



# ioneer

## Investor Presentation New World Metals Investor Series

September 2022

Our mission: to provide the materials for a sustainable & thriving planet

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## 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.

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## 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.

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## Corporate Overview

# Corporate Snapshot

## Capital Structure (As at September 2022)

SHARES OUTSTANDING	2.10B
PERFORMANCE RIGHTS AND OPTIONS OUTSTANDING	22.1M
CASH BALANCE (June 2022)	A\$136.6M (US\$94.2M)
SHARE PRICE ASX	A\$0.66
MARKET CAPITALISATION	A\$1.4B
52 WEEK SHARE PRICE RANGE	A\$0.315 - A\$0.855

## Share Price



## Shareholders (August 2022)

<b>Insider Ownership</b> <b>6.4%</b>	<b>Top 50 Ownership</b> <b>~64.3%</b>	<b>Substantial holders</b> Centaurus <b>12.1%</b> Sibanye-Stillwater <b>7.0%</b>	<b>Institutional holders</b> <b>23.9%</b> (Excl. Centaurus & SSW)	<b>Research Coverage</b> ORD MINNETT BRIDGE STREET CAPITAL PARTNERS Loop Capital Markets
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Source: Source: Company Data, FactSet, Nasdaq, Ipreo and CapIQ

# The Right 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  
since August 2007



**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:**  
Chief Financial Officer of  
Oil Search Limited

