

Quarterly Activities Report for the period ending 30 June 2020

Highlights

- Rhyolite Ridge Definitive Feasibility Study (DFS)¹ delivered, showing compelling Project economics with an after-tax NPV of US\$1.265 billion, and an unlevered, after tax internal rate of return (IRR) of 20.8%
- DFS confirms plans for a large, long-life, low-cost operation with all-in sustaining cash cost of US\$2,510 per metric tonne^{2,3} lithium carbonate equivalent (LCE), placing Rhyolite Ridge at the bottom of the global lithium cost curve.
- Total Ore Reserve⁴ for Rhyolite Ridge increased 280% to 60.5 million metric tonnes (mt) over 26-year mine life. Project holds 0.6mt of lithium carbonate and 5.3mt of boric acid, with half the Ore Reserve classified as Proven.
- Project Plan of Operations submitted to the United States Bureau of Land Management.
- Key air and water quality permit applications completed and submitted to relevant US regulatory bodies.
- Three-year boric acid Distribution and Sales Agreements signed with Kintamani Resources Pte Limited, and Boron Bazar Limited, covering critical additional territories in Asia. The new agreements, plus the binding Dalian Jinma offtake agreement, announced December 2019, places 100% of ioneer's first year of boric acid production, and more than 85% of boric acid production in years two and three.
- Engineering work continuing with the aim of being 'shovel ready' and permitted by Q2 2021. Engineering design increasing from 30% (DFS level) to 50-80% complete (earthworks 100%).
- Discussions progressing with a range of potential strategic funding partners for Rhyolite Ridge.
- Experienced finance and investment manager Julian Babarczy joined the ioneer board as Non-Executive Director.

Monday, 20 July 2020 – Emerging lithium-boron supplier, ioneer Ltd ('ioneer' or the 'Company') (ASX:INR), is pleased to report on its activities for the quarter ending 30 June 2020. The Company delivered several key milestones this quarter in relation to the development of its wholly owned Rhyolite Ridge Lithium-Boron Project (Rhyolite Ridge or the Project) in Nevada, United States.

¹ Refer ASX release titled 'ioneer Delivers Definitive Feasibility Study that Confirms Rhyolite Ridge as a World-Class Lithium and Boron Project' announced 30 April 2020.

² All-in sustaining cash costs of US\$2,510 is the average cost per tonne to produce battery grade lithium hydroxide. It includes the cost to produce technical grade lithium carbonate and its conversion into lithium hydroxide after the first three years.

³ All tonnes in this announcement are metric tonnes.

⁴ Refer ASX release titled 'Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes' announced 30 April 2020.

ioneer Managing Director Bernard Rowe said:

"It's been a milestone period for the Company. In particular, the delivery of the Definitive Feasibility study confirmed our long-held view that Rhyolite Ridge is a world-class asset with robust economics for a low cost, large-scale and long-life Project. We have the potential to add reserves and mine life to the Project and believe it is a highly attractive resource to the US, which lists lithium amongst the minerals it classes as critical and strategically important to that jurisdiction. We significantly increased the Ore Reserve base at Rhyolite Ridge with the potential to expand our reserve and resource base along with our mine life.

"We submitted our Plan of Operations and Class II Air Quality Permit for Rhyolite Ridge during the quarter. We also signed two multiyear sales and distribution agreements for our boric acid. Together with the Dalian Jinma agreement announced in December 2019, we have accounted for 85-100% of our first three years of boric acid production.

We are progressing discussions with several customers for our lithium carbonate and lithium hydroxide and have advanced talks with strategic funding partners. We recently welcomed Julian Babarczy to the Board of directors. Previously at Australia's largest hedge fund, he brings a wealth of finance and investment experience to ioneer.

"I'd like to thank the ioneer team for its efforts, especially over the long term to bring the DFS to completion and, notably over the last few months against a very challenging and unprecedented backdrop in the United States and around the world. We look forward to updating shareholders on our progress over the remainder of the year."

Definitive Feasibility Study

The Definitive Feasibility Study for the Rhyolite Ridge Lithium-Boron project was delivered in April. The DFS confirmed the Project's compelling economics, a large resource with significant value creation potential due to its very low-cost, large-scale operation and long mine life producing lithium carbonate, boric acid and then battery-grade lithium hydroxide.

