

## QUARTERLY ACTIVITIES REPORT for the period ending 31 March, 2023

### Highlights

- Mineral Resource increases by 168% to 3.4 Mt lithium carbonate equivalent (LCE) (announced Apr 26, 2023)
- U.S. Department of Energy offers conditional commitment for a loan of up to US\$700 million for the Rhyolite Ridge Project
- NEPA permitting process advances with formal closure of the Public Scoping Period
- Detailed engineering and procurement activities advancing

**Thursday 27 April 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 31 March 2023 and to 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:

*“To date, we have focussed heavily on progressing our development plan for Rhyolite Ridge. With binding offtakes in place, debt & equity commitments of nearly US\$1.2 billion and the Project in the final stage of permitting, we can now begin demonstrating the broader scale potential at Rhyolite Ridge. The updated Mineral Resource for the South Basin is a fantastic start, and we look forward to building on this further with significant growth potential through South Basin extensions as well as increased exploration efforts on the similarly mineralised and much larger North Basin.*

*The United States Department of Energy (DOE) offering the Company a Conditional Commitment for a loan of up to US\$700m was the most significant milestone to date in the history of the Company and a testament to the countless hours of hard work by the Ioneer team over the past six years.*

*Additionally, following the BLM’s decision to publish a Notice of Intent (NOI) in December 2022, the final stage of permitting, we have continued to make measurable progress in the NEPA process towards a draft Environmental Impact Statement (EIS) with completion of the public scoping period during the quarter.*

*Our Project is uniquely positioned in the U.S., and has been engineered to ensure a stable, long-term, environmentally sustainable source of lithium. Now, with conditional debt and equity commitments of nearly US\$1.2 billion and the final permitting stage well underway, we are also expanding our focus to pursue the significant organic growth opportunities at Rhyolite Ridge in both the north and south basins.”*

## Updated Mineral Resource

The Rhyolite Ridge South Basin Mineral Resource was updated effective March 31, 2023<sup>1</sup> with a substantial increase to both tonnage and contained lithium. The Mineral Resource now includes both high-boron lithium mineralisation (HiB-Li) and low-boron lithium mineralisation (LoB-Li). The previous Mineral Resource estimate (April 2020)<sup>2</sup> only included HiB-Li mineralisation.

- Tonnage increase from 146.5 Mt to 360.0 Mt (up 145%)
- Lithium carbonate equivalent (LCE) increase from 1.2 Mt to 3.4 Mt (up 168%)
- Boric acid equivalent (BAE) increase from 11.9 Mt to 14.1 Mt (up 18%)
- Cut-off grades unchanged at 1,090ppm Li and 5,000ppm B

The increased Mineral Resource demonstrates optionality around future growth opportunities including increasing lithium production with or without increasing boron production.

The March 2023 Mineral Resource lies entirely within the project boundary currently being permitted under the Mine Plan of Operation.

All mineralised units remain open in three directions with approximately 60% of the South Basin remaining to be drill tested, underscoring the potential for further increases in the Mineral Resource.

Approximately 80% of the Mineral Resource is classified as Measured and Indicated with approximately 44% classified as HiB-Li and 56% as LoB-Li.

WSP USA Inc. (formerly Golder Associates Inc.) estimated the March 2023 Mineral Resource

<sup>1</sup> See ASX announcement titled "Mineral Resource increases by 168% to 3.4 Mt lithium carbonate" dated 26 April 2023.

<sup>2</sup> See ASX announcement titled "Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes" dated 30 April 2020.

<sup>3</sup> See ASX announcement titled "Ioneer delivers Definitive Feasibility Study that confirms Rhyolite Ridge as a world-class lithium and boron project" dated 30 April 2020.

and provided the previous (2020) Mineral Resource and Ore Reserve estimates for the Rhyolite Ridge Definitive Feasibility Study ('DFS')<sup>3</sup> completed in April 2020.

The 60Mt Ore Reserve estimate included in the April 2020 Definitive Feasibility Study (DFS) and that underpins the revised Mine Plan of Operation (MPO) is exclusively HiB-Li mineralisation. The updated Mineral Resource estimate includes the Ore Reserve estimate. The Ore Reserve estimate has not been updated with the latest Resource update and remains current and unchanged.

## Project Debt Funding

After commencing pre-application discussions in February 2021 regarding the U.S. Department of Energy (DOE) Loan Programs Office's (LPO) Advanced Technology Vehicle Manufacturing (ATVM) program, Ioneer submitted a loan application in October 2021. The application was deemed substantially complete in December 2021 which initiated a third-party due diligence process that commenced in March 2022.

