



## Sydney Mining Club Presentation

2 February 2023

*Providing Material for a Sustainable & Thriving Planet*

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:  $LCE = (\text{lithium carbonate tonnes produced} + \text{lithium hydroxide tonnes produced} * 0.880)$

## Note

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

Engineering rendering of the Rhyolite Ridge Processing Plant

①

OVERVIEW

②

LITHIUM & BORON MARKETS

③

RHYOLITE RIDGE PROJECT

④

MOVING FORWARD





## 1

## Overview



# Most Advanced Lithium Project in the US



**PERMITTING:** Two of three key permits awarded



**PERMITTING:** In final stage of federal permitting process (NEPA) - Mine Plan of Operations



**BINDING OFFTAKE AGREEMENTS:** Completed for boron and lithium – Ford (SK), Toyota (Panasonic), EcoPro



**FUNDING:** Equity capital funded through Sibanye-Stillwater JV - US\$490 million conditional commitment



**DEBT:** U.S. Dept of Energy Loan Programs Office Conditional Commitment offer for a loan of up to US\$700m



**ENGINEERING:** Completed DFS, full simulation Pilot Plant, awarded key contracts. Ontrack to be construction ready inline with full permitting

# Corporate Snapshot

## Capital Structure

(As at January 2023)

SHARES OUTSTANDING	2.10B
PERFORMANCE RIGHTS AND OPTIONS OUTSTANDING	34.0M
CASH BALANCE	US\$69.4M
SHARE PRICE ASX	A\$0.480
ADR PRICE NASDAQ (1 ADR = 40 ASX shares)	US\$13.50
MARKET CAPITALISATION (US)	A\$1.008b (US\$705.6m)

## ASX Share Price



## Shareholders (December 2022)

Insider Ownership <b>5.6%</b>	Top 50 Ownership <b>~63.2%</b>	Substantial Holders Centaurus 12.1% Sibanye-Stillwater 7.0%	Institutional holders <b>24.3%</b> (Excl. Centaurus & SSW)	Research Coverage STIFEL   GMP ORD MINNETT BRIDGE STREET CAPITAL PARTNERS Loop Capital Markets
----------------------------------	-----------------------------------	--	--	--

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



# Proven, Experienced Team

## Board of Directors



**JAMES D. CALAWAY**  
Executive Chairman  
**FORMER:**  
Non-exec chairman of  
Orocobre Ltd  




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




**BERNARD ROWE**  
Managing Director  
**IONEER:**  
Managing Director, CEO,  
Founder  




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




**MARGARET WALKER**  
Non-executive Director  
**FORMER:**  
VP Engineering and  
Technology Centers, Dow  
Chemical  




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


## Management Team



**JAMES D. CALAWAY**  
Executive Chairman  




**BERNARD ROWE**  
Managing Director  




**IAN BUCKNELL**  
CFO & Company  
Secretary  




**MATT WEAVER**  
Snr VP Engineering  
& Operations  




**KEN COON**  
VP Human  
Resources  

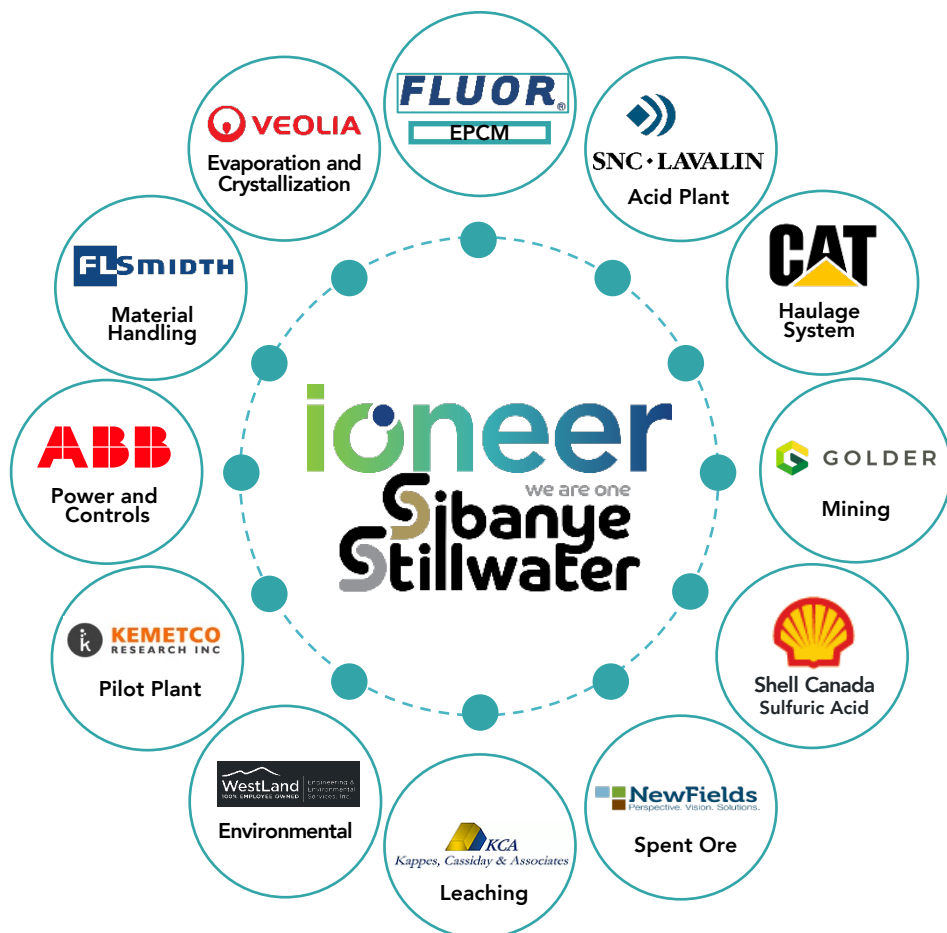



**YOSHIO NAGAI**  
VP Commercial Sales  
& Marketing  
 



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


# Best in Class Partners



We have invested >US\$115m to date appraising & developing the Project

We have sought best in class advisors

Fluor led the DFS work and is EPCM on the Project

Sibanye-Stillwater to be a 50% JV partner in Rhyolite Ridge for US\$490m<sup>1</sup>

