Investor Presentation RIU Sydney Resource Round-up

May 2023

Providing Material in the U.S. for a Sustainable Planet

# **Disclaimer**



This presentation has been prepared as a summary only and does not contain all information about ioneer Ltds (ioneer or the Company) assets and liabilities, financial position and performance, profits and losses, prospects, and the rights and liabilities attaching to ioneer's securities. The securities issued by ioneer are considered speculative and there is no guarantee that they will make a return on the capital invested, that dividends will be paid on the shares or that there will be an increase in the value of the shares in the future.

ioneer does not purport to give financial or investment advice. No account has been taken of the objectives, financial situation or needs of any recipient of this presentation. Recipients of this presentation should carefully consider whether the securities issued by ioneer are an appropriate investment for them in light of their personal circumstances, including their financial and taxation position. Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company's securities.

#### **Forward Looking Statements**

Various statements in this presentation constitute statements relating to intentions, future acts and events which are generally classified as "forward looking statements". These forward looking statements are not guarantees or predictions of future performance and involve known and unknown risks, uncertainties and other important factors (many of which are beyond the Company's control) that could cause those future acts, events and circumstances to differ materially from what is presented or implicitly portrayed in this presentation.

For example, future reserves described in this presentation may be based, in part, on market prices that may vary significantly from current levels. These variations may materially affect the timing or feasibility of particular developments.

Words such as "anticipates", "expects", "intends", "plans", "believes", "seeks", "estimates", "potential" and similar expressions are intended to identify forward-looking statements.

ioneer cautions security holders and prospective security holders to not place undue reliance on these forward-looking statements, which reflect the view of ioneer only as of the date of this presentation.

The forward-looking statements made in this presentation relate only to events as of the date on which the statements are made. Except as required by applicable regulations or by law, ioneer does not undertake any obligation to publicly update or review any forward-looking statements, whether as a result of new information or future events. Past performance cannot be relied on as a guide to future performance.

#### **Competent Persons Statement**

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 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 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.

In respect of production targets referred to in this presentation, 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.

#### No offer of securities

Nothing in this presentation should be construed as either an offer to sell or a solicitation of an offer to buy or sell ioneer securities in any jurisdiction or be treated or relied upon as a recommendation or advice by ioneer.

#### Reliance on third party information

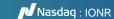
The views expressed in this presentation contain information that has been derived from publicly available sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information. This presentation should not be relied upon as a recommendation or forecast by ioneer.

#### **Lithium Carbonate Equivalent**

The formula used for the Lithium Carbonate Equivalent (LCE) values quoted in this presentation is: LCE = (lithium carbonate tonnes produced + lithium hydroxide tonnes produced \* 0.880

#### Note

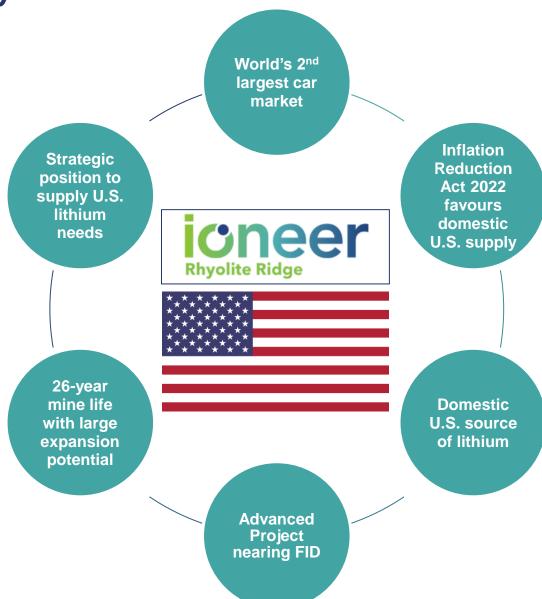
All \$'s in this presentation are US\$'s except where otherwise noted.





Why loneer





One of two near term projects to address the need for locally sourced U.S. lithium

Positioned to become a cornerstone lithium supplier to the domestic U.S. EV battery supply chain

Ford

Toyota / Panasonic

Nasdaq : IONR

**EcoPro** 

# **Corporate Snapshot**

# ioneer

**Capital Structure** (As at May 2023)

SHARES OUTSTANDING	2.10B
PERFORMANCE RIGHTS AND OPTIONS OUTSTANDING	36.5M
CASH BALANCE – 1 Apr 2023	US\$60.3M
SHARE PRICE ASX – 8 May 2023	A\$0.365
ADR PRICE NASDAQ (1 ADR = 40 ASX shares)	US\$9.07
MARKET CAPITALISATION	A\$766m (US\$509m)

### **ASX Share Price**



### **Shareholders** (February 2023)

**Insider Ownership** 5.6%

**Top 50 Ownership** ~62.0%

**Substantial Holders** 

Sibanye-Stillwater Centaurus

12.1% 7.0% Institutional holders 22.7% (Excl. Centaurus & SSW)