## Management Team



**JAMES D.  
CALAWAY**  
Executive Chairman



**BERNARD ROWE**  
Managing Director



**MATT WEAVER**  
Snr VP Engineering  
& Operations



**IAN BUCKNELL**  
CFO & Company  
Secretary

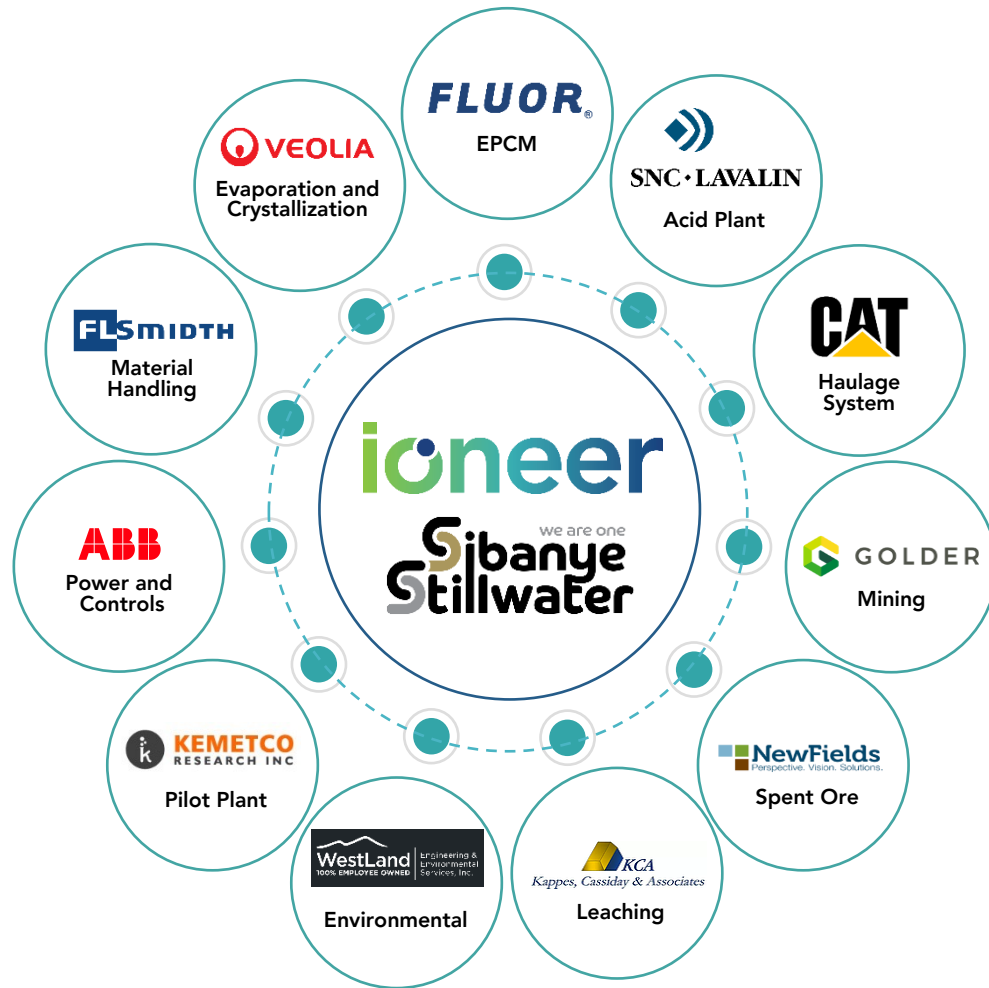


**KEN COON**  
VP Human  
Resources



**YOSHIO NAGAI**  
VP Commercial Sales  
& Marketing

# The Right Partners



ioneer has invested ~US\$115m to date appraising and developing the Project

ioneer has sought to partner with best in class advisors

Fluor led the DFS work and is EPCM on the Project

Sibanye-Stillwater 50% JV partner in Rhyolite Ridge having committed US\$490m

DOE loan Programs Office Application in advanced due diligence stage for US Government debt



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## Rhyolite Ridge Project

# Rhyolite Ridge Lithium-Boron Project

INR

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

Location	Nevada, USA
Project Stage	Bankable Feasibility Study
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	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



### Location

- Esmeralda County, NV
- 25km west of Albemarle's Silver Peak lithium mine
- Tier-one mining jurisdiction

### 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 lowest cost lithium producer
- Fully funded to Final Investment Decision

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. Mineral Resource estimates include Ore Reserves.