U.S. Dept of Energy Loan Programs Office Conditional Commitment offer for a loan of up to US\$700m

<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"



## 2

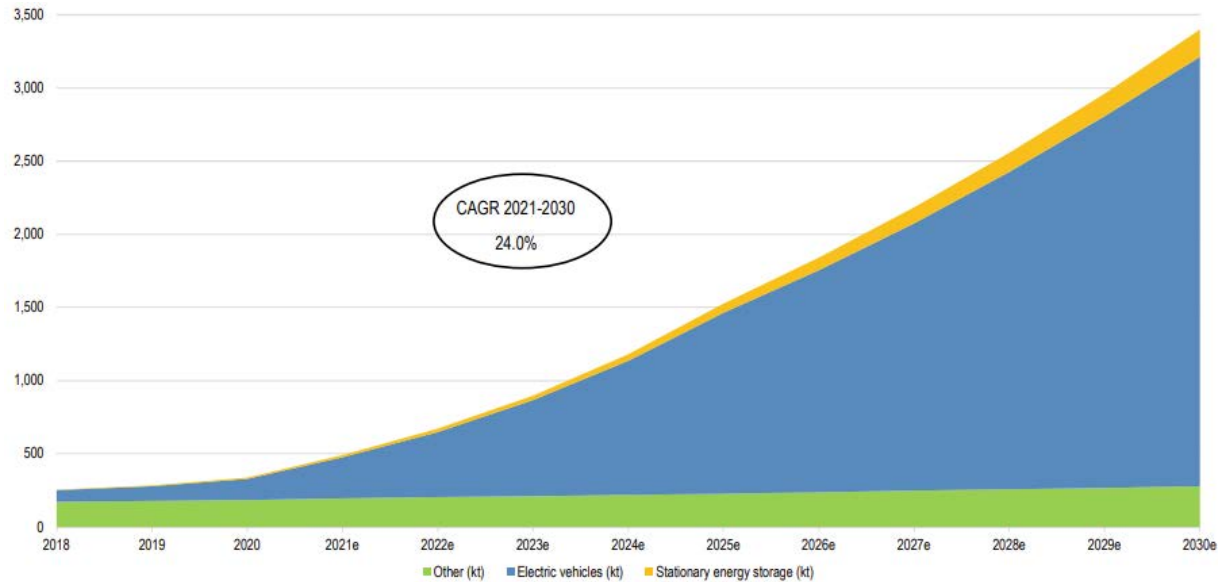
## Lithium &amp; Boron Markets

# Global Lithium Market Trends

Demand growth coupled with supply shortages driving higher prices

## Lithium Demand Driven by Growth in EVs

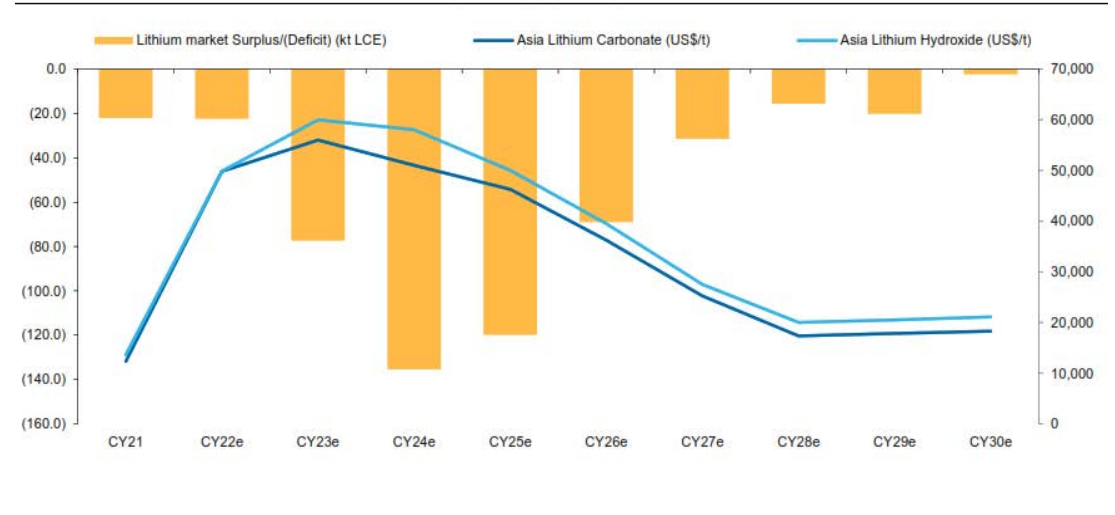
### Increasing Demand Global lithium demand (LCE kt)



