

## QUARTERLY ACTIVITIES REPORT for the period ending 30 September 2023

### Highlights

- **Permitting Progress** – the Project continues to advance through the NEPA permitting process with no major issues or delays. A draft EIS is expected in Q4 2023.
- **Construction and Operational Readiness** – the Company continues its preparations for commencement of construction in 2024:
  - **Steering and Technical committees in place with partner Sibanye Stillwater ahead of the expected formalization of joint venture in 2024**
  - **Continued progress on engineering and procurement including construction planning, securing long lead items, and ensuring deliverables are at an “issued for construction” stage**
  - **Advancing ESG and ESH programs and building the owner’s team**
  - **Ongoing engagement with community stakeholders, including Tribal Nations**
- **Organic Growth Potential – 360Mt Mineral Resource Estimate (MRE)**
  - **Three distinct types of mineralisation based on boron and clay content with Types 1 and 3 being low-clay types**
  - **Only Type 1 currently included in Project economics**
  - **Extensive testwork has shown that Type 3 (128Mt) is a candidate for vat or heap leaching methods, similar to those to be employed for processing Type 1 ore**

**Monday, 30 October 2023** – Ioneer Ltd (“Ioneer” or “the Company”) (ASX: INR, Nasdaq: IONR), an emerging lithium-boron supplier, is pleased to report on its activities for the quarter ending 30 September 2023 and provide an update on the development of its 100%-owned Rhyolite Ridge Lithium-Boron Project in Esmeralda County, Nevada (“Rhyolite Ridge Project” or “the Project”).

Ioneer Managing Director, Bernard Rowe said:

*“Rhyolite Ridge is one of a limited number of lithium projects in the U.S. expected to begin production by 2026. The site’s rare minerology and presence of our meticulously engineered, on-site processing facility will allow Ioneer to provide a stable, long-term, socially, and environmentally responsible source of lithium and boron in and for the United States.*

*Ioneer’s progress toward a Final Investment Decision and commencement of construction at Rhyolite Ridge continued this past quarter. We are financially well-positioned as we approach being fully permitted with conditional debt and equity commitments of nearly US\$1.2 billion.*

*In September, we announced findings from our latest leach tests conducted on low-boron (Type 3) mineralisation. The results further reinforced Rhyolite Ridge’s unique ability to help meet domestic lithium needs and demonstrated the material’s organic growth potential – currently excluded from Project economics but located within the existing footprint of the proposed mine site.*

*We look forward to completing the important federal permitting process, delivering these critical and valuable materials, and strengthening domestic EV supply chains.”*

## Rhyolite Ridge Permitting

### State and Federal Permitting

Ioneer requires three key permits to commence construction at Rhyolite Ridge:

1. State of Nevada issued Air Quality Permit<sup>1</sup> - **received** 24 June 2021.
2. State of Nevada issued Water Pollution Control Permit<sup>2</sup> - **received** 19 July 2021.
3. The Mine Plan of Operations that must be approved by the federal Bureau of Land Management (BLM) – Notice of Intent published 20 December 2022 marking commencement of NEPA process.

Additionally, Ioneer obtained its RCRA ID for hazardous waste disposal and MSHA ID during the quarter.

### NEPA Permitting Process

The Project continues to progress through NEPA with a draft Environmental Impact Statement (DEIS) expected to be completed during Q4 2023. The Company continues to work closely with the BLM and USFWS and its sub-contractors and is pleased with the progress. No unexpected issues or areas of concern have been identified to date.

The Tiehm's Buckwheat Protection Plan, including a pollinator-specific study, was submitted in September 2023. This submittal was a key milestone in the NEPA and Endangered Species Act permitting process.

### Construction Water Rights

Ioneer's Construction Water Rights Application Package was submitted to the Nevada Department of Water Resources (NDWR) on 1 June 2023. The application process continues, and the company remains in regular contact with NDWR.

