

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

### Highlights

- Rhyolite Ridge South Basin Mineral Resource increases by 168% to 3.4 Mt lithium carbonate equivalent (LCE) and 14.1 Mt of boric acid equivalent
- Ioneer and Dragonfly Energy Partnership to strengthen U.S. lithium battery and storage supply chain
- Federal permitting process (NEPA) continues to advance with completion of the first public scoping period and progress towards publication of a draft EIS
- Detailed engineering and procurement activities advancing in preparation for commencement of construction in H1 2024
- Growth studies (North and South Basins) progressing well with an update on metallurgical testwork expected in August 2023

**Monday, 24 July 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 June 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:

*“As the world’s demand for lithium in electric vehicle and energy storage increases, the need to secure a reliable, sustainable, and U.S. domestic source of lithium is critical.*

*Our Project is uniquely positioned in the U.S., and has been engineered to ensure a stable, long-term, socially, and environmentally responsibly mined source of lithium.*

*This past quarter has continued the Company’s progress toward a Final Investment Decision and commencement of construction.*

*In April, we updated our Mineral Resource estimate for the South Basin, demonstrating the tremendous growth potential at Rhyolite Ridge. We look forward to building on South Basin extensions and related exploration efforts on the much larger North Basin with similar mineral composition.*

*In May, Ioneer was pleased to announce a partnership with Nevada-based Dragonfly to deliver these critical electric vehicle battery materials from Rhyolite Ridge.*

*We continue to make measurable progress in the NEPA process following the completion of the first public scoping period during the quarter and the decision of the Bureau of Land Management (BLM) to publish a Notice of Intent (NOI) in December 2022. The next phase, the release of a draft Environmental Impact Statement (EIS), is expected to be completed in Q3 2023.*

*The Company is financially well positioned as we approach the final permitting stage with conditional debt and equity commitments of nearly US\$1.2 billion.”*

## Updated Mineral Resource

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

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

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

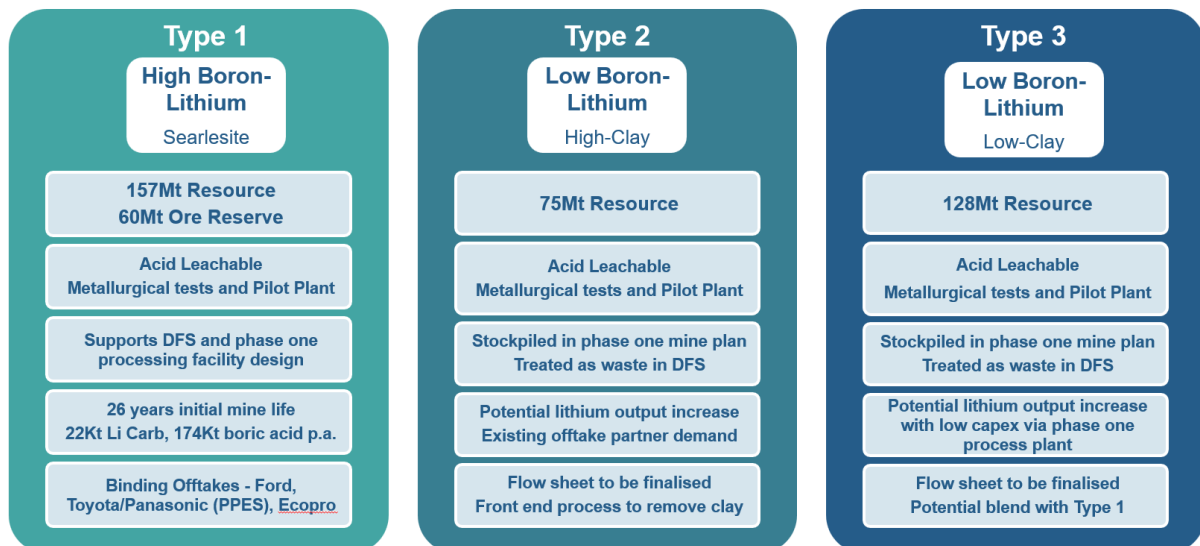
The March 2023 MRE lies entirely within the project boundary currently being permitted under the Mine Plan of Operation.

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 MRE.

Approximately 80% of the MRE 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 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 60 Mt Ore Reserve estimate included in the April 2020 Definitive Feasibility Study (DFS) and that underpins the revised Mine Plan of Operation (MPO) that is exclusively HiB-Li mineralisation. The updated MRE includes the Ore Reserve estimate. The Ore Reserve estimate has not been updated with the latest Resource update and remains current and unchanged.



<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.

## Dragonfly Energy Partnership

On 10 May 2023, Ioneer announced its latest lithium offtake agreement with Dragonfly Energy Holdings Corp. (NASDAQ: DFLI), an industry leader in energy storage. The agreement between the two Nevada-based companies is expected to pave the way for continued investment in the State and strengthen the U.S. battery supply chain.