Source: Company data, Benchmark Minerals, J.P. Morgan estimates

## Underinvestment in Lithium Supply

### Short Supply Widening deficit in lithium market



Source: Macquarie Research, Bloomberg, Company data – August 2022



# Forecast U.S. Lithium Market

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

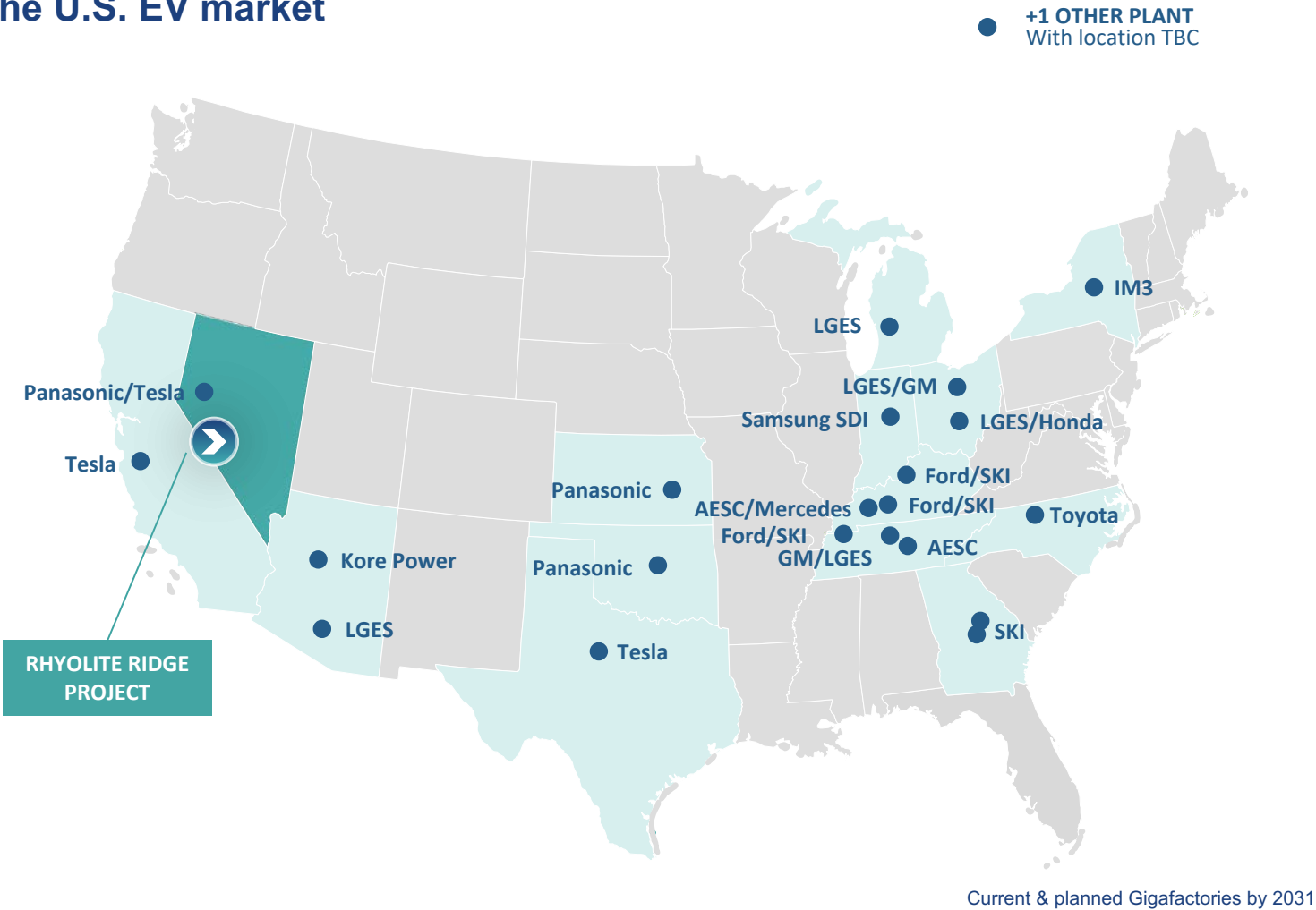
Gigafactory capacity (demand)

Forecast	GWh	No. Gigafactories	Demand Est. LCE ktpa
2021 Actual	56	4	
2026 F/C	588	26	504
2031 F/C	965	26	827

Forecast domestic supply

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

\* Includes Rhyolite Ridge Production



The U.S. market is overly dependent on foreign battery supply chain

Source: Benchmark Mineral Intelligence Report – Gigafactory Assessment, October 2022

# Changing Political Narrative

**“Biden signs Inflation Reduction Act into law” (CNN Politics 16/08/2022)**

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

**“The Future of Vehicles is Electric”: President Biden Touts EVs in remarks on Infrastructure (Forbes breaking News 22/10/2022)**

<https://www.youtube.co/watch?v=Rdz2K1HHUc>

**“... another example of what has come from the Bipartisan Infrastructure Law and the Inflation Reduction Act is that the Loan Programs Office inside the Department of Energy gave a \$700 million commitment to a company that will be doing sustainable extraction of lithium...” (Jennifer Granholm, U.S. Secretary of Energy 13/1/2023)**

<https://twitter.com/SecGranholm/status/1614724219702546433>



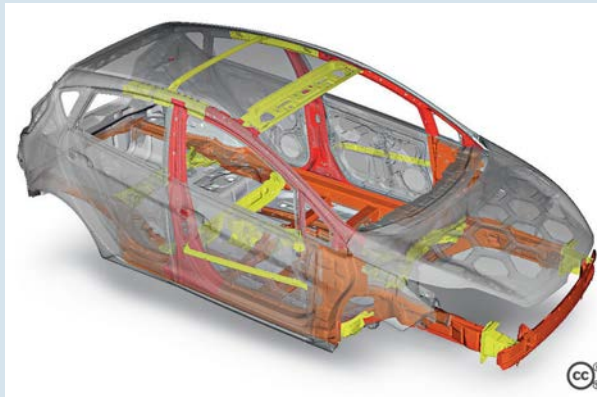
**Growing political will in the U.S. to support the domestic battery materials supply chain**



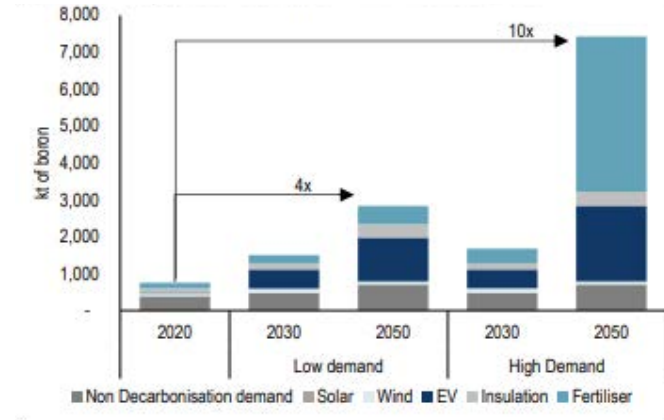
# Boron – A Climate Transition Super Material<sup>1</sup>