<sup>1</sup> Refer ASX release titled 'Ioneer Issued Air Quality Permit for Rhyolite Ridge' announced 24 June 2021.

## Sales & Marketing

### Boric Acid Market and Price

The global boric acid price has remained relatively steady during Q3 2023, with a 5-10% reduction in prices from 2022 levels, and pricing remaining well above pre-COVID levels. The sodium borate market is in slight oversupply creating downward price pressure; however, prices again remain well above pre-COVID levels.

### Lithium Market and Price

According to Wood Mackenzie, demand for lithium dropped in July as sales numbers for electric vehicles (EVs) declined following very strong June figures. Demand is forecast to see continued strong growth, although producing high-quality lithium products remains a challenge. Technical-grade lithium chemicals will play an important role in the industry as they will be used increasingly as a raw material for reprocessing and refining.

Lithium chemical prices are forecast to continue their decline as the overall balance of the market moves from a supply deficit towards a supply surplus. For battery-grade lithium carbonate, Wood Mackenzie expects contract prices to drop to US\$24,000/t in 2029 before they climb again and expect prices to bottom out in 2030 at US\$27,000/t for battery-grade lithium hydroxide.

According to Benchmark Minerals, lithium chemical prices in China sustained a decline during the period of Q3, as sluggish demand coupled with comfortable downstream inventories in the lithium-ion battery supply chain continued to suppress spot market purchasing activity.

## ESG/EHS Program

### ISO 14001 Implementation

The company has published its Environmental Policy online and posted at company locations. Currently, the company is developing a document register to organize all ISO14001-

<sup>2</sup> Refer ASX release titled 'Issuance of Water Pollution Control Permit' announced 19 July 2021.

related documents. As discussed last quarter, in this fiscal year, the objectives identified in the ISO14001 system will be incorporated into the Ioneer goals. Additionally, the review and incorporation of aspects and impacts into company risk registers is an upcoming project.

**ESG Plan/External Disclosure Alignment**

In September, Ioneer completed its annual Sustainability Report in reference to the Global Reporting Initiative Standards. The Report identified several of the UN Sustainable Development Goals that Ioneer is positioned to contribute. In concert with the report publication, Ioneer published several new policies to its website regarding employment, and community and indigenous affairs. Beyond its own sustainability report, Ioneer has engaged with Sustainalytics, S&P, and ISS ESG on their independent scoring of the company.

**Towards Sustainable Mining (TSM) Implementation**

Like the ISO14001 next steps, Ioneer will develop document registers for the TSM Action Plans to establish a library of documents that exhibit adherence to the Action Plans.

As noted last quarter, TSM released an Equity, Diversity, and Inclusion Protocol and an updated Health & Safety Protocol that Ioneer will adopt in the 2024 fiscal year.

**Environmental Regulatory Compliance**

Ioneer submitted its Water Pollution Control Permit report for the second quarter of 2023. A Water Pollution Control Permit inspection was conducted by the Nevada Division of Environmental Protection (NDEP) on 29 June 2023, no issues were identified. NDEP has determined that Rhyolite Ridge will be placed on an annual inspection schedule until construction commences. At that time the schedule will be changed to quarterly.

**Health & Safety**

During the quarter there were no lost time incidents, first aids, or fatalities reported for Ioneer staff. However, a driller’s helper was

injured during the drilling campaign. The worker sustained a hand injury but was medically cleared to return to work the same day. This incident will be reflected in the driller’s safety record, per OSHA recordkeeping regulations.

Ioneer has worked on the following H&S activities this quarter:

1. Safe Driving Training
2. Work from Heights Training
3. Heat Stress Training
4. MSHA/OSHA Program & Training Development
5. Hazardous Material Permit Application
6. Hazardous Material Storage Permit Application
7. MSHA/CAT autonomous haulage regulatory meeting

**Tiehm’s Buckwheat Greenhouse Propagation**

Ioneer completed its most recent round of Tiehm’s buckwheat seed collection in July. In coordination with relevant federal agencies, seeds were delivered to Rae Selling Berry Seed Bank in Portland, Oregon, to proceed with their cleaning and long-term storage. The cleaning process will take between 3 to 6 months. Due to a wet winter in 2023, Ioneer anticipates the ability to obtain a considerable number of seeds.

