

Pilot Plant and DFS Developments

Highlights

- The Pilot Plant facility at Kemetco Research in Vancouver, Canada has achieved its key objectives and provided the opportunity for process enhancements
- High-quality lithium and boron product samples from the Pilot Plant have been sent to thirty potential off-take partners
- Strategic and off-take partner discussions are progressing well with twenty potential partners having toured the Pilot Plant as part of their due diligence
- The Definitive Feasibility Study (DFS) will be completed in Q1 2020 once process enhancements are incorporated into engineering design

Tuesday, 1 October 2019 – Emerging lithium-boron supplier, Ioneer Ltd (Ioneer or the Company) (ASX: INR) is pleased to provide a progress report for its Rhyolite Ridge Lithium-Boron Project (the Project) in Nevada, USA.

The Pilot Plant has provided opportunities to optimise and simplify the Pre-Feasibility Study (PFS) process flowsheet prior to completion of detailed engineering design of the process plant.

Further testwork is expected to result in important but straightforward modifications to the flowsheet that will enhance and further optimise the commercial process. Optimising the process flowsheet and finalising equipment selection options during the DFS is a prudent approach that is designed to minimise operational risks at commercial start-up and enhance project economics.

The additional Pilot Plant testwork and resulting engineering adjustments described below will result in completion of the DFS in Q1 2020. This work will not impede off-take and strategic partner/financing discussions currently in progress.

Managing Director of Ioneer, Mr Bernard Rowe commented:

“The Pilot Plant is an integral part of the Rhyolite Ridge Definitive Feasibility Study. In testing the integrated process flowsheet at pilot scale, we have collected the detailed data that has allowed us to identify areas that can be further enhanced and optimised to support detailed design engineering for the DFS and beyond. These valuable learnings will further ensure Rhyolite Ridge reaches its potential to be the largest producer of lithium in the United States, and to be in the lowest quartile of the lithium cost curve globally.”

“Importantly, the Pilot Plant has demonstrated the Project’s ability to produce high-quality lithium and boron products that have been sent to potential customers as part of off-take discussions. Given strong customer interest and the quality of our products, we are confident that our products will receive widespread customer acceptance and lead to off-take agreements important to funding Project development.”

A total of 30 tonnes of ore has been processed through the Pilot Plant and the following core objectives have been met:

1. Simulation of the process flowsheet in a continuous cycle to:
 - optimise and finalise the flowsheet for the DFS; and
 - collect the data required for detailed design and engineering of the process plant;
2. Production of high-quality boric acid and lithium carbonate to support our global off-take marketing activities; and
3. Demonstration of the process plant to potential strategic and financing partners.

Pilot Plant Observations

An initial 30 tonnes of Rhyolite Ridge lithium-boron (searlesite) ore has been processed through the Pilot Plant with data generated being evaluated by a multidisciplinary team led by Ioneer and Fluor, with integrated support from Veolia, FLSmidth and Kemetco Research.

The key insights from the Pilot Plant operation have allowed for specific areas to be further refined and optimised:

- acid and lime consumption;
- materials of construction including metal alloys; and
- washing and dewatering of impurity crystals and related equipment selection.

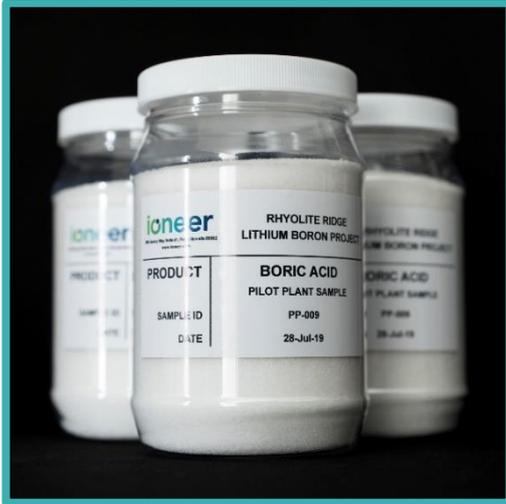
These observations provide valuable opportunities to improve upon the PFS outcomes and simplify the process to the benefit of commercial operation, maintenance and environmental performance.