## The 5<sup>th</sup> Element of Decarbonisation<sup>1</sup>

- **Boron has exposure to several key climate technologies**
  - HEV and EVs
  - Insulation Materials that reduce energy use
  - Agriculture as a micronutrient supporting sustainable farming
  - Wind Turbine drive trains and blades
  - Glass in Solar PV modules
  - Nuclear Reactors
  - Hydrogen fuel cells
- **Uses of boron in EVs:**
  - Permanent magnet motors
  - Chassis for light weight strength
  - Brakes
  - Glass
  - Batteries
  - Airbags

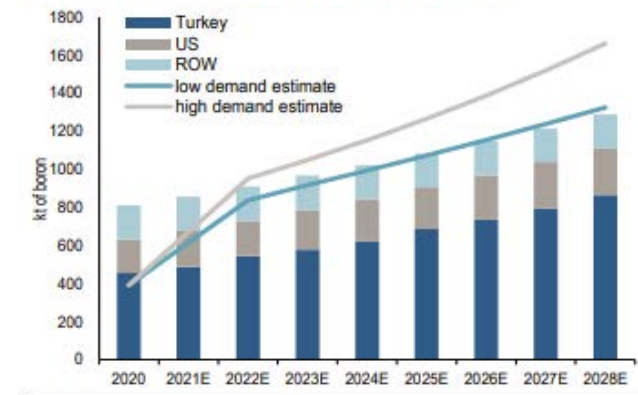


## Estimated Growth in Annual Boron Demand



Source: Credit Suisse estimates

## Estimated Demand Vs Supply



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

Source: Credit Suisse ESG Report – Climate Transition Super Materials, December 2021

3

## Rhyolite Ridge Project



# Rhyolite Ridge Lithium-Boron Project

INR

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

Location	Nevada, USA
Project Stage	Bankable Feasibility Study (April, 2020)
Products	Li <sub>2</sub> CO <sub>3</sub> , LiOH, B
Resources <sup>2</sup>	146.5Mt
Production	Li 22,000 tpa B 174,400 tpa
Capex P50	US\$785M
All in sustaining cash cost	US\$2,510t of LCE
EBITDA	US\$288M (LOM)
After-tax NPV <sub>8</sub>	US\$1.265B
After-tax IRR	20.8%
Payback	5.2 years



## Highlights

- Most advanced Li Project in the US
- World-Scale Resource
- Unique lithium-boron deposit
- 26+ year mine life with significant upside from Resource base
- Expected low cost lithium producer
- Fully funded to Final Investment Decision
- Binding Lithium & Boron offtake agreements
- Conditional debt and equity in place for up to ~US\$1.2 billion

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

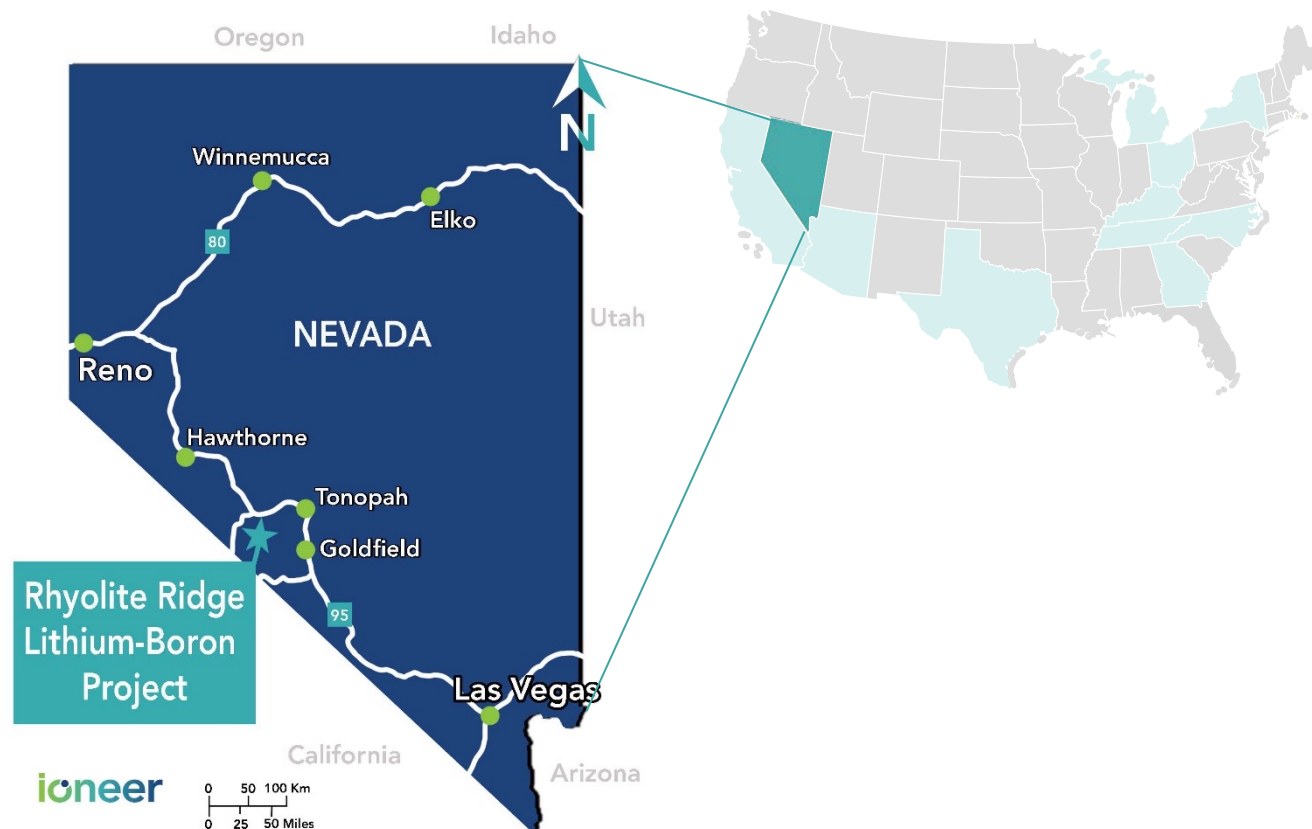
2. See Company announcement titled "Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes" dated 30 April 2020.