Schematic of Rhyolite Ridge Process Plant



DFS Highlights

- After-tax NPV of US\$1.265 billion, and an unlevered, after tax internal rate of return (IRR) of 20.8%
- All-in sustaining cash cost of US\$2,510 per metric tonne lithium carbonate equivalent (LCE), placing the Project at the very bottom of the global lithium cost curve after taking into account the revenue credit from the boric acid (approximately 30% of the revenue generated).
- Well defined and reliable operating cost and capital cost estimates.
- 26-year mine life with average LOM production 20,600 tonnes per annum (tpa) of lithium carbonate, converting in year four to 22,000 tpa of battery-grade lithium hydroxide, and 174,400 tpa of boric acid.
- Stable boric acid revenue helps ensure EBITDA margin of 68.1% based on average production over Life of Mine (LOM).
- The Project is in a low-risk, mining-friendly jurisdiction with a large pool of skilled labour and well-established infrastructure.

The DFS confirms that the Project not only has the lowest all-in sustaining cash cost of lithium projects globally, but also the most stable overall operating cost structure for the production of lithium carbonate and battery grade lithium hydroxide due to the scale and reliability of its boric acid credit.

The extensive bench and pilot scale testwork conducted by Fluor, Kemetco Research and Kappes Cassiday, with support from Veolia and FLSmidth, has proven highly successful with excellent recoveries, the innovative use of proven processing technologies, and the production of high purity lithium and boric acid products.

The DFS estimates that the total capital expenditure to complete the Project will be US\$785 million, including an 8% contingency. This represents an increase of US\$186 million from the PFS, with nearly half of the increase in scope being driven by the inclusion of an on-site steam turbine, the purchase versus lease of the mining fleet, and the purchase of sulphur tankers to materially lower sulphur transportation costs. All these decisions were made following detailed analysis of the options (trade-off studies) and have positive impacts to the overall Project economics. State sales taxes and commissioning costs also impacted the increase with the remainder relating to more precise cost estimates and cost inflation from the detailed DFS process including the level of engineering completion.

The lithium and boron Mineral Resource is estimated at 146.5 million tonnes, including an Ore Reserve of 60.0 million tonnes, an increase in the Reserve from the previous estimate of 280%. The Company expects to mine and process 63.8 million tonnes over the 26-year mine life at an average annual rate of 2.5 million tonnes per year. The 63.8 million tonnes to be mined represents 44% of the total Mineral Resource of 146.5 million tonnes.

The current 26-year mine plan is made up almost entirely of Reserve material (94%), and of that, nearly 50% is Proved Ore Reserve. The resource remains open in three directions allowing for a potential extension to the life of the mine or expansion opportunities in the future. Specifically, drilling shows that Rhyolite Ridge lithium-boron zone is increasing in grade and shallowing to the south, meaning the delineation of additional ore to the south, outside of the current Mineral Resource, is likely to have a significant positive impact on the mine plan and DFS Project economics. Access to the southern extension of the deposit for

drilling is expected once the necessary EIS related permits are in place, which is expected by the second quarter 2021.

The investor presentation, an executive summary of the 5,000-page DFS, and a summary DFS Video can be found on the Company's website www.ioneer.com/rhyolite-ridge/dfs-summary

Resource and Reserves Upgrade

A 280% upgrade to the Ore Reserve estimate at Rhyolite Ridge was incorporated into the DFS and announced concurrently.

Golder Associates Inc. estimated the Mineral Resource and Ore Reserve and provided the mining study for the DFS.

The Ore Reserve has increased by 44.2 mt and is now estimated to contain:

- 60.0 mt at 1,800 ppm lithium (equivalent to 1.0% lithium carbonate) and 15,400 ppm boron (equivalent to 8.8% boric acid).
- Containing 0.6 mt of equivalent lithium carbonate and 5.3 mt of equivalent boric acid.

This represents an increase of 0.42 mt of lithium carbonate and 4.3 mt of boric acid compared to the previous (December 2018) Ore Reserve.

Approximately half of the Ore Reserve is now classified as Proved, the highest confidence category, with lithium and boron grades in the Proved Reserve higher than those in the Probable Reserve category.

Rhyolite Ridge's total Mineral Resource is now 146.5 mt containing a total of 1.2 mt of lithium carbonate and 11.9 mt of boric acid.

Boron grades have increased by 26% in the total Ore Reserve, significantly lifting boric acid production.

The Ore Reserve provides 94% of tonnes in current 26-year mine plan.