### **Research Coverage**



WILSONS Loop Capital Markets

Source: Source: Company Data, FactSet, Nasdaq, Ipreo and CapIQ

2. Corporate Overview

3. Lithium & Boron

4. Rhyolite Ridge Project

# **Proven, Experienced Team**





Non-exec chairman of Orocobre Ltd **USA** 

**BERNARD ROWE** 

**Managing Director** 

**IONEER:** 

Founder

AUS



Non-executive Director **FORMER:** Chief Executive, Energy & Minerals of Rio Tinto



AUS



**ROSE McKINNEY-JAMES** Non-executive Director **FORMER:** President and CEO of Corporation for Solar Tech & Renewable Resources USA





**STEPHEN GARDINER** Non-executive Director **FORMER:** CFO Oil Search AUS



JAMES D. **CALAWAY Executive Chairman** USA

**Management Team** 



**BERNARD ROWE Managing Director** AUS



IAN BUCKNELL CFO & Company Secretary **AUS** 



**MATT WEAVER Snr VP Engineering** & Operations **USA** 



**KEN COON VP Human** Resources USA



**YOSHIO NAGAI VP Commercial Sales** & Marketing **JPKR** 

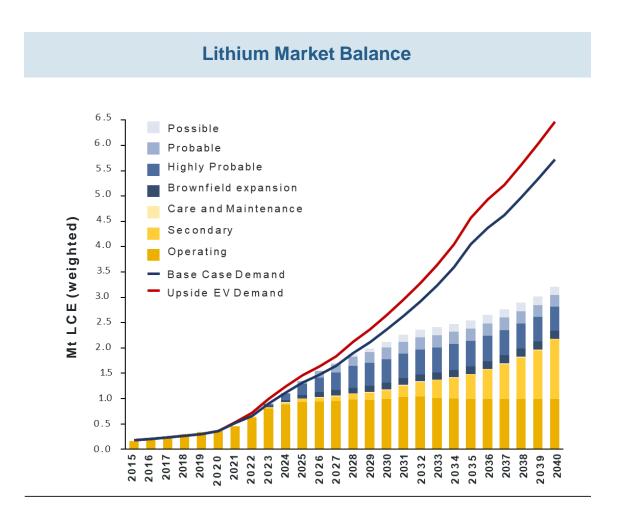


**CHAD YEFTICH** VP Corporate Development & **External Affairs USA** 

Nasdaq : IONR

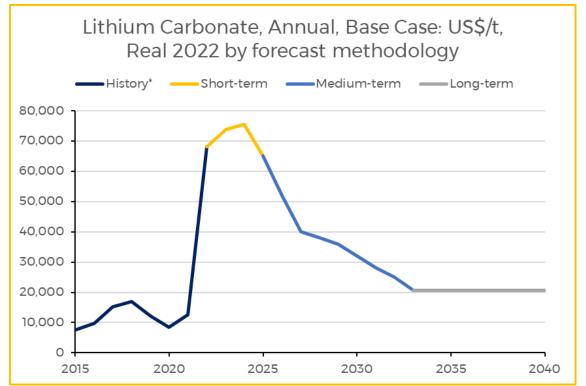
# Global Lithium Shortage Requires New Projects





ioneer Investor Presentation





Source: Benchmark Mineral Intelligence - Lithium Forecast Q4 2022

Source: Benchmark Mineral Intelligence - Lithium Forecast Q4 2022

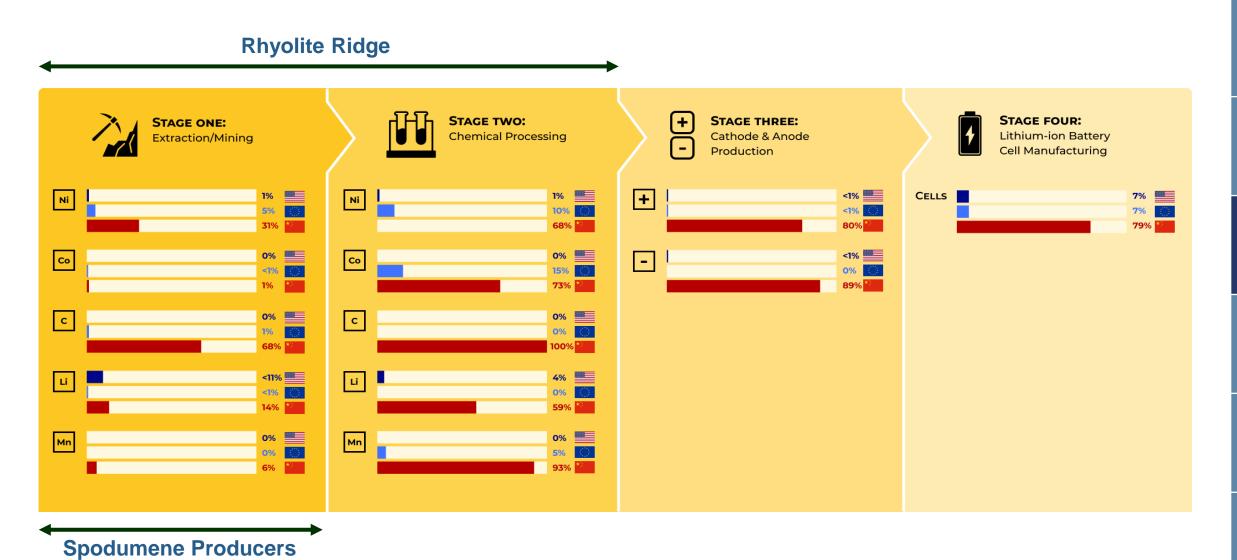
New Projects take time to develop – Supply shortages expected to continue