The agreement is for the supply of lithium carbonate for a 3-year period and committed volumes are variable based on surplus tonnes available after meeting previously announced offtake commitments.

## Project Debt Funding

On 13 January 2023, the US Department of Energy Loan Programs Office (DOE LPO) and Ioneer announced finalisation of a term sheet and offer of a Conditional Commitment<sup>4</sup> 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>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 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>6</sup>.

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

<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.

## 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>7</sup> - **received** 24 June 2021.
2. State of Nevada issued Water Pollution Control Permit<sup>8</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. The scoping documents were published on 27 March 2023.

Additionally, during the quarter, Ioneer obtained its Resource Conservation and Recovery Act (RCRA) ID for hazardous waste disposal and Mine Safety and Health Administration (MSHA) ID, albeit in inactive status.

### 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 Mine 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 revised Plan was submitted to the BLM in July 2022. Under the

<sup>6</sup> See ASX release dated 16 January titled, "US Dept of Energy Loan Offer of US\$700m for Rhyolite Ridge".

<sup>7</sup> Refer ASX release titled 'Ioneer Issued Air Quality Permit for Rhyolite Ridge' announced 24 June 2021

<sup>8</sup> Refer ASX release titled 'Issuance of Water Pollution Control Permit' announced 19 July 2021

revised Plan, there are no Project-related direct impacts to any of the subpopulations of Tiehm's buckwheat.

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>9</sup>, the BLM, and other cooperating government agencies will use comments received during scoping and resource information gathered by Ioneer to prepare the draft EIS. The Plan will be updated to reflect the outcomes of the NEPA review before it is finalised.

The Scoping period ended on 6 March 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**

In the March quarter, Ioneer was made aware of a violation of the 2920 permit issued by the BLM for geotechnical drilling. A laydown yard covering approximately 836 square metres for drilling support was established outside of permitted disturbance. As a result of the Root Cause Analysis (RCA) that Ioneer completed, a Corrective Action Plan (Plan) was developed and implemented. Ioneer has completed the initial reclamation approved by the BLM, including the earthworks and seeding of the area. Additional seeding and out-planting of native foliage that is currently being fostered in the greenhouse, will occur in Q3 2023.

#### **Construction Water Rights**

Ioneer's Construction Water Rights Application Package was submitted to the Nevada Department of Water Resources (NDWR) on 1 June 2023. Since submission, the Water Rights Application Packages public notification period has been completed and has moved on to the next step in the application process.

<sup>9</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

## **Sales & Marketing**

### **Boric Acid Market and Price**

The global boric acid price has remained relatively steady during Q2 2023, holding prices from 2022 levels, and remains well above pre-COVID price levels. Etimine (Turkey) energy input costs have increased significantly since the conflict in Ukraine. The sodium borate market is in slight oversupply with downward price pressure; however, prices remain well above pre-COVID levels.

### **Lithium Market and Price**

According to Wood Mackenzie, the lithium market will continue to be underpinned by robust battery demand growth in 2023, with changes in cathode chemistry compositions and rising volume requirements shaping the demand-side landscape. Higher prices are expected to encourage supply, led by mineral production ramp-ups in China and the rest of the world.

Lithium spot prices sharply declined in April and at the start of May due to de-stocking in the Chinese market. By the middle of May, prices had started to rebound. Wood Mackenzie maintained its price outlook with a slight rebound in the second half of 2023.

## **ESG/EHS Program**

### **ISO 14001 Implementation**

The Company has completed 14 ISO14001:2015 compliant documents. A Company Environmental Policy will be publicly available on the Ioneer website soon. During Q3 2023, objectives identified in the ISO14001 system review will be incorporated into the broader Ioneer goals. Additionally, the Company risk register is being updated.

### **ESG Road Mapping/External Disclosure Alignment**

During the quarter, Ioneer joined the GRI Community and UN Global Compact. We are

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)

dedicated to transparent reporting through both organizations and will reference GRI standards in the Sustainability and ESG section of the Annual Report. In addition, we conducted a materiality assessment and identified ESG targets to implement with commencement of operations. The quarter also saw us start the development of a 3-year Sustainability Road Map to guide our plans into the near future.

### **Towards Sustainable Mining (TSM) Implementation**

The Company finalized all seven of our TSM Action Plans in FY2023. In the coming year we expect to complete the documentation of the Action Plans in preparation for operations.

TSM has recently released an Equity, Diversity, and Inclusion Protocol and an updated Health & Safety Protocol that Ioneer will adopt in the FY2024.

During the quarter, the Company completed a gap analysis between TSM and IRMA, an alternative assessment tool for socially and environmentally responsible mining. Ioneer, Ford, and TSM completed the analysis and concluded that there is little difference between the tools.