# Rhyolite Ridge Location

## Location

- Esmeralda County, NV
- 25km west of Albemarle's Silver Peak lithium mine
- Tier-one mining jurisdiction
- On federal land with no competing land use
- Proximal to U.S. auto industry allowing shorter logistics supply chain
- Close to San Francisco and LA Ports



# Rhyolite Ridge



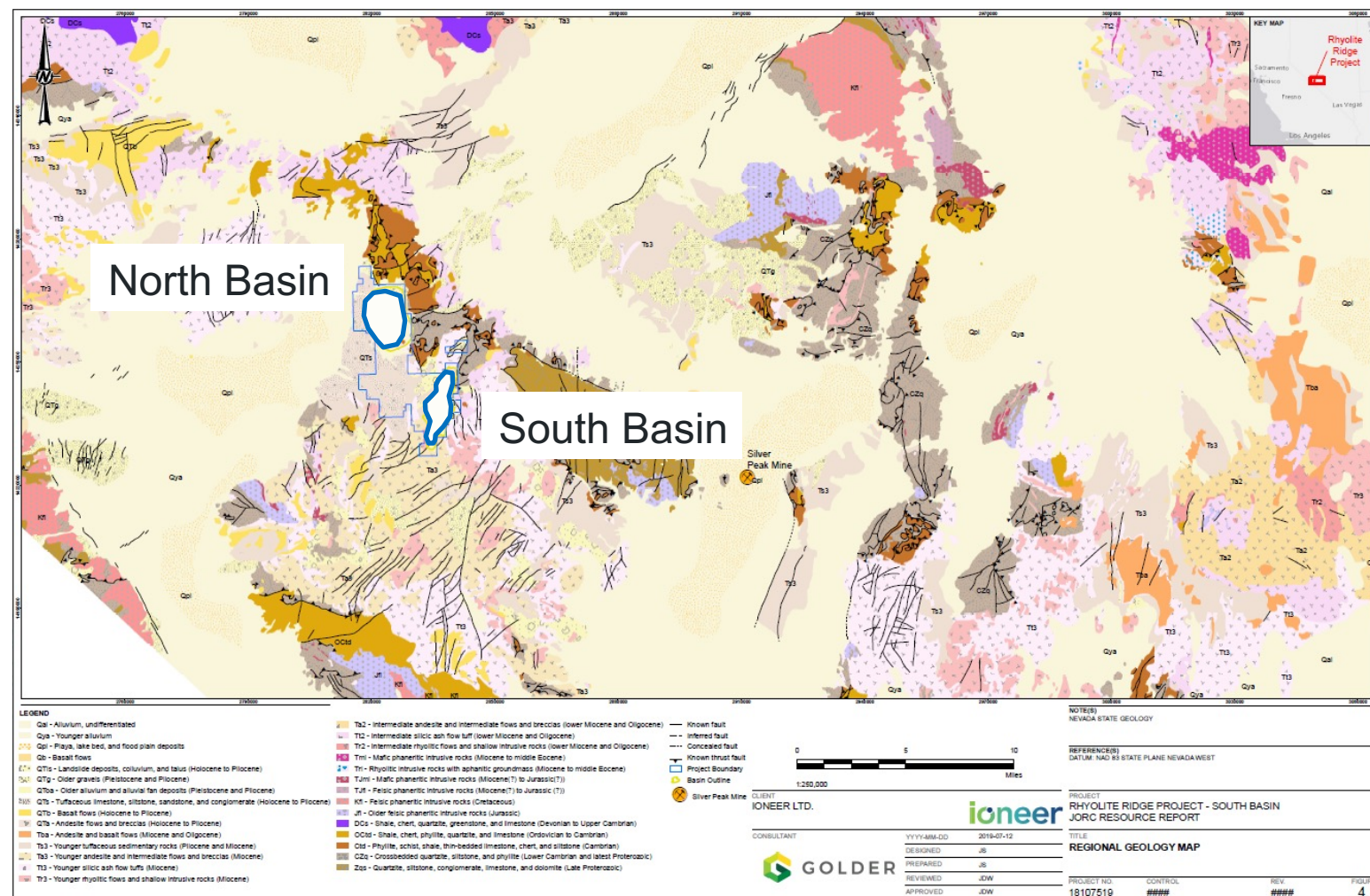
**A unique World class deposit with multi-generational scale potential**