# 1. Why loneer

2. Corporate Overview

# The Four Stages of Lithium-ion Battery Production





Source: Benchmark Mineral Intelligence

# Forecast U.S. Lithium Market

# ioneer

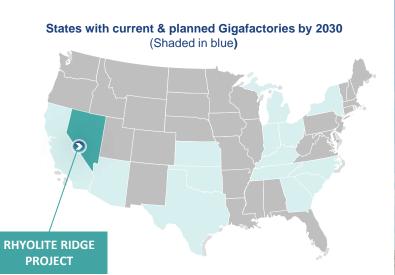
Gigafactory capacity (demand)

Forecast	GWh	No. Gigafactories	Demand Est. LCE ktpa
2022 Actual	107	8	
2025 F/C	462	27	396
2030 F/C	1099	33	942

#### Forecast domestic supply

Forecast	Supply Est. LCE ktpa
2021 Actual	5
2025 F/C	122*

<sup>\*</sup> Includes Rhyolite Ridge Production





"Biden signs Inflation Reduction Act into law" (CNN Politics 16/08/2022)

https://www.cnn.com/2022/08/16/politics

- IRA advantage source for U.S domestic lithium supply
- **Strategic location** Nevada, a tier one mining jurisdiction
- Close to customer markets World's 2nd largest car market
- **Expansion potential**

# Rhyolite Ridge is ideally positioned to serve the U.S. EV market

Source: Benchmark Mineral Intelligence Report - Gigafactory Assessment, February 2023

ASX : INR

www.ioneer.com

3. Lithium & Boron

# **Global Borates Market**

19%

16%

**Ceramics** 

**Borosilica** 

te Glass

Insulation

17%

**Demand by End Use** 

Other

8%

LCD /

11%

12%

**Textile** 

**Fiber Glass** 

12%

Industrial

Agriculture

#### The Boric Acid Market

#### **Demand:**

- Increasing demand from agriculture, solar, specialty glass and permanent magnets for EVs
- U.S. world's 2<sup>nd</sup> largest boric acid market (23%) behind China (30%)

#### Market:

- Duopoly between Eti Maden (Turkey) and Rio (California)
- Eti (50%) and Rio (30%) of refined borate market

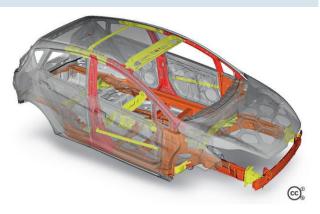
#### Reserves:

- 72% of global Reserves are in Turkey

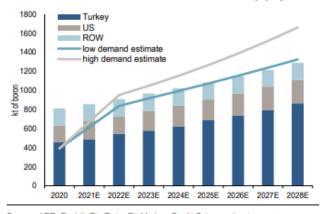
#### **Pricing:**

- Stable pricing over many decades (US\$600-\$800tpa)
- Forecast CAGR of between 4% and 6%.

## **Boron used extensively in EVs**



#### **Estimated Demand Vs Supply**



Source: ABR, Roskill, Rio Tinto, Eti Maden, Credit Suisse estimates

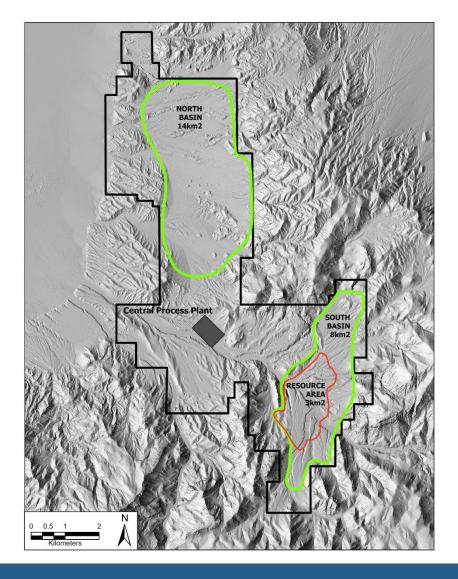
# Ioneer's boric acid offtake strategy completed

Notes: Borates demand includes refined chemicals (~80% of demand) such as boric acid and raw mineral products (~20% of demand). Chart inputs are loneer estimates derived from industry research.