State and Federal Permitting Process

Notable progress was made in the quarter with regards to permitting applications and submissions critical to the approval and development of the Rhyolite Ridge Project.

Plan of Operations

In May, the Plan of Operations was submitted to the United States Bureau of Land Management (BLM), representing a significant step toward Project approval.

Once the Plan has been reviewed for completeness and the BLM has registered a Notice of Intent in the Federal Register, it may initiate the Environmental Impact Statement (EIS) preparation and public engagement process as part of the National Environmental Policy Act (NEPA).

The NEPA process is designed to consider the environmental impact of a proposed project. It enables public officials to complete permitting decisions that seek to protect the environment, engaging with the public in the process.

BLM has contracted Stantec to prepare and complete the Rhyolite Ridge EIS.

The Plan includes 14 baseline studies completed by Ioneer and its specialist consultants over a 2-year period. Areas of study include air quality, biology, cultural resources, groundwater, recreation, socioeconomics, soils, and rangeland.

Ioneer's Plan reflects its strong commitment to creating a sustainable, environmentally friendly operation in line with its vision of becoming a responsible and profitable producer of the materials necessary for a sustainable future. This includes a low emissions processing plant, an extraction process designed for low energy consumption and substantially reduced water usage, a small surface mine footprint, and significant investment into its Tiehm's Buckwheat Protection Plan.

Air Quality Permit

In May, an application for a Class II Air Quality Permit to the Nevada Division of Environmental Protection (NDEP), Bureau of Air Pollution Control and The United States Environmental Protection Agency, Region 9 was submitted. The permit application was produced by Trinity Consultants, an international environmental consulting firm that specialises in industrial air quality issues. According to its analysis, the Project is projected to qualify as a "minor source" for all permitted emissions. Depending on the pollutant, permitted source emissions are expected to be between 5% and 60% below the applicable permitting thresholds.

As detailed in its application, Ioneer's Rhyolite Ridge Project will incorporate best-in-class technology including high-efficiency controls to reduce emissions, lowest emission class mobile equipment and vendor guaranteed sulphur dioxide emissions considered lowest in the US.

Water Pollution Control Permit

An application was submitted to the NDEP Bureau of Mining Regulation and Reclamation (BMRR) for a Water Pollution Control Permit.

Every mine must obtain a water pollution control permit, issued by BMRR, prior to the construction of any mining facility. Water pollution control permits are subject to public review and notice requirements and must be renewed every five years.

Economic Impact Study

In May 2020, Ioneer released in Nevada the results of a report assessing the estimated economic impact of the Rhyolite Ridge Lithium-Boron Project. The Economic Impact Study (Study) was developed by Applied Analysis, an independent, Nevada-based consulting firm with extensive experience in preparing economic and fiscal impact analyses. Applied Analysis reviewed and analysed the economic, fiscal and social impacts associated with the Project from construction through the proposed mine's expected life.

This release can be found at www.rhyolite-ridge.ioneer.com/results-of-economic-impact-study-of-rhyolite-ridge

The findings of the Study suggest that the Project will generate between \$15 billion to \$35 billion in total economic output, including a total labour income of \$3 to \$6 billion, based on the firm's "median" case assumptions over the modelled 26 or 60 year mine life.

Tiehm's Buckwheat preservation

During the Quarter, the first planting of Tiehm's buckwheat seedlings at the Rhyolite Ridge site was announced. The planting is a research component of ioneer's comprehensive Tiehm's buckwheat protection place being conducted by the University of Nevada, Reno (UNR).

A research agreement was extended with the UNR, funding a five-year study that will focus on the future propagation and growth of Tiehm's buckwheat at Rhyolite Ridge. So far, the UNR research team has successfully grown over one thousand Tiehm's buckwheat seedlings in the UNR greenhouse from seeds collected at Rhyolite Ridge.

The collaboration with leading Nevada research team demonstrates ioneer's commitment to the environment and desire to ensure a sustainable buckwheat population at Rhyolite Ridge.



Photo 1: University of Nevada, Reno team planting Tiehm's buckwheat seedlings at Rhyolite Ridge, 16 June 2020

Photo 2: Tiehm's buckwheat seedling planted at Rhyolite Ridge

Offtake agreements signed and discussions continuing

During the Quarter, two boric acid Distribution and Sales Agreements were signed. The Agreements are both three years in tenure and were signed with:

1. Kintamani Resources Pte Limited for the territories of Malaysia, Indonesia, Singapore, Thailand, Vietnam and the Philippines.
2. Boron Bazar Limited (Boron Bazar) for the territories of Bangladesh, India, Pakistan and Myanmar.