# Regional Geology

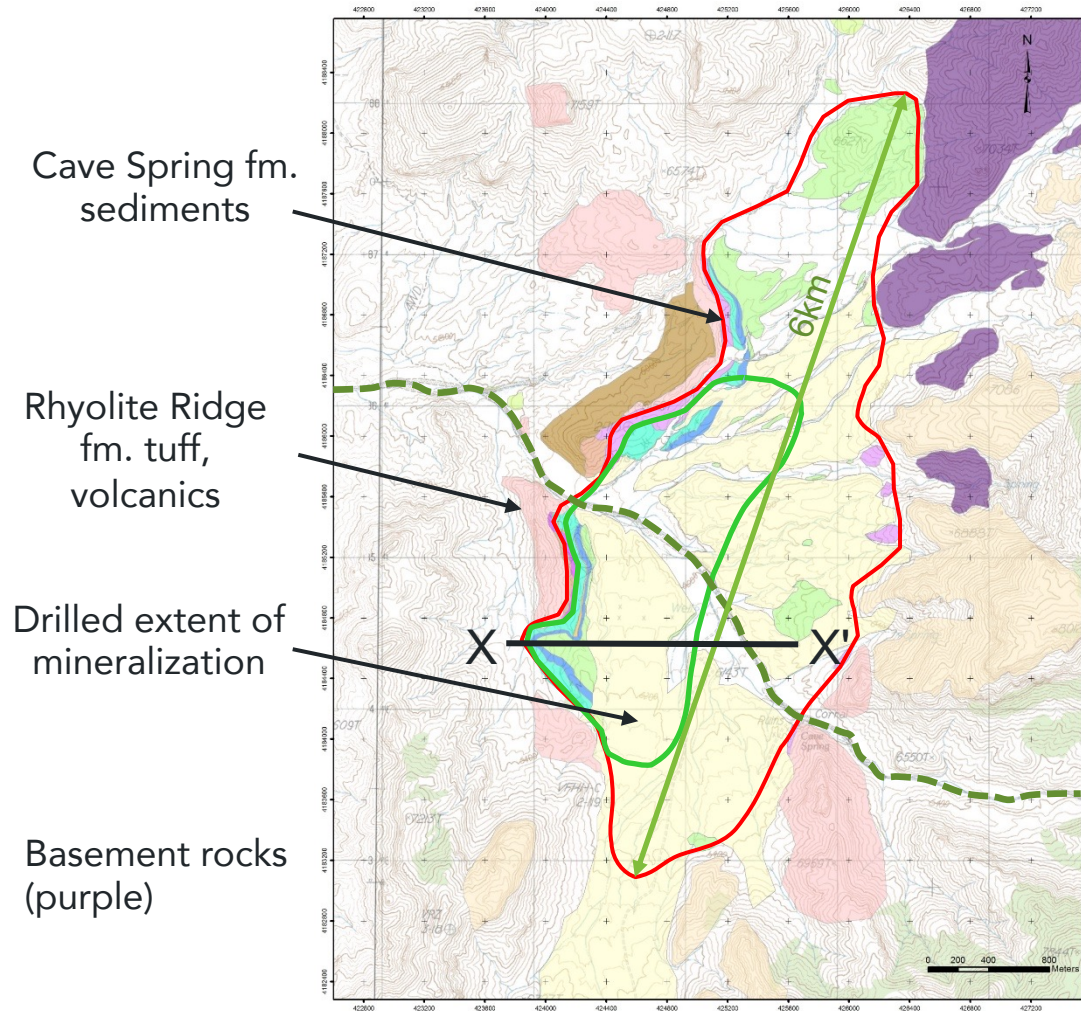
## Regional Geology

- Located in Silver Peak Range
- Part of western Nevada's Basin and Range geo-physiographic province
  - Horst and graben normal faulting is prominent
- Tertiary volcanic rocks of the Silver Peak Caldera (ca 6.1-4.8 Ma)
- Basement is Precambrian and Cambrian siltstones, claystone, quartzites and carbonates
- Location of North and South basins highlighted on map
  - South Basin is the study area

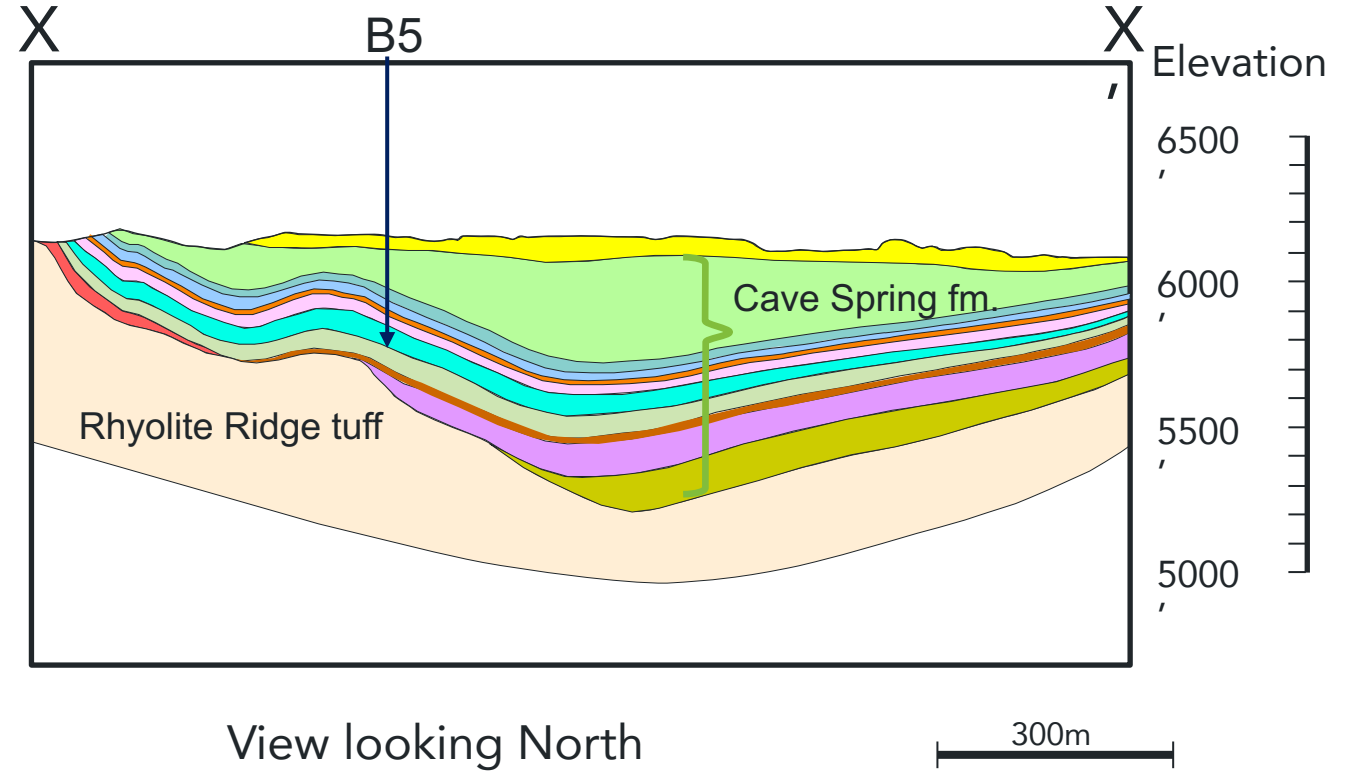




# South Basin – Only the beginning



East-West cross-section showing 20m thick Li-B Ore layer (blue)