# **Rhyolite Ridge Lithium-Boron Project**

- 100% interest in two sedimentary basins with lithium-boron mineralisation
- ~5km apart with a total prospective area covering approx.
   22km²
- South Basin only 3km<sup>2</sup> drilled to date
- Mineral Resource<sup>1</sup> of 360Mt containing 3.4Mt of lithium carbonate and 14.1Mt of boric acid - exclusively high boron layers
- Mineral Reserve<sup>1</sup> of 60.0Mt containing 0.6Mt of lithium carbonate and 5.3Mt of boric acid
- Potential to produce substantially more over time expanding focus to evaluate future growth options

1. See Company announcement titled "Mineral Resource increases by 168% to 3.4Mt lithium carbonate" dated 26 April 2023



A unique world class deposit with multi-generational scale potential

10

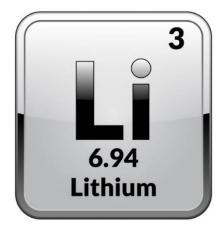
# **Rhyolite Ridge Lithium-Boron Project Economics**



# INR

### Fact Sheet<sup>1</sup>

Location	Nevada, USA
Project Stage	Bankable Feasibility Study (April, 2020)
Products	Lithium Carbonate, Boric Acid
Mine Plan	64Mt (2.5Mtpa x 26 years)
Production	Li 22,000 tpa B 174,400 tpa
Binding Offtakes	80% of Li production
All in sustaining cash cost	US\$2,510/t of LCE
EBITDA	US\$288M (LOM)
After-tax NPV <sub>8</sub>	US\$1.265B
After-tax IRR	20.8%
Price assumptions	Li Carb – US\$11,740/t Boric Acid – US\$710/t
Mine Life	26 years





### **Producing Two Products**





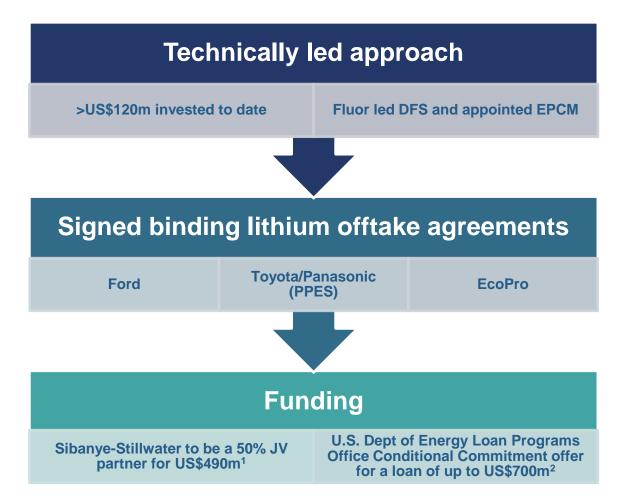
- 1. See Company announcement titled "ioneer delivers DFS that confirms Rhyolite Ridge as a world-class lithium-boron Project" dated 30 April 2020
- 2. See Company announcement titled "Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes" dated 30 April 2020.

## **2020 DFS Confirmed Projects Compelling Economics**

# **Best in Class Partners**







<sup>1</sup>Subject to closing conditions as outlined in the 16 September 2021 announcement "Sibanye-Stillwater to Invest US\$490 Million to Advance Rhyolite Ridge to Production"

<sup>2</sup>Subject to closing conditions as outlined in the 16 January 2023 announcement "U.S. Department of Energy Offers Conditional Commitment for a loan of up to US\$700 Million"

. Corporate Overview

# Positioned to be a Cornerstone Supplier to the U.S. EV Market

# COMPLETE

NEAR COMPLETE

To sign binding offtakes that support debt

To be fully funded

To be construction ready in engineering

To be fully permitted

Binding offtake agreements in place:

- Boric Acid
- Lithium

**Conditional Commitments** in place:

Equity - Sibanye-Stillwater

Debt - US Dept of Energy

PFS, Pilot Plant and DFS Complete

Key contracts awarded

Air and Water Permits **Awarded** 

**NEPA Process for** Federal permit underway

The white hill at Rhyolite Ridge, showing the Searlesite ore body at surface

2. Corporate Overview

# **Commitment to Sustainability**

**Designed to minimise impact on the environment** 

**Low Emissions** 

**Low Water Usage** 

**Small Mine Footprint** 



**Efficient Equipment** 



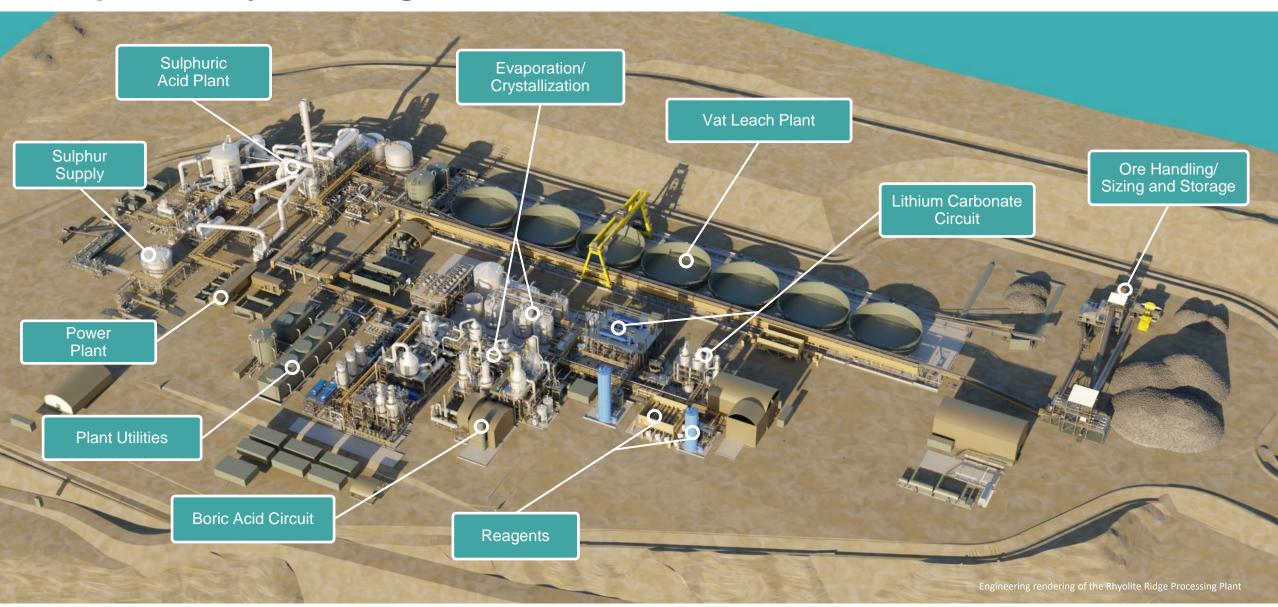
**Commitment to Sustainability** 

- Majority of on-site power from CO<sup>2</sup>-free energy production, low greenhouse gas emissions.
- Mobile equipment meets Tier 4 EPA standards
- Project design implements best-in-class water utilization while recycling the majority of water usage.
- Expected to use 30x less water per tonne than existing U.S. production
- No evaporation ponds or tailings dam
- Generating all power on-site.
- Automation of mine haulage equipment
- All baseline studies for EIS completed over 2 years.
- Ongoing commitment to the environment and the protection and conservation of Tiehm's buckwheat
- Implementation of TSM<sup>1</sup> ESG program

<sup>1</sup> Towards Sustainable Mining

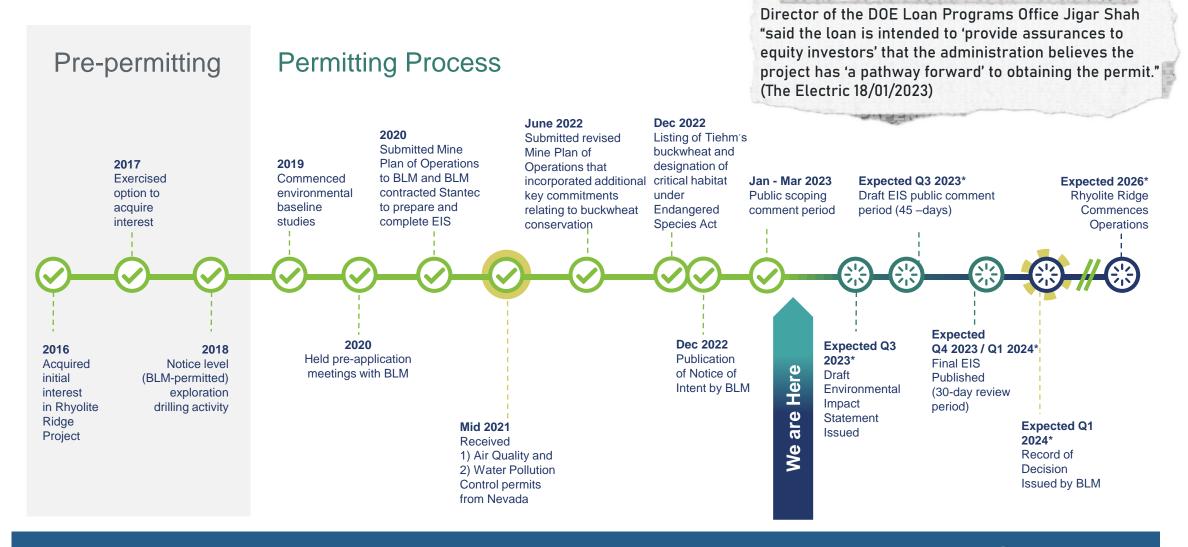
# **Proposed Rhyolite Ridge Process Plant**