The company’s Tiehm’s Buckwheat Conservation Centre, which opened in May, has successfully created optimal environmental conditions, allowing Ioneer to study the potential for a longer blooming season which stands to produce a greater number of seeds to support continued propagation.

**Community & Tribal Nations**

Ioneer is committed to engaging with the local community to address environmental and social concerns and enhance local economic opportunities. Our comprehensive engagement strategy includes multiple

For personal use only

avenues of communication and proactively solicits and responds to feedback from county leaders, the community, and nearby Tribal Nations. For more than three years, the Company has provided details about the Project at county commission meetings to seek feedback. Ioneer also hosts regular community meetings— the latest of which was held in October. The Company publishes a quarterly community-focused newsletter and submits project updates to the monthly community newspaper.

In addition to government-to-government consultation that is part of the NEPA process, Ioneer has worked for years with BLM and nearby Tribal Nations to directly seek input and provide updates on the Rhyolite Ridge Project, including through site visits, meetings with tribal leaders and participation in tribal-sponsored cultural events. Several events of this nature took place in September.

These community engagement efforts allow Ioneer to provide regular updates on our work at Rhyolite Ridge, feedback to be incorporated into project planning and encourage local economic development.

### Engineering and Vendor Packages

Work continued during the quarter to further progress detail and vendor engineering. The key aim of ongoing activities continues to support construction mobilisation following the Full Notice to Proceed (FNTP) award that will follow a Final Investment Decision (FID).

The receipt of vendor engineering allows continued detailed engineering to advance.

Additionally, Ioneer continued reviewing updates and adjustments to the construction plan sequence commissioning requirements to optimise the schedule and confirm the long lead items as more vendor data is being received.

Engineering continues to concentrate on updating detailed engineering deliverables for

utilities, pumps, and other items to advance engineering deliverables to an “Issued for Construction” (IFC) status.

### Status of procurement activity:

Package Size	% Complete
Large (>US\$2.5M)	91%
Medium (US\$1M - 2.5M)	78%
Small (<US\$1M)	78%

Procurement activity has focused on long lead items and items required for initial construction. Procurement continues to expedite supplier agreements to sustain the engineering deliverables schedule. Ioneer frequently employs an open book contracting strategy to minimise cost escalation risks.

The procurement and construction schedule is currently being updated and adjusted to provide an optimised strategy for long lead items.

### Geotechnical Program

During the June quarter, Ioneer received approval from the BLM for a drilling program to collect additional geotechnical data to support the NEPA analysis of the Mine Plan of Operations. This drilling utilizes many of the same roads and pads as the drilling program executed in Q3 2022, with the aim of minimizing disturbance.

All drill holes and associated drill roads are located outside of the now designated Tiehm’s buckwheat critical habitat. The drilling was completed in the first week of October.

This work will help to inform and confirm geological structures as well as provide material for geotechnical laboratory testing. Based on the results of this program the geological model will be updated to include critical geotechnical data that is being used in the NEPA analysis.

For personal use only

## Organic Growth Projects

Ioneer continues to evaluate future growth potential at the Rhyolite Ridge project with concept-level studies of both the South Basin, where mine permitting is in progress, and the North Basin (located 5km north), which is at a pre-resource stage. An update of the test work results was provided in September 2023<sup>3</sup>.