Layering is a key feature of the Lithium and Boron deposition

# Comparison of Li-B B5 (Searlesite) Core and Li-only M5 (Clay) Core

**Li-B (Searlesite)  
M,I&I Resource\***

**146Mt at:  
1,600ppm Li, 14,200 ppm B**

**Including P&P Reserve of  
60Mt at:  
1,800ppm Li, 15,400 ppm B**

Core containing  
Li-B (Searlesite)  
mineralisation



**Li-only (clay)**

**Mine Plan of Operations  
contemplates mining 23Mt  
tonnes of Li-Clay material  
which will be stockpiled**

**Currently excluded from  
Resource**

Core containing  
Li-only (Clay)  
mineralisation

*\*Measured, Indicated and Inferred Resource*



# B5 Li-B (Searlesite) Before and After Acid Leaching



Li-B (Searlesite) mineralisation before acid leach



Li-B (Searlesite) mineralisation after acid leach

**Searlesite ore easy and less expensive to wash, de-water and dispose of leach residue**



# M5 Li-only (Clay) Mineralisation Before and After Acid Leaching



Li-only (Clay) mineralisation before acid leach



Li-only (Clay) mineralisation after acid leach

**Clay ore is difficult and more expensive to wash, de-water and dispose of leach residue**



# Li-B Ore Column Tests



Two Metre Column



Five Metre Column



Seven Metre Column

- No compaction, permeability or blocking issues, free draining
- Low TSS (suspended solids), high recoveries to pregnant leach solution (PLS)



# Li-B Ore – Full Height (7m) Vat Simulation Test



Full Height 7m  
Vat



Unloading Leached Ore



Fully Leached Ore

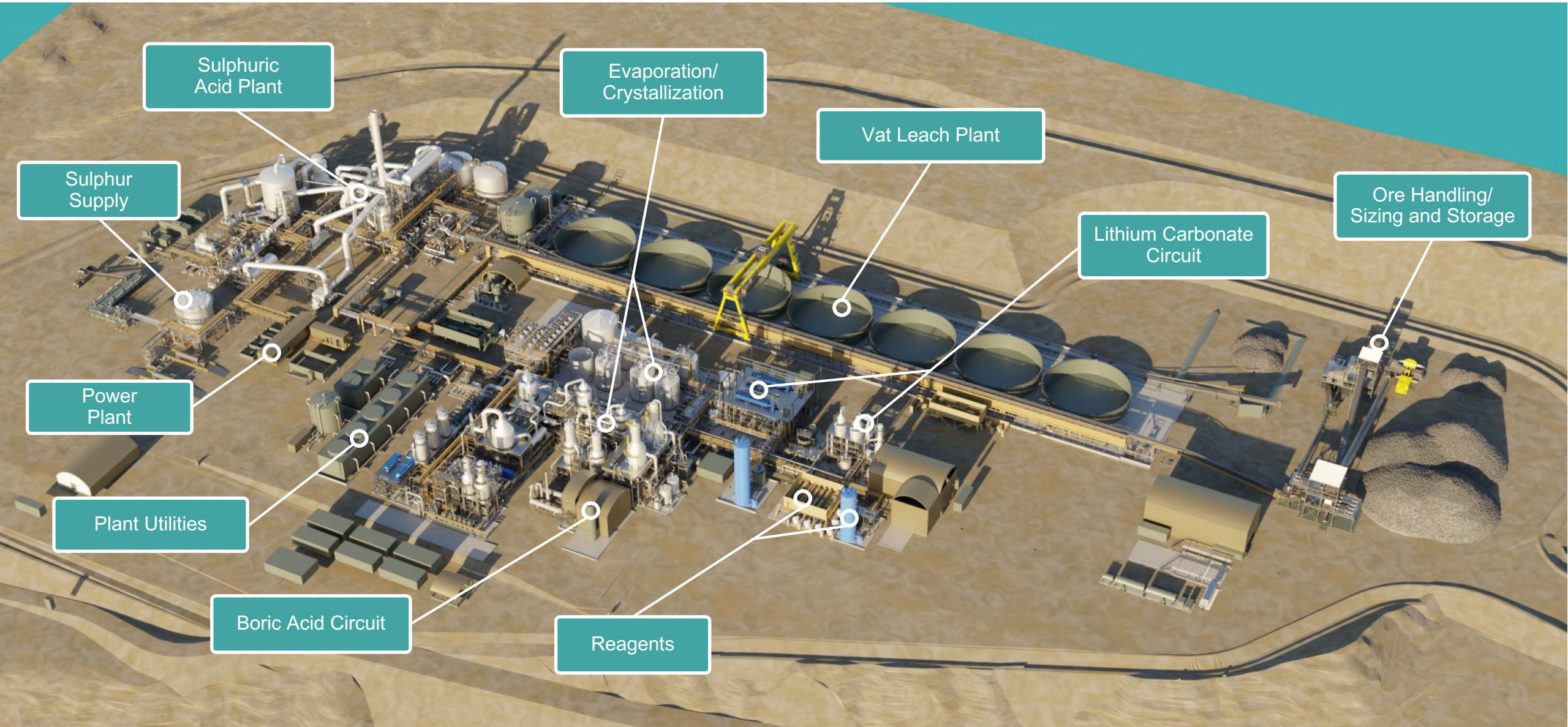


# Pilot Plant





# Rhyolite Ridge Process Plant





# Commitment to Sustainability

Position close to end markets creates an ESG benefit due to shorter supply chains

## Low Emissions



- Majority of on-site power will be met with CO<sup>2</sup>-free energy production, low greenhouse gas emissions.
- Mobile equipment meets Tier 4 EPA standards

## Low Water Usage



- 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

## Small Mine Footprint



- No evaporation ponds or tailings dam

## Efficient Equipment



- Generating all power on-site.
- Automation of mine haulage equipment

## Commitment to Sustainability



- 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

## 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>

\* 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.



## 4

## Moving Forward



# Key Milestones

Milestone	Estimated Timing <sup>1</sup>
US Listing on Nasdaq	Completed ✓
Lithium offtake agreements	Completed ✓
Resubmission of the Mine Plan of Operations	Completed ✓
NOI Publication	Completed ✓
Conclusion of Stage 3 of DOE Loan Application Process (Due Diligence Stage and Term Sheet Negotiation)	Completed ✓
Anticipated ROD <sup>2</sup>	1Q 2024
Construction Period	24 months
First Production	2026



<sup>1</sup> Note: all dates are estimates only and are subject to change.