# **Permitting (NEPA) Process**





Next key permitting milestone is the publishing of the Draft Environmental Impact Statement

<sup>\*</sup> All future dates subject to change without notice

# **Compelling Opportunities for Organic Growth**

**Burgeoning** 

**Demand from** 

**OEMs** 



**Driven by...** 

A unique
opportunity –
Inflation
Reduction Act
(IRA) requiring
U.S. battery
materials

Sheer quality and scale of opportunity within existing portfolio

Limited number of U.S. projects that can respond

1. Why lone

. Corporate Overview

Boron B

4. Rhyolite idae Project

Expansion Projects

Conclusion

2. Corporate Overview

# **Key Growth Opportunities**

Four areas aimed at increasing lithium production:

Within initial mine plan footprint

# 1. High boron-lithium

- Current 26-year mine plan based on only 41% of Resource
- B5 and L6 zones

### 2. Low boron-lithium

- M5, S5 and L6 zones
- Already in mine plan for stockpiling
- Evaluation of processing options is underway

### 3. North Basin

- 4x larger than South Basin footprint
- Leach tests in progress
- Well defined by gravity and historic drilling

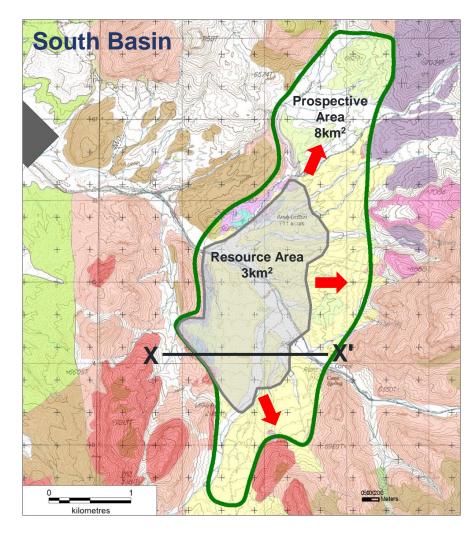
## 4. Other Projects

- Non-Rhyolite Ridge
- Existing tenements
- Lithium and Boron

**Long Term Near Term Medium Term** 

# Significant growth opportunities



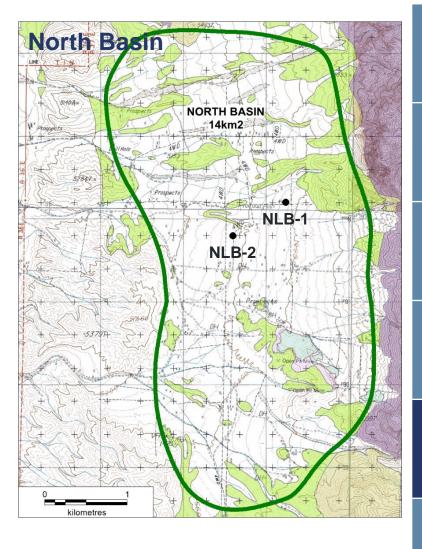


#### **South Basin**

- Over 2x larger than footprint of current 360Mt Mineral **Resource containing 3.4Mt LCE**
- Mineralisation is open to north, south and east
- Mineral Resource updated April 2023

#### **North Basin**

- Over 4x larger footprint than South Basin Resource
- US Borax (Rio) drilled >50 holes 1980-90s
- 2 holes drilled by INR in 2016<sup>1</sup>
- Leach tests in progress



1. See Company announcement titled "Quarterly Activities Report, March Quarter, 2017" dated 28 April 2017

# Why loneer

. Corporate Overview

# North Basin Vs South Basin



	South DFS Project	South Expansion	North		
Total prospective area	3 km <sup>2</sup>	8 km <sup>2</sup>	14 km <sup>2</sup>		
Drilling		noles 85m)	2 holes – INR (394m)		
Typical Lithium range	1,500 - 2	1,100 — 1,500ppm			
Typical Boron range	High: 0.1 Low: 0.1	High: 0.1 – 0.5% Low: 0.01 – 0.05%			
Acid Leachable	Yes	Yes	Yes		
JORC Ore Reserve <sup>1</sup>	60Mt 0.6Mt LCE	77			
JORC Mineral Resource <sup>1</sup>	146.5Mt 1.2Mt LCE	??	???		
Net Present Value <sup>1</sup> (Based on 64Mt)	US\$1.265 billion (April 2020, 8% real)	??	???		