On 13 January 2023, DOE LPO and Ioneer announced finalisation of a term sheet and offer of a Conditional Commitment<sup>4</sup> for a loan of up to US\$700 million 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>5</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 is to be made under the

<sup>4</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.

<sup>5</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.

DOE's ATVM loan program<sup>6</sup> in support of the Biden administration's critical minerals strategy.

The term sheet and conditional commitment from DOE demonstrate its strong support for the Rhyolite Ridge Project and, if finalised, the loan would be the first ever by the DOE to provide financing for the processing component of a project where lithium is extracted and refined at site.

The proposed loan amount is necessarily based on preliminary and partially complete information that the DOE required from Ioneer pertaining to:

1. capital expenditure for a conceptual mine plan;
2. macroeconomic cost escalation assumptions; and
3. capital expenses to meet DOE stipulated requirements for participation in the ATVM program.

As a result, 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>.

The proceeds from the DOE loan, along with Sibanye-Stillwater Limited's (Sibanye-Stillwater) expected equity contribution to secure a 50% stake in the Rhyolite Ridge Project once all conditions precedent for the joint venture have been fulfilled or waived, are anticipated to fund a substantial part of the preliminary capital expenditure estimate from the revised plan of operations included in the application submitted to the DOE.

We are delighted with finalising the term sheet and receiving the conditional commitment from the DOE, which represent a significant step towards completing the funding for the Rhyolite Ridge Project.

## Rhyolite Ridge Permitting

### State and Federal Permitting

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

1. A state-based Air Quality Permit<sup>8</sup> - **received** June 24, 2021
2. A state-based Water Pollution Control Permit<sup>9</sup> - **received** July 19, 2021
3. The Mine Plan of Operations that must be approved by the federal BLM – Notice of Intent published December 20, 2022 marking commencement of NEPA process.

### NEPA Permitting Process

On 20 December 2022, the Company was pleased to announce that the Rhyolite Ridge Project had advanced into the final stage of the National Environmental Policy Act (NEPA) federal permitting process with the decision by the Bureau of Land Management (BLM) to publish a Notice of Intent (NOI) in the Federal Register. This marked a major milestone toward the completion of the permitting process and approval of the Project's Plan of Operations (Plan or MPO).

The Plan is the foundational permitting document for the Project and will become the basis for compliance during operations and closure. Ioneer commenced work on the Plan almost four years ago. The latest revised Plan was submitted to the BLM in July 2022. Under the revised Plan, there are no Project-related direct impacts to any of the subpopulations of Tiehm's buckwheat.

<sup>6</sup> Further information about the ATVM loan program is available at <https://www.energy.gov/lpo/advanced-technology-vehicles-manufacturing-loan-program>.

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

<sup>9</sup> Refer ASX release titled 'Issuance of Water Pollution Control Permit' announced 19 July 2021

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Publication of the NOI marks the beginning of the NEPA process, starting a public comment period on the scope of the environmental review. The Environmental Impact Statement (EIS) contractor Stantec<sup>10</sup>, the BLM, and other cooperating government agencies will use comments received during scoping and resource information gathered by Ioneer to prepare the EIS. The Plan will be updated to reflect the outcomes of the NEPA review before it is finalised.

The Scoping period ended on March 6, 2023, and comments received have been or are being addressed by Ioneer and the BLM. The next key milestone is the Draft Environmental Impact Statement (DEIS) which is scheduled for the third quarter of 2023.

**Notice of Trespass**

Ioneer was made aware of a violation of the 2920 permit issued by the BLM for geotechnical drilling. A laydown yard for drilling support was established outside of permitted disturbance. Ioneer is working with the BLM to fully resolve this noncompliance.

**Sales & Marketing**

**Boric Acid Market and Price**

The global boric acid price has remained relatively steady for Q1 2023, holding prices from 2022 and remaining well above pre-COVID price levels despite Etimine producing above boric acid supply and Rio Tinto Minerals production normalizing.

**Lithium Market and Price**

According to Wood Mackenzie, the failure of the Chinese EV market to pick up after the Lunar New Year led to a further decline in lithium prices. The spot price for battery-grade lithium hydroxide maintained a premium over battery-grade lithium carbonate.

Benchmark Minerals reported spot prices had weakened in Q1 2023 in line with Q4 2022 forecasts. CIF Asia spot price’s exposure to strong demand from South Korea and Japan, has meant that price weakness has been significantly less severe than the more volatile Chinese market. Benchmark believes demand in China should strengthen from April, which will stabilize prices and start to tick up again over the remainder of the year.

Demand in Q1 2023 is seasonally weaker due to Lunar New Year (LNY). The expected EV demand will increase throughout 2023, beginning in Q2-Q3.