### **Environmental Regulatory Compliance**

Ioneer submitted its Water Pollution Control Permit report for the first quarter of 2023. A Water Pollution Control Permit inspection was conducted by the Nevada Division of Environmental Protection on 29 June 2023 - no issues were identified.

### **Health & Safety**

During the quarter, no lost time incidents, first aid incidents, or fatalities were reported.

Ioneer has commenced the following activities in Health and Safety:

1. Began a pilot using digital inspections for vehicles and workplace.
2. Safety Committee Development.
3. Nevada Employer & Employee Safe

4. Workplace Rights Training.
5. Fire Safety Training.
6. Implemented Management of Change SOP.
7. Safety Lunch and Learn Program
8. Safety Documents: H&S Policy, Golden Rules, H&S Plan.
9. Development of online Learning Management System.

### **Tiehm's Buckwheat Greenhouse Propagation**

In FY2024, Tiehm's buckwheat propagation is focused on seed production. The primary goal is to generate a reliable and abundant supply of high-quality seeds for future seedling growth and eventual out-planting.

### **Community & Tribal Nations**

Ioneer is committed to engaging with the local community to address environmental and social concerns and enhance local economic opportunities. The comprehensive engagement strategy includes multiple 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 April. 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 during the June quarter.

These efforts enhance transparency, have allowed for 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).

Ioneer advanced the procurement of the following packages:

- Shell & Tube Exchanger
- Slurry Pumps
- Compressed Air System
- FRP Tanks

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

## 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. It is expected that the program will be completed by the end of Q3 2023.

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.

## Growth Projects

Ioneer is evaluating future growth potential at the Rhyolite Ridge project by conducting a concept-level study. The study covers 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 for both basins will be provided in August 2023.

### South Basin Growth Projects

The South Basin Mineral Resource estimate (MRE) currently stands at 360Mt containing 3.4 Mt of lithium carbonate equivalent and 14.1 Mt of boric acid equivalent. The MRE is expected to grow substantially with additional drilling (see above). 100% of the Resource sits within the area currently being permitted for mining.

The Resource consists of three distinct styles of lithium mineralisation (refer to page 2):

- Type 1: 157 Mt  
high lithium, high boron, low clay  
B5 and L6 units
- Type 2: 75 Mt  
high lithium, low boron, high clay

M5 unit

- Type 3: 128 Mt high lithium, low boron, low clay S5 and L6 units

Only Type 1 mineralisation is included in the DFS mine plan and project economics. The growth study is examining mining and processing options for the remainder of the Resource with a focus on the low-boron lithium mineralisation within the mine plan currently being permitted. Currently this mineralisation is included in the mine plan as waste because of its low-boron content (the process plant is designed for high-boron lithium mineralisation).

A combination of metallurgical test work and conceptual engineering is underway, considering the variations in mineralogy that require different processing methods. The study leverages the extensive metallurgical test work, flowsheet development and engineering work completed to date for the Rhyolite Ridge Project.

### 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.

Preliminary leach and mineralogical test work on drill core samples from holes drilled by Ioneer in 2017 commenced and will be reported in August 2023.

### 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

### Estimated Project Timeline

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

Milestone	Targeted timing <sup>10</sup>
Anticipated ROD	1Q 2024
Construction Period	24 Months
First Production	2026

### Corporate Activities

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

- Future Facing Commodities Resource Connect Asia - Singapore, 4-6 April
- RIU Sydney Resources Roundup - Sydney, May 9-11
- Stifel Cross Sector Insight Conference – Boston, USA, 6-7 June
- Benchmark Gigafactory Conference – Washington DC, USA, 8-9 June
- Fastmarkets Battery Materials Conference – Las Vegas, USA, 20-23 June

### ASX Additional Information

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

<sup>10</sup> Note: all dates are estimates only and are subject to change.

1. **ASX LR 5.3.1:** Exploration and Evaluation Expenditure during the quarter was US\$5.1 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	3,302
Environmental	1,489
Sales & Marketing	231
Other	85
Total	5,106

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

3. **ASX LR 5.3.5:** Related party payments for the quarter totalled US\$287,000, 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.

### Capital Structure

Total cash and cash equivalents as of 30 June 2023 was US\$52.5 million of which 77.2% was held in USD with the balance held in AUD. Ioneer adopted USD as its reporting currency from 1 July 2022.

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

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

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
11/04/2023	Change in substantial holding
26/04/2023	Mineral Resource Increases by 168% to 3.4Mt LCE
27/04/2023	March 2023 – Quarterly Activities Report
27/04/2023	March 2023 – Quarterly Cash Flow Report
10/05/2023	Ioneer and Dragonfly Energy Partnership

## 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	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%	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>11</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>11</sup> Refer ASX release titles 'Sibanye-Stillwater to invest US\$490M in Rhyolite Ridge' announced on 16 September 2021