Rhyolite Ridge contains three distinct styles of lithium mineralisation, recognised in the April 2023 Mineral Resource Estimate (MRE)<sup>4</sup>. They are:

- **Type 1 Mineralisation: Lithium with high boron and low clay content**  
152Mt Mineral Resource containing 1.2Mt of lithium carbonate equivalent (LCE).
- **Type 2 Mineralisation: Lithium with high clay content**  
75Mt Mineral Resource containing 1.0Mt of LCE.
- **Type 3 Mineralisation: Lithium with low boron and low clay content**  
128Mt Mineral Resource containing 1.1Mt of LCE.

Only Type 1 mineralisation is included in the 2020 Definitive Feasibility Study (DFS) and current Ore Reserve Estimate (ORE).

In September, Ioneer shared test results revealing 79% of the 360 million tonne MRE can be processed in a similar manner to Type 1 mineralisation, to create critical electric vehicle battery materials within the Rhyolite Ridge Project's existing footprint.

The potential to increase the lithium and boron produced and refined at Rhyolite Ridge comes at a time when the demand for a U.S. domestic supply of lithium continues to grow. According to a recent S&P Global study, the passage of

the Inflation Reduction Act (IRA), caused a 15% increase to their 2035 demand forecast versus their estimate prior to the passage of the IRA.

With a total of more than 400 individual leach tests across the entire 360Mt MRE, the latest results showed the low-boron, low-clay mineralisation (Type 3) shares similar characteristics to the high-boron Type 1 mineralisation, with leach recoveries between 89%-94%.

The metallurgical testing on the Type 3 was undertaken to determine the most efficient and economic processing pathway for this material. Lithium extraction measured between 89-94% using sulfuric acid under heap and vat leaching conditions applied to coarsely crushed material (P80, <19mm). These extractions, coupled with the free draining nature of the material suggest that Type 3 mineralisation is a candidate for commercial heap or vat leaching methods, similar to those employed for the high-boron Type 1 mineralisation.

## North Basin Growth Project

The North Basin is located 5km north of the South Basin. Resource definition work continued this quarter focussed on incorporating the results from the new gravity survey and previous drilling activities by US Borax (1980-1990) and Ioneer (2017) to further define the basin architecture and continuing to develop the geological model for the basin. A preliminary geological model has been developed that will be used and tested by future drilling activities.

## Project Debt Funding

On 13 January 2023, the U.S. Department of Energy Loan Programs Office (DOE LPO)<sup>5</sup> and Ioneer announced finalisation of a term sheet

<sup>3</sup> Refer ASX release titled 'Latest tests reveal potential for increased organic growth at Rhyolite Ridge' announced 21 September 2023.

<sup>4</sup> See ASX announcement titled "Mineral Resource increases by 168% to 3.4 Mt lithium carbonate - Underscores growth potential for U.S. supply chain" dated 26 April 2023.

<sup>5</sup> A conditional commitment is offered by DOE prior to issuing a loan and indicates that DOE expects to support the Rhyolite Ridge Project, subject to the satisfaction of certain conditions including fulfilling remaining legal, contractual, and financial requirements.

and offer of a Conditional Commitment for a loan from the DOE for financing the construction of the Rhyolite Ridge Project.

Under the term sheet, the proposed loan is for an amount up to US\$700 million<sup>6</sup> with a term of approximately 10 years. The loan will be at interest rates fixed from the date of each advance for the term of the loan at applicable U.S. Treasury rates.

The proposed loan amount remains subject to negotiation and documentation of long-form agreements and various conditions and may be subsequently revised to appropriately match updated project economics leading up to financial close and upon satisfaction of several conditions outlined in the market release<sup>7</sup>.

During the quarter, the Company continued to work to progress satisfaction of conditions precedent for the DOE loan.