# Most Advanced Lithium Project in the US



**PERMITTING:** Environmental baseline studies completed. Two of three key permits awarded



**PERMITTING:** Revised Plan of Operation submitted and in advanced stages of consultation with BLM



**BINDING OFFTAKE AGREEMENTS:** Completed for boron and lithium production



**FUNDING:** Equity capital to be funded through Sibanye-Stillwater JV - US\$490 million investment



**DEBT:** DOE application for US Government debt funding in advanced stage of detailed due diligence



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

# 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

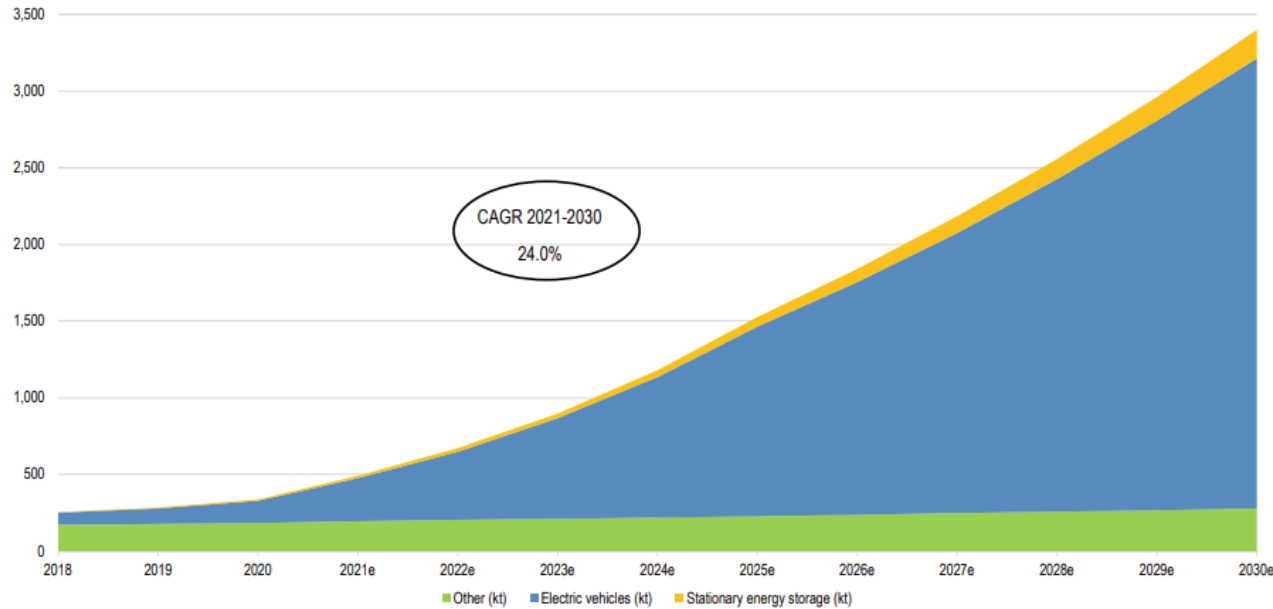
<sup>1</sup> Towards Sustainable Mining



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## Lithium & Boron Markets

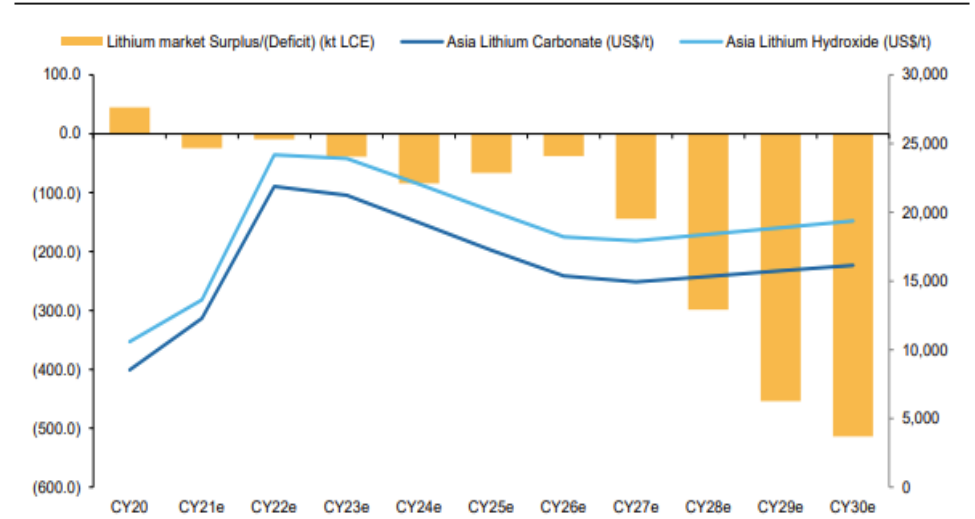
**Increasing demand**  
Global lithium demand (LCE kt)