These Agreements are in addition to our inaugural binding offtake agreement with Dalian Jinma Boron Technology Group Co. Ltd for 105,000 tonnes per annum of boric acid which included a distribution agreement for the territories of China and Taiwan.

The Agreements with Kintamani and Boron Bazar mean 100% of ioneer's first year of boric acid production is spoken for in either binding offtake agreements or through distribution

and sales agreements with highly respected boron distribution and sales companies in key Asian jurisdictions.

Boric acid sales are expected to account for approximately 30% of average annual revenue at Rhyolite Ridge.

Importantly, the signing of these Agreements completes the key components of Ioneer's current Asian boric acid marketing plan to secure direct offtake or distribution and sales agreements with recognised industry participants for most major Asian countries.

The new agreements are expected to commence Q2 2023 as Rhyolite Ridge comes online.

Strategic Partnering

As disclosed previously, Ioneer intends to fund its Rhyolite Ridge Lithium-Boron Project with various sources of capital including strategic partnering, debt and equity. Ioneer views a strategic partner as central to its funding solution, and it is currently in advanced discussions with a wide range of strategic players who could become part of this funding solution.

These discussions are progressing well, despite the current conditions, which is a strong reflection of the significant value that Ioneer is positioned to deliver over the life of the Project. A formal strategic partnering process has not yet commenced, and Ioneer will continue to assess market conditions as it considers the commencement of this process.

Key considerations for funding and strategic partnering include:

- Funds in place to support planned activities to the end of 2021
- Aim is to be 'shovel ready' and permitted by Q2 2021.
- Goldman Sachs advising Ioneer on strategic and financing alternatives
- DFS completion allows informed strategic funding discussions
- Strong interest despite challenging times, Ioneer well positioned to manage
- Strong strategic partner central to funding solution
- Debt, vendor/ECA finance and equity build on this

Upcoming Work Program

The work program over the coming months includes:

- Advancing strategic partnering process through advanced technical and financial discussions
- Advancing State and Federal permitting including EIS process
- Release first engineering packages/contracts for bid
- Award first vendor packages/contracts
- Complete civil design and begin foundation engineering design

- Advance process engineering design

Corporate Activities

Appointment of new Non-executive Director

During the period we were pleased to announce the appointment of Julian Babarczy as a Non-Executive Director to our Board of Directors. Mr Babarczy brings over 20 years finance and investment industry experience to the ioneer Board, having held several analyst and portfolio leadership and management roles over that time.

Almost two-thirds of his career was as a key member of Australia's largest actively managed and arguably most successful hedge fund, Regal Funds Management, which has been a long term ioneer shareholder.

At Regal, Mr Babarczy has been involved in, analysed, negotiated and/or invested in almost every meaningful resource capital raising in the Australian market in the past 10 years. He will play a key role in ensuring capital requirements are secured to bring Rhyolite Ridge online.

The ioneer Board is continuing a review of the Board and management team composition and structure. It plans to continue that evaluation process to ensure the right skills set and mix to meet the future needs of the Company.

Expenditure

Expenditure during the June quarter totalled:

- \$9.4 million on investing activities; and
- \$1.2 million on operating activities (net of interest received).

ioneer is well capitalized, with total cash on hand at 30 June 2020 of AUD 38.3 million of which 79% is held in USD cash and cash equivalents.

Capital Structure

At the end of the quarter, ioneer had on issue:

- 1.68 billion ordinary shares
- 43.7 million options, and
- 8.5 million performance rights.

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This ASX release has been authorised by iioneer Managing Director Bernard Rowe.

About iioneer

iioneer Ltd is the 100% owner of the Rhyolite Ridge Lithium-Boron Project located in Nevada, USA, the only known lithium-boron deposit in North America and one of only two known such deposits in the world. The Definitive Feasibility Study (DFS) completed in April 2020 confirmed Rhyolite Ridge as a world-class Lithium and Boron Project that is expected to become a globally significant, long-life, low-cost source of lithium and boron vital to a sustainable future.

Rhyolite Ridge's unique mineralogy allow lithium and boron to be extracted in a low-cost and environmentally sustainable manner. The Project's commercial viability is made possible by having both lithium and boron revenue streams.