### Upcoming Work Program

The work program over the coming months includes:

- Advancing federal permitting through participation in the NEPA process
- Continuing geotechnical drilling in the South Basin.
- Evaluation of growth opportunities
- Continuing the engineering effort to further decrease execution risk. This will include:
  - Releasing further engineering and vendor packages/contracts for bid/award
  - Ongoing implementation of ESG programs including Toward Sustainable Mining
  - Ongoing conservation efforts for Tiehm’s buckwheat

<sup>6</sup> Excludes estimated capitalised interest costs. Approximately US\$700 million in advances from DOE loan is proposed to be available to fund eligible costs of the Rhyolite Ridge Project.

### Estimated Project Timeline

Our current best estimate for timing of key milestones is as follows:

Milestone	Targeted timing <sup>8</sup>
Anticipated ROD	2Q 2024
Construction Period	24 Months
First Production	2026

### Corporate Activities

Chairman James D. Calaway for a further 12-month period, effective 1 July 2023. In renewing this contract, Mr. Calaway continues his close level of involvement in the Company and its activities, with a particular focus on growth activities, offtake discussions, US investor relations, and stakeholder meetings.

The Annual General Meeting will be held at 10:00 am (AEDT) on Friday, 3 November 2023. Shareholders are invited to attend the AGM at the Vibe Hotel North Sydney, 171 Pacific Highway, North Sydney and online. The Notice of Meeting and instructions on how to participate in the meeting can be found on the Ioneer website.

During the quarter, Ioneer participated in several industry events, including:

- Bell Potter Emerging Leaders Conference, 13 September
- SMEDG Presentation, 21 September
- Stifel non-deal roadshow with institutional investors in London, 12-15 September
- Columbia University Industry Roundtable discussions in association with Climate Week NYC, 21 September
- Nevada Trade Mission to Canada with Nevada Governor, Joe Lombardo, 25-27 September

<sup>7</sup> See ASX release dated 16 January titled, “US Dept of Energy Loan Offer of US\$700m for Rhyolite Ridge.”

<sup>8</sup> Note: all dates are estimates only and are subject to change.

## ASX Additional Information

The Company provides the following information pursuant to ASX Listing Rule requirements.

- ASX LR 5.3.1:** Exploration and Evaluation Expenditure during the quarter was US\$16.1 million. Details of the exploration activity are set out in this report. A breakdown of the expenditure is shown below:

Expenditure	US\$'000
Exploration	-
Engineering	11,075
Environmental	1,976
Sales & Marketing	134
Other	2,634
<b>Total</b>	<b>15,819</b>

The unusually high engineering spend is due to a progress payment on the Caterpillar automated haulage system of \$3.5 million, and payment of \$3.5 million of prior year Fluor engineering service fees.

- ASX LR 5.3.2:** The Company confirms there were no production or development activities during the quarter.
- ASX LR 5.3.5:** Related party payments for the quarter totalled US\$270,000, comprising salaries and fees for the Company's executive and non-executive directors. No other payments were made to any related parties of the entity or their associates.
- ASX LR 5.3.3:** INR confirms that it has acquired tenements during the quarter (see appendix 1).

### Capital Structure

Total cash and cash equivalents as of 30 September 2023 was US\$36.5 million of which 70.7% was held in USD with the balance held in AUD.

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

- 2.1 billion ordinary shares
- 4.0 million options, and
- 27.6 million performance rights.

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

--ENDS--

## Media Contact

**Chad Yeftich**  
Ioneer USA Corporation

Investor Relations (USA)

T: +1 775 993 8563

E: [ir@ioneer.com](mailto:ir@ioneer.com)

**Jason Mack**  
Ioneer Limited

Investor Relations (AUS)

T: +61 410 611 709

E: [jmack@ioneer.com](mailto:jmack@ioneer.com)

## About Ioneer

Ioneer 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 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. In September 2021, Ioneer entered into an agreement with Sibanye-Stillwater where, following the satisfaction of conditions precedent, Sibanye-Stillwater will acquire a 50% interest in the Project, with Ioneer maintaining a 50% interest and retaining the operational management responsibility for the joint venture. In January 2023, Ioneer received a conditional commitment from the U.S. Department of Energy Loan Programs Office for up to \$700 million of debt financing. Ioneer signed separate offtake agreements with Ford Motor Company and PPES (joint venture between Toyota and Panasonic) in 2022 and Korea's EcoPro Innovation in 2021.