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

**Lithium demand driven by growth in EVs**

**Short supply**  
Widening deficit in lithium market



Source: Bloomberg, Company data, Macquarie Research, December 2021

**Underinvestment in lithium supply**

**Strong demand growth coupled with supply shortages are driving higher lithium prices**

# Forecast US Lithium Market Trends

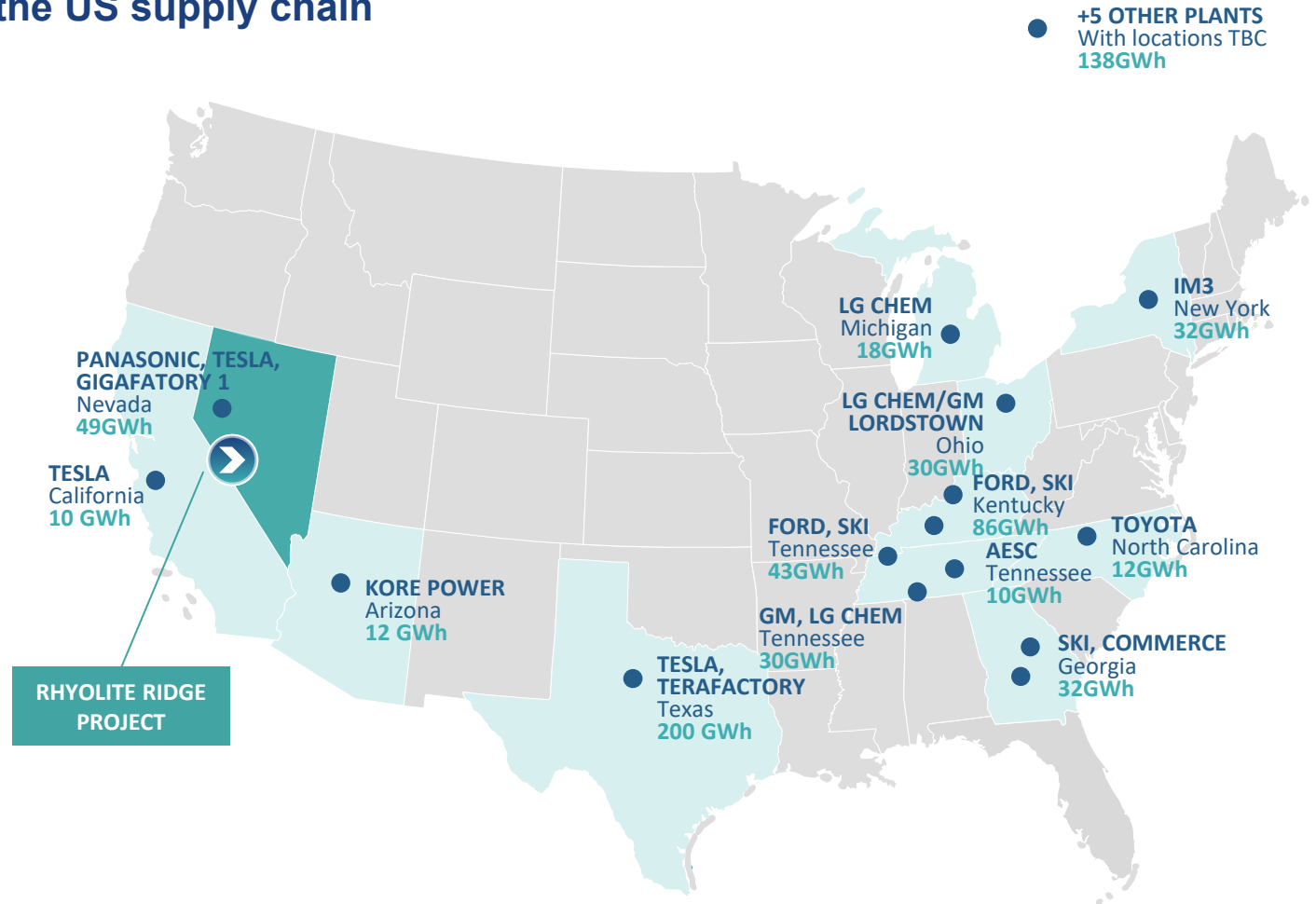
Rhyolite Ridge is ideally positioned to serve the US supply chain

## Gigafactory demand

- 2021a 57 GWh / 4 gigafactories
- 2026f - 393GWh / 21 gigafactories (~337ktpa of LCE)
- 2031f - 703GWh / 21 gigafactories (~602ktpa of LCE)