### **South Basin**

- Current DFS a 'starter pit' for mine
- Multiple mineralised zones not in current Reserve estimate
- Resource updated in April 2023
- Extension potential Open in three directions

#### **North Basin**

- Drilling to define Resource
- Medium grade lithium, lower grade Boron
- Mineralisation open in all directions
- From surface, low strip ratio

# Both basins offer significant potential for resource growth and mine life expansion

1. See Company announcement titled "Ioneer delivers DFS that confirms Rhyolite Ridge as a world-class lithium-boron Project" dated 30 April 2020



20

# Why Ioneer



THE RIGHT PRODUCTS Lithium carbonate and boric acid



### THE RIGHT LOCATION

Positioned to serve the U.S. EV battery supply chain



### **AN EXPERIENCED TEAM**

With a proven track record



### **EXPANSION POTENTIAL**

Resource update, Phase 2 and 3 expansions



### THIRD PARTY VALIDATION

U.S. DOE, Sibanye-Stillwater, Ford Motor, PPES, EcoPro



## **CLEAR PATH TO PRODUCTION**

With significant organic growth potential



Plug in to the Future

# **Contact Information**





Appendix

Providing Material for a Sustainable & Thriving Planet

# **US Department of Energy – Loan Programs Office**



# **Conditional** Commitment

### **Key Terms**

Amount	Up to US\$700m
Term	Approx. 10 years
Interest Rate	Applicable U.S. Treasury rates
Rate Type	Fixed from date of advancement
Purpose	Develop Rhyolite Ridge Li- B Project

# **Highlights**

- Proposed loan of up to US\$700 million to develop the Rhyolite Ridge Project through the DOE Loan Programs Office's (LPO) Advanced Technology Vehicles Manufacturing (ATVM) program
- A term of approximately 10 years
- Interest rate fixed from the date of each advance for the term of the loan at applicable U.S. Treasury rates.
- Reflects continued strong and dedicated support under the Biden Administration to develop a U.S. domestic EV supply chain
- Financial close of the loan is conditional on several achievements including a positive Record of Decision and Final Investment Decision

"New Conditional Commitment: Rhyolite Ridge is a major step towards bolstering domestic lithium production for clean energy technologies, and LPO is excited to further develop an environmentally responsible U.S. supply chain for critical materials." - Jigar Shah, Director of the DOE LPO 13/1/2023

https://twitter.com/JigarShahDC/Status/1613901652649738247



<sup>\*</sup> See Company announcement titled "U.S Department of Energy Offers Conditional Commitment for a loan of Up to US \$700m for the Rhyolite Ridge Project" dated 16 January 2023 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

# **Resources & Reserves**



	Classification	Metric Tonnes (Mt)	Li (ppm)	B (ppm)	Li2CO3 (wt. %)	H3BO3 (wt. %)	Li2CO3 (kt)	H3BO3 (kt)
<b>Mineral Resources</b>								
	Measured	43.8	1,750	14,350	0.9	8.2	400	3,590
Stream 1	Indicated	92.2	1,500	13,800	0.8	7.9	750	7,280
(> 5,000 ppm B)	Inferred	20.8	1,650	13,700	0.9	7.8	180	1,630
	Total Stream 1	156.8	1,600	13,950	0.8	8.0	1,330	12,500
Stream 2	Indicated	158.5	1,850	1,450	1.0	0.8	1,570	1,330
(> 1,090 ppm Li,	Inferred	44.9	1,900	900	1.0	0.5	450	230
no B COG)	Total Stream 2	203.4	1,850	1,350	1.0	0.8	2,020	1,560
Stream 1+2	<b>Total Mineral Resource</b>	360.2	1,750	6,850	0.9	3.9	3,350	14,060
Ore Reserves								
Per 2020 Reource	Proved Reserves	29.0	1,900	16,250	1.0	9.3	290	2,700
& Reserve Report	Probable Reserve	31.5	1,700	14,650	0.9	8.4	280	2,620
	<b>Total Ore Reserves</b>	60.0	1,800	15,400	1.0	8.8	580	5,310

- Approximately half of the Ore Reserve is classified as Proved
- Ore Reserve provides 94% of tonnes in current 26-year mine plan
- Total Mineral Resource of 360 Mt containing a total of 3.4 Mt of lithium carbonate and 14.1 Mt of boric acid

Source: For further information on Resources and Reserves see 1) ASX release titled "Mineral Resource increases by 168% to 3.4 Mt lithium carbonate Underscores growth potential for U.S. supply chain" dated 26 April 2023 and 2) ASX release titled "Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes" dated 30 April 2020. Note, totals may differ due to rounding. Mineral Resources include Ore Reserves.