## Competent Persons Statement

In respect of Exploration Results 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 reports titled "Latest tests reveal potential for increased organic growth at Rhyolite Ridge", released on ASX. Further information regarding the Exploration Results can be found in that report. All material assumptions and technical parameters in the report continue to apply and have not materially changed.

In respect of Mineral Resources and Ore Reserves referred to in this presentation 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 reports titled "Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes" dated 30 April 2020 and "Mineral Resource increases by 168% to 3.4 Mt lithium carbonate Underscores growth potential for U.S. supply chain" dated 26 April 2023, released on ASX. Further information regarding the Mineral Resource 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
03/07/2023	Application for quotation of securities - INR
04/07/2023	Application for quotation of securities - INR
04/07/2023	Notification of cessation of securities - INR
04/07/2023	Change of Director's Interest Notice
05/07/2023	Change of Director's Interest Notice
11/07/2023	Executive Chairman Employment Agreement Renewal
24/07/2023	June 2023 – Quarterly Activities Report
24/07/2023	June 2023 – Quarterly Cash Flow Report
07/09/2023	Date of 2023 Annual General Meeting
12/09/2023	Notification regarding unquoted securities - INR
13/09/2023	Investor Presentation – Bell Potter Conference
20/09/2023	Annual Report to shareholders
20/09/2023	Appendix 4G – 30 June 2023
20/09/2023	Corporate Governance Statement – 30 June 2023
21/09/2023	Tests reveal potential growth for Rhyolite Rodge
21/09/2023	Change in substantial holding
27/09/2023	Application for quotation of securities - INR
27/09/2023	Change of Director's Interest Notice – James Calaway
29/09/2023	Notice of Annual General Meeting/Proxy Form
29/09/2023	Notification of cessation of securities - INR
29/09/2023	Application for quotation of securities - INR

## Appendix 1 - Schedule of Tenements

### ASX listing rule 5.3.3

Country	Project	Tenement ID	Tenement Name	Area (km <sup>2</sup> )	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	NV106310781	NLB claims (41)	1.2	0%	100%	New claims staked
USA	Rhyolite Ridge	NMC1117360	SLB claims (199)	16.5	100%	100%	No change
USA	Rhyolite Ridge	NMC1117360	SLB claims (18)	1.5	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 1179516	RR claims (14)	1.1	100%	100%	No change
USA	Rhyolite Ridge	NMC 1129523	BH claims (81)	7	0%, option to purchase 100%	100%	Option exercised
USA	Rhyolite Ridge	NV105272779	RMS claims (23)	0.5	100%	100%	No change
USA	Rhyolite Ridge	NMC1147932	SLP claims (120)	9.7	100%	100%	No change
USA	Rhyolite Ridge	NV105272053	PR claims (11)	0.9	100%	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

On 16 September 2021, the Company announced a strategic investment by Sibanye-Stillwater<sup>9</sup> in the Rhyolite Ridge Project. Under the terms of the agreement, Sibanye-Stillwater will contribute US\$490 million for a 50% interest in the Joint Venture, with Ioneer to maintain a 50% interest and retain operatorship. Ioneer has also agreed to provide Sibanye-Stillwater with an option to participate in 50% of the North Basin, upon the election of Sibanye-Stillwater to contribute up to an additional US\$50 million, subject to certain terms and conditions. Establishment of the Joint Venture and Sibanye-Stillwater's funding commitment is subject to certain terms and conditions precedent, including receipt of final permits, commitments for remaining debt financing, and other customary approvals.

<sup>9</sup> Refer ASX release titles 'Sibanye-Stillwater to invest US\$490M in Rhyolite Ridge' announced on 16 September 2021.