<sup>2</sup> The Record of Decision (ROD) for the key federal permit is assumed to occur 12 months after the registering of the Mine Plan of Operations in the federal register



# Our 4 Primary Goals to Reach a Final Investment Decision

**COMPLETE**

**NEAR COMPLETE**

1 To sign binding offtakes that support debt

2 To be fully funded

3 To be construction ready in engineering

4 To be fully permitted



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

# Why Ioneer



## THE RIGHT COMMODITIES

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



## NEAR TERM NEWSFLOW

Permitting progress, Resource update



## THIRD PARTY VALIDATION

US DOE, Sibanye Stillwater, Ford Motor, PPES, EcoPro



## CLEAR PATH TO PRODUCTION

With significant organic growth potential



Plug in to the Future



[www.ioneer.com](http://www.ioneer.com)  
[ir@ioneer.com](mailto:ir@ioneer.com)





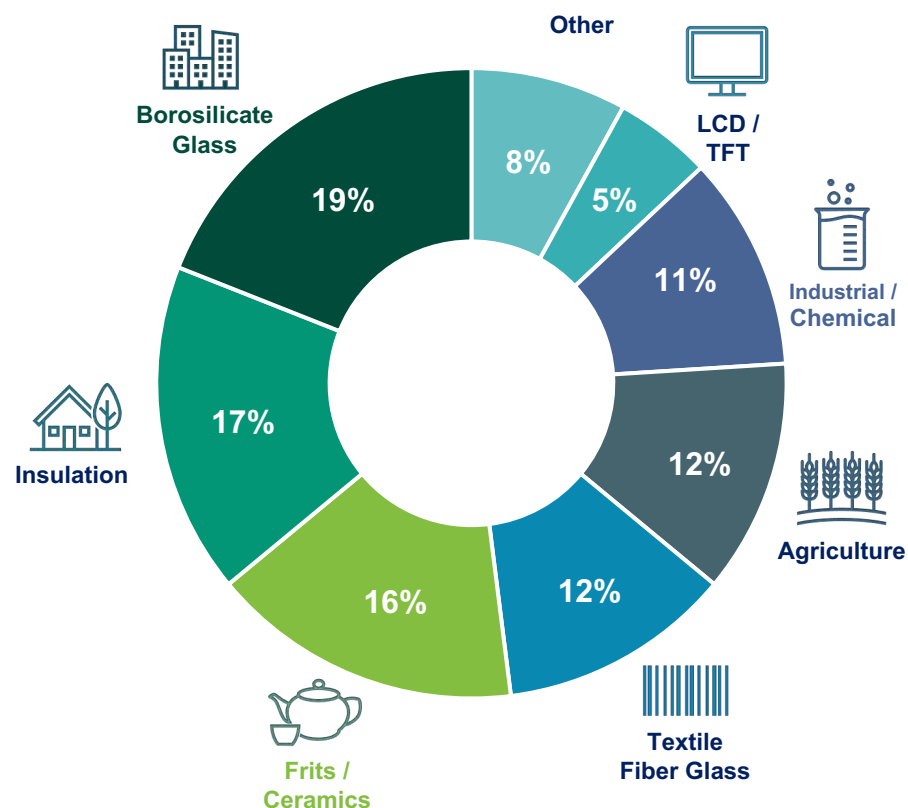
# Resources & Reserves

	Metric Tonnes (Mt)	Li Grade (ppm)	B Grade (ppm)	Equivalent Grade Li <sub>2</sub> CO <sub>3</sub> (%)	Equivalent Grade H <sub>3</sub> BO <sub>3</sub> (%)	Equivalent contained Tonnes Li <sub>2</sub> CO <sub>3</sub> (kt)	Equivalent contained Tonnes H <sub>3</sub> BO <sub>3</sub> (kt)
<b>Mineral Resources</b>							
Measured Resource	39.0	1,700	14,550	0.9	8.3	360	3,240
Indicated Resource	88.0	1,550	14,150	0.8	8.1	730	7,110
<b>Measured &amp; Indicated Resource</b>	<b>127.0</b>	<b>1,600</b>	<b>14,270</b>	<b>0.8</b>	<b>8.2</b>	<b>1,090</b>	<b>10,350</b>
Inferred Resource	19.5	1,600	13,800	0.9	7.9	170	1,530
<b>Total Mineral Resource</b>	<b>146.5</b>	<b>1,600</b>	<b>14,200</b>	<b>0.9</b>	<b>8.1</b>	<b>1,250</b>	<b>11,890</b>
<b>Ore Reserves</b>							
Proved Reserves	29.0	1,900	16,250	1.0	9.3	290	2,700
Probable Reserve	31.5	1,700	14,650	0.9	8.4	280	2,620
<b>Total Proved and Probable Ore Reserve</b>	<b>60.0</b>	<b>1,800</b>	<b>15,400</b>	<b>1.0</b>	<b>8.8</b>	<b>580</b>	<b>5,310</b>

- 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 146.5 mt containing a total of 1.2 mt of lithium carbonate and 11.9 mt of boric acid

Source: For further information on Resources and Reserves see 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.

## Global Borates Demand by End Use



## The Boric Acid Market

- **Uses:** Broad range of essential uses
- **Demand:**
  - Increasing demand from agriculture, solar, specialty glass and permanent magnets for EVs
  - U.S. worlds 2<sup>nd</sup> largest boric acid market (23%) behind China (30%)
- **Market:**
  - Total global borates market of 4.5Mtpa (~US\$2.3B pa)
  - Includes boric acid market of 1.2Mtpa (~US\$0.7B pa)
  - Duopoly between Eti Maden (Turkey) and Rio (California)
  - Eti ~50% and Rio (~30%) of refined borate market
- **Reserves:** 72% of worlds known Reserves are in Turkey
- **Pricing:**
  - Stable pricing over many decades (US\$600-\$800tpa)
  - Forecast CAGR of between 4% and 6%.

## 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 Ioneer estimates derived from industry research.