Lithium is vital to enable technologies that combat climate change and reduce carbon emissions. It is a critical component for batteries essential to electric vehicles, and the conversion of intermittent green energy to base load power. The US Department of Interior listed lithium as a critical mineral in Executive Order 13817 (Federal Register, 83 FR 7065). There is only one producing lithium mine in the U.S. and no new projects are under construction. Rhyolite Ridge will help address the over-reliance on South American and Chinese supply to the lithium-ion battery industry.

Boron is also a very important material for clean technologies and sustainability and is only produced in a few locations globally. It is used in over 130 applications, including permanent magnets for electric cars and wind turbines, advanced glass for televisions, computers, handheld devices and solar panels. Over 70% of global boron reserves are located in Turkey with Rhyolite Ridge well positioned to geographically rebalance supply in the USA.

Compliance Statement

In respect of Production Targets and Exploration Results referred to in this report and previously reported by the Company, the Company confirms that it is not aware of any new information or data that materially affects the information included in the public report titled "Ioneer Delivers Definitive Feasibility that Confirms Rhyolite Ridge as a World-Class Lithium and Boron Project" dated 30 April 2020. Further information regarding the production estimates can be found in that report. All material assumptions and technical parameters underpinning the estimates in the report continue to apply and have not materially changed.

In respect of Mineral Resources and Ore Reserves referred to in this report and previously reported by the Company in accordance with JORC Code 2012, the Company confirms that it is not aware of any new information or data that materially affects the information included in the public report titled "Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes" dated 30 April 2020 and released on ASX. Further information regarding the Mineral Resource and Ore Reserve estimate can be found in that report. All material assumptions and technical parameters underpinning the estimates in the report continue to apply and have not materially changed.

Recent Announcements

The table below lists announcements made by the Company during the quarter.

Date Released	Title
08/04/2020	Proposed issue of Securities - INR
09/04/2020	Tiehm's Buckwheat Protection Plan Yields Early Success
16/04/2020	March 2020 Quarterly Activities Report
16/04/2020	March 2020 Quarterly Cashflow Report
30/04/2020	Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes
30/04/2020	Ioneer Delivers Definitive Feasibility Study
30/04/2020	Investor Presentation Rhyolite Ridge DFS Announcement
12/05/2020	Ioneer Submits Plan of Operation for Rhyolite Ridge Project
14/05/2020	Proposed Issue of Securities – INR
20/05/2020	Ioneer Submits Air Quality Permit for Rhyolite Ridge
21/05/2020	Completion of Asian Boric Acid Distribution & Sales Network
01/06/2020	Julian Babarczy Appointed as Non-Executive Director
01/06/2020	Initial Directors Interest Notice – Julian Babarczy
04/06/2020	Appendix 2A
23/06/2020	Pause in Trading
23/06/2020	Ioneer Provides Clarification on Funding Solution Process
24/06/2020	Change of Director's Interest Notice - Hofmeister



Appendix 1 - Schedule of Tenements

Country	Project	Tenement ID	Tenement Name	Area (km ²)	Interest at beginning of quarter	Interest at end of quarter	Note
USA	Rhyolite Ridge	NMC1118666	NLB claims (160)	13	100%	100%	No change
USA	Rhyolite Ridge	NMC1117360	SLB claims (199)	16.5	100%	100%	No change
USA	Rhyolite Ridge	NMC1171536	SLM claims (122)	9.7	100%	100%	No change
USA	Rhyolite Ridge	NMC 1179516	RR claims (65)	5.4	100%	100%	No change
USA	Rhyolite Ridge	NMC 1129523	BH claims (81)	7	0%	0%, option to purchase 100%	No change
USA	SM	NMC1166813	SM claims (96)	7.7	100%	100%	No change
USA	GD	NMC1166909	GD claims (13)	1.1	100%	100%	No change
USA	CLD	NMC1167799	CLD claims (65)	5.2	100%	100%	No change
USA	New Morenci	AMC393550	MP claims (2)	0.12	100%	100%	No change
USA	Tokop	NMC883619	TK claims (73)	4.82	100%	100%	No change
USA	Tokop	NMC285234	Path Patents (11)	0.74	0%, option to purchase 100%	0%, option to purchase 100%	No change
USA	Tokop	NMC814692	Path Unpatented (5)	0.40	0%, option to purchase 100%	0%, option to purchase 100%	No change
USA	Lone Mt	NMC913404	NAMMCO claims (71)	5.43	0%, earning 100%	0%	Terminated