**ESG/EHS Program**

**ISO 14001 Implementation**

The company has drafted the initial round of ISO14001:2015 compliant documentation. The Environmental team developed Standard Operating Procedures and Policies for the following:

ISO14001 Section
4.4 Environmental Management System Program
5.2 Environmental Policy
5.3 Roles and Responsibilities
6.1.2 Aspects and Impacts
6.1.3 Legal and Other Requirements
6.2 Objectives and Targets
9.0 Evaluation of Compliance
9.2 Audit Practice
10.0 Nonconformance, Corrective, and Preventive Action

<sup>10</sup> Stantec is a top-tier global design and delivery firm with 22,000 employees across 6 continents. Amongst other services, Stantec provides environmental services to the mining industry

and has four offices in Nevada. Stantec trades on the TSX and the NYSE under the symbol STN. For more information visit [www.stantec.com](http://www.stantec.com)

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### ESG Road Mapping/External Disclosure Alignment

ioneer has worked over the last quarter to develop a cohesive ESG strategy, further define material risks, and identify potential categories of forward-looking goals. In concert with this work, Ioneer has met with representatives of the Global Reporting Initiative (GRI) to determine pathways forward to align the periodic Sustainability & ESG Disclosure Report with the world-renowned framework. The goal of implementing the GRI standards is to provide definitive proof of Ioneer's commitment to transparency in data with respect to our ESG performance.

Ioneer has contacted representatives of the UN Global Compact in efforts to understand the process for membership into the storied sustainability platform. Ioneer supports the UN Sustainable Development Goals through its Towards Sustainable Mining implementation. As such, a complementary membership into the UN Global Compact is under internal review.

### Towards Sustainable Mining (TSM) Implementation

The Company continues to work on its TSM documentation, having finalized the drafts and preparing them for review amongst the Director and Vice President levels. Additionally, Ioneer joined TSM as an individual member.

TSM Protocol	Status Update
Indigenous and Community Relationships	Drafts Finalized
Crisis Management and Communications Plan	Drafts Finalized
Safety and Health	Drafts Finalized
Preventing Child and Forced Labour	Complete
Biodiversity and Conservation Management	Drafts Finalized
Water Stewardship	Drafts Finalized

TSM Protocol	Status Update
Energy Use and GHG Emissions Management	Drafts Finalized

### Environmental Regulatory Compliance

Ioneer submitted its annual Air Quality Emissions Inventory for 2022 in the past quarter. No issues were noted.

Additionally, Ioneer will submit its Water Pollution Control Permit Quarterly Report by end of April. The Report is meant to establish baseline prior to operation.

### Health & Safety

During this quarter, no lost time incidents, first aids, or fatalities were reported. One near miss was reported from the recent drilling campaign.

### Tiehm's Buckwheat Greenhouse Propagation

To further support the conservation and propagation of Tiehm's buckwheat, a purpose-built, dedicated greenhouse capable of holding 13,000 seedlings and a paired shade house capable of holding 600 adult plants have been constructed and are now operational.

Tiehm's buckwheat populations propagated under Ioneer research efforts at the University of Nevada, Reno were relocated to the new greenhouse in January 2023. Seeds have been collected for the first time from flowering plants at the greenhouse.

Currently, the greenhouse has Tiehm's buckwheat in three different stages: adult plants, one year old plants, and seedlings. All have originated from the germination of seeds collected in 2019.

### Engineering and Vendor Packages

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

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Ioneer advanced the procurement activities of the following packages:

- FRP Tanks
- Heat Exchangers Shell & Tube
- Heat Exchangers Plate & Frame
- Sump Pumps
- Slurry Pumps
- Agitators
- Final Product Handling

The receipt of vendor engineering allows detailed engineering to advance.

Additionally, Ioneer continues to review updates and adjustments of the construction plan sequence and commissioning requirements to further optimise the schedule and confirm the long lead items as more vendor data continues to be received from vendors.

**Status of procurement activity:**

Package Size	% Advancing Packages
Large (>US\$2.5M)	91%
Medium (US\$1M - 2.5M)	78%
Small (<US\$1M)	79%

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. An open book contracting strategy has been frequently employed to minimise cost escalation risks.

**Final Investment Decision (FID) Preparation Activities**

Class II estimate activities commenced this quarter. Fluor, as EPCM, issued CAPEX and OPEX estimate plans targeting the end of the June quarter for a Class II estimate following AACE R47-11 Practice.

Fluor is finalizing and updating all materials take offs based on the advanced engineering and latest information from suppliers.

Ioneer is working with Fluor to review operating costs and updates based on our supplier agreements.

