processing technology to be applied as a commercial remediation solution by using suitable mine waste and process residues streams as zero-cost feed for low cost production of high value zeolites.

Forward-looking Statements

This release may contain certain forward-looking statements with respect to matters including but not limited to the financial condition, results of operations and business of Zeotech and certainty of the plans and objectives of Zeotech with respect to these items.

These forward-looking statements are not historical facts but rather are based on Zeotech current expectations, estimates and projections about the industry in which Zeotech operates, and its beliefs and assumptions.

Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates", "guidance" and similar expressions are intended to identify forward looking statements and should be considered an at-risk statement.

Such statements are subject to certain risks and uncertainties, particularly those risks or uncertainties inherent in the process of developing technology and in the endeavour of building a business around such products and services.

⁹ Aranca: Global Analysis 4A detergent grade and 3A, 4A and 5A molecular sieves grade Nov 2020

These statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties, and other factors, some of which are beyond the control of Zeotech, are difficult to predict and could cause actual results to differ materially from those expressed or forecasted in the forward looking statements. Zeotech cautions shareholders and prospective shareholders not to place undue reliance on these forward-looking statements, which reflect the view of Zeotech only as of the date of this release. The forward-looking statements made in this announcement relate only to events as of the date on which the statements are made. Zeotech will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.

Tenement Information as required by Listing Rule 5.3.3

The following is a table setting out the information as required by ASX Listing Rule 5.3.3, namely:

1. Mining tenements held at the end of the Quarter and their location;
2. Mining tenements disposed during the Quarter and location;
3. Beneficial percentage interests held in farm-in or farm-out agreements at end of Quarter; and
4. Beneficial percentage interests held in farm-in or farm-out agreements acquired or disposed of during the Quarter.

Location	Tenement	Interest at beginning of quarter (%)	Interests relinquished, reduced or lapsed (%)	Interests acquired or increased (%)	Interest at end of quarter (%)
Australia	EPM 19081	100%	Nil	Nil	100%
Australia	EPM 26837	100%	Nil	Nil	100%
Australia	EPM 26903	100%	Nil	Nil	100%
Australia	EPM 27427	100%	Nil	Nil	100%
Botswana	PL232/2016	100%	Nil	Nil	100%