The Company anticipates completing final Pilot Plant testwork by the end of November. Given the mature nature of the DFS engineering already completed by Fluor, Ioneer expects to make the final adjustments to engineering design and deliver a robust DFS in Q1 2020.

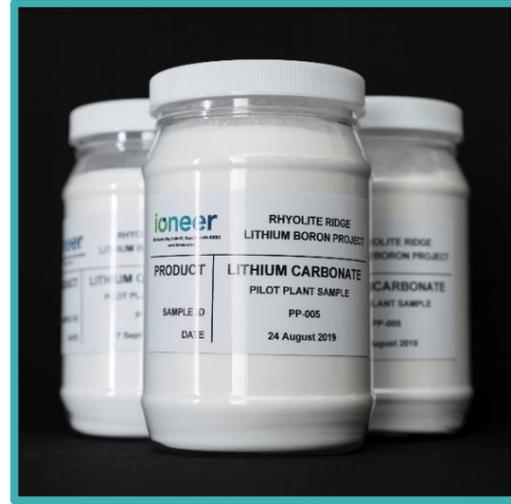
A video of the Rhyolite Ridge Pilot Plant is available at: www.ioneer.com/investors/videos

Producing High-Quality Boric Acid and Lithium Carbonate

These learnings have not hindered the Company producing high-quality boric acid and technical-grade lithium carbonate through the integrated Pilot Plant. Product samples have been sent to over 30 potential customers around the world for evaluation as part of multiple off-take negotiations.



Premium quality (>99.9%) boric acid samples ready for shipping.



Premium quality technical-grade (>98.5%) lithium carbonate samples ready for shipping.

Supporting Strategic Discussions

The Pilot Plant has already supported numerous strategic partnering and finance discussions. ioneer's commitment to engineering and operational excellence is reflected in the quality of the work at the Pilot Plant. Twenty potential strategic partners and financiers have toured the Pilot Plant. These interested parties have had the opportunity to extensively interact with the technical and commercial teams, thus providing them with an understanding of ioneer's dedication to technical excellence and focus on ensuring successful commercial operations.

ioneer looks forward to completing the final work at the Pilot Plant over the coming months and notifying the market of developments before reporting the overall results of the DFS in Q1 2020.

DFS Progress and Completion

Most components of the DFS are near complete with only the lithium-boron processing areas to be optimised subject to the outcomes of further Pilot Plant testwork.

Key parameters of the DFS are in line with the Rhyolite Ridge PFS:

- Open-pit mine plan to be based on the June 2019 Mineral Resource with improved boron grades;
- Ore crush and vat sizing to provide high recoveries of lithium and boron into a pregnant leach solution; and
- Ore processing rate averaging 2.7 million tonnes per annum predicated on the on-site acid plant producing 3,500 tonnes per day.

The DFS has provided greater confidence in capital expenditure estimates, such as for the sulphuric acid plant where firm bids have been received.

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About ioneer

The Company's 100%-owned Rhyolite Ridge Lithium-Boron Project in Nevada, USA provides a substantial foundation for ioneer to become a responsible and profitable producer of the materials necessary for a sustainable future.

The Rhyolite Ridge Pre-Feasibility Study (October 2018) demonstrated the project's scale, long life and potential to become the lowest cost lithium producer in the world as well as the largest lithium producer in the United States.

With forecast annual production of 20,200 tonnes lithium carbonate and 173,000 tonnes boric acid, Rhyolite Ridge will be a globally significant producer of both lithium and boron.

Lithium and boron are both used in a diverse range of everyday items and innovative technologies that are essential to modern life and emerging clean technologies such as electric vehicles.