# **South Basin Mineralisation Types**



# Type 1

**High Boron-**Lithium

Searlesite

157Mt Resource **60Mt Ore Reserve** 

**Acid Leachable Metallurgical tests and Pilot Plant** 

Supports DFS and phase one processing facility design

26 years initial mine life 22Kt Li Carb, 174Kt boric acid p.a.

**Binding Offtakes - Ford,** Toyota/Panasonic (PPES), Ecopro

# Type 2

Low Boron-Lithium

High-Clay

75Mt Resource

**Acid Leachable Metallurgical tests and Pilot Plant** 

Stockpiled in phase one mine plan Treated as waste in DFS

Potential lithium output increase **Existing offtake partner demand** 

Flow sheet to be finalised Front end process to remove clay

# Type 3

Low Boron-Lithium

Low-Clay

128Mt Resource

**Acid Leachable Metallurgical tests and Pilot Plant** 

Stockpiled in phase one mine plan Treated as waste in DFS

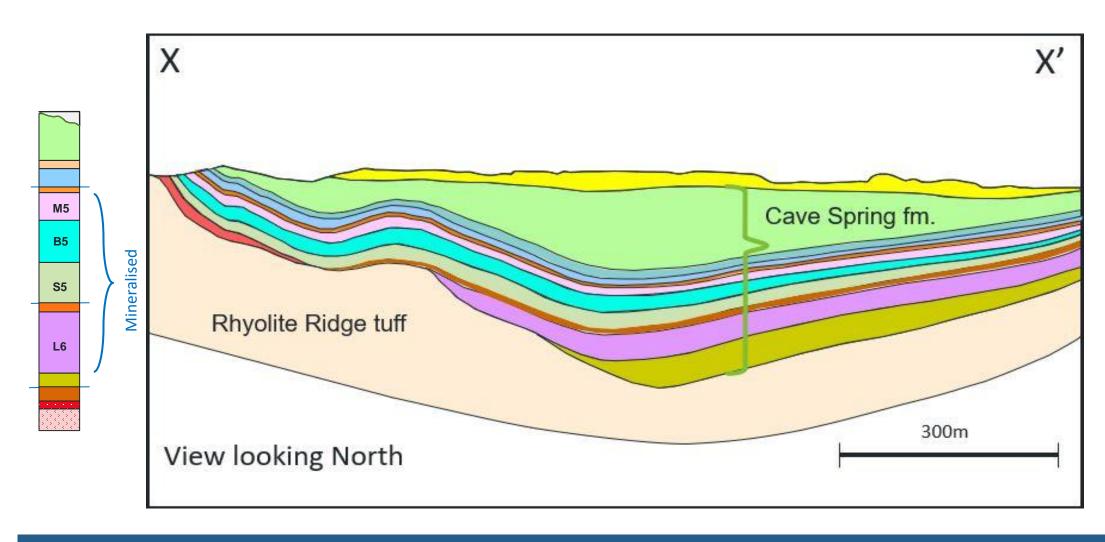
Potential lithium output increase with low capex via phase one process plant

Flow sheet to be finalised Potential blend with Type 1

Total Mineral Resource – 360Mt containing 3.4Mt of lithium carbonate and 14.1Mt of boric acid

# **Growth Opportunity in Proposed Permitting Footprint**





All four mineralised layers provide upside and optionality

Nasdaq : IONR

# History of Ioneer's Ownership of Rhyolite & Development Schedule



## Timing of permitting key driver to development time line

2016	2017	2018	2019	2020	2021	2022	2023	2024
	d initial in Project  aiden Resource  Start drilling campaign  Procure warights  Double Resource	Boric A Rel  ater	roduction of Acid  ease of PFS  Complete exploration drilling  Maiden Reserve  Start Pilot Plan	<ul> <li>Reserves &amp; Resources upgrade</li> <li>Complete DFS</li> <li>Complete E Sales &amp; Distribution</li> <li>Final Opera deem by BL</li> </ul>	First Li o signed w EcoPro Innovation Water ded complete	<ul> <li>US Listin Nasdaq</li> <li>on</li> <li>Li offt with FPES</li> </ul>	Receipt of conditional loan commitment from US Department of Energy  ag on  cakes signed Ford Motor and G (Toyota/sonic JV)	<ul> <li>Anticipated Record of Decision (ROD)</li> <li>Construction ready</li> <li>FID</li> </ul>
	leach extra	overy of heap h Li-B action apletion of ng study	Pilot	produced at Plant BA – Binding offtake		with Sibanye- illwater  DOE Loan submission accepted as complete	<ul><li>NOI Published</li><li>Mineral Resource update</li></ul>	ee

Note: All future dates and times are indicative and subject to change.