## Forecast LCE Supply

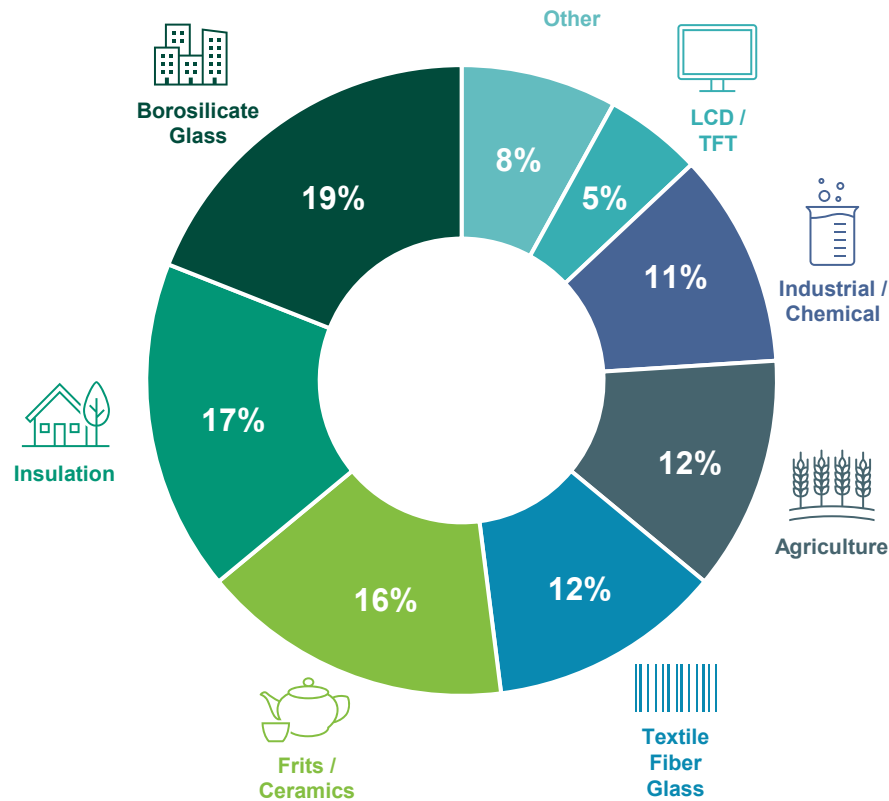
- 2021a - 5ktpa
- 2025f - 122ktpa (incl. Rhyolite Ridge)



US car market overly dependent on foreign battery supply chain

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

## Global borates demand by end use



## The boric acid market

- Broad range of essential uses mitigates reliance on single sector
- Increasing demand from agriculture, solar, specialty glass and permanent magnets EVs
- Total global market of 4.5Mtpa of borates worth ~\$2.3B per annum
- Includes boric acid of 1.2Mtpa worth ~\$0.7B per annum
- Duopoly:
  - Eti (Turkey) ~50% of refined borate market
  - Rio (California) ~30% of refined borate market
- 72% of worlds known Reserves are in Turkey
- Stable pricing over many decades (US\$600-\$800/tonne)
- Forecast CAGR of between 4% and 6%.
- The US is the worlds 2<sup>nd</sup> largest boric acid market (23%) behind China (30%)

**Boric acid offtake completed - 100% year 1 and >85% year's 2-3 production sold**

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.

# Boron in the Automotive Industry



The conundrum for our engineers was, how do we give you extra protection without adding extra weight that could cost you fuel savings? They looked to the aerospace industry for the answer and found it in boron steel.

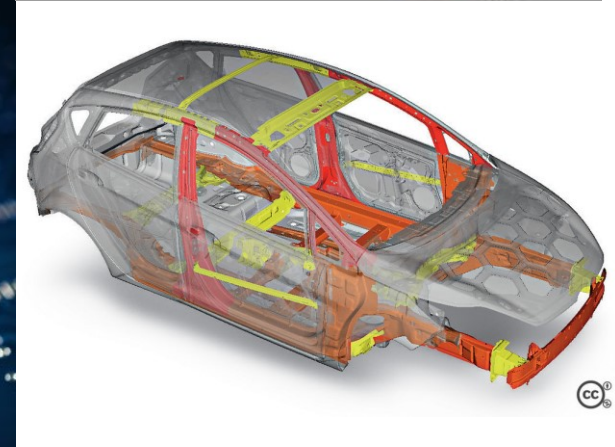
<https://www.ford.com.au/technology/boron-steel/>



## Volvo Cars built with Boron

Volvo cars are built with boron for a simple reason. Boron helps Volvo to deliver on its brand promise of the safest and securest cars on the planet.

<https://borates.today/volvo-cars-boron/>



Boron becoming essential in EV production



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## Recent Achievements

## US Listing Strategy