**Geotechnical Program**

During the September 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. The drilling focused on the southern limits of the proposed quarry and areas around the Overburden Storage Facilities (OSF). All drill holes and associated drill roads were located outside of the now declared Tiehm’s buckwheat critical habitat.

The program consisted of 9 core holes, with 8 located within the proposed quarry boundary and 1 adjacent to the North OSF, as well as 4 sonic holes located at the North and South OSF options.

Based on the results of this program the geological model has been updated to include critical geotechnical data that is being used in the NEPA analysis.

**Growth Projects**

As detailed in the December 2022 quarterly activities report, evaluation of South Basin optionality for expansion potential is underway with the substantially larger North Basin also offering a significant and additional growth opportunity.

**South Basin Growth Projects**

Ioneer commenced a concept study to confirm and evaluate the growth potential of the South Basin. The following activities advanced during the quarter:

- Updated Mineral Resource estimate.
- Metallurgical work with over 76 tests conducted at Kemetco & KCA.
- An indicative capital estimate for various processing options was conducted by SNC Lavalin
- Other studies including operating cost

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estimates, production profiles, and economic modelling of scenarios.

- A concept study report is being prepared.

### North Basin Growth Projects

As noted in the Dec 2022 activity report, an exploration program has commenced at the North Basin, located 5km north of the South Basin. A preliminary geological model for the North Basin, based on the current Ioneer drilling and historical data, continues to be constructed.

### Upcoming Work Program

The work program over the coming months includes:

- Advancing federal permitting through participation in the NEPA process
- Ongoing exploration and metallurgical testwork at the North 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

### Estimated Project Timeline

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

Milestone	Targeted timing <sup>11</sup>
Conclude Stage 3 of DOE Loan Application Process (DD and Term Sheet Negotiation) <sup>12</sup>	Completed, with Conditional Loan Commitment Received
Anticipated ROD	1Q 2024

<sup>11</sup> Note: all dates are estimates only and are subject to change.

Construction Period	24 Months
First Production	2026

### Corporate Activities

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

- RIU Explorers Conference, Fremantle Western Australia – February 14-16
- PDAC Convention - Toronto, Canada – March 5-8
- ASX CEO Connect – Online – March 7
- Ord Minnett East Coast Mining Conference – Sydney, Australia – March 22
- Resource Connect Asia Future Facing Commodities Conference – Singapore – April 4-6

### ASX Additional Information

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

1. **ASX LR 5.3.1:** Exploration and Evaluation Expenditure during the quarter was US\$7.4 million. Details of the exploration activity are set out in this report. A breakdown of the expenditure is shown below:

Expenditure	US\$'000
Exploration	111
Engineering	4,722
Environmental	1,246
Sales & Marketing	157
Other	1,141
Total	7,377

2. **ASX LR 5.3.2:** The Company confirms there were no production or development activities during the quarter.

<sup>12</sup> See DOE-LPO Program Handout Critical Materials June 2021

3. **ASX LR 5.3.5:** Related party payments for the quarter totalled US\$269,000, 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.

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

- 2.1 billion ordinary shares
- 4.4 million options, and
- 32.1 million performance rights.

### Capital Structure

Total cash and cash equivalents as at March 31, 2023, was US\$60.3 million of which 79.3% was held in USD with the balance held in AUD. Ioneer has adopted USD as its reporting currency from July 1, 2022.

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

--ENDS--

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### 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.



## Recent Announcements

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

Date Released	Title
16/01/2023	US Dept of Energy Loan Offer of US\$700m for Rhyolite Ridge
19/01/2023	Ioneer Permitting Violation
27/01/2023	December 2022 – Quarterly Activities Report
27/01/2023	December 2022 – Quarterly Cash Flow Report
14/02/2023	Investor Presentation – RIU Explorers Conference
27/02/2023	Half Year Accounts
07/03/2023	Details of Company Address
15/03/2023	Change of Company Director’s Interest Notice – Bernard Rowe
15/03/2023	Change of Company Director’s Interest Notice – Alan Davies
22/03/2023	Investor Presentation Ord Minnett East Coast Mining Conf.
29/03/2023	Investor Presentation – March 2023

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## 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	NMC1117360	SLB claims (199)	16.5	100%	100%	No change
USA	Rhyolite Ridge	NMC1117360	SLB Claims (18)	1.5	0%	100%	Claim staking
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	0%	100%	Claim staking
USA	Rhyolite Ridge	NMC 1129523	BH claims (81)	7	0%, option to purchase 100%	0%, option to purchase 100%	No change
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	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>13</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>13</sup> Refer ASX release titles 'Sibanye-Stillwater to invest US\$490M in Rhyolite Ridge' announced on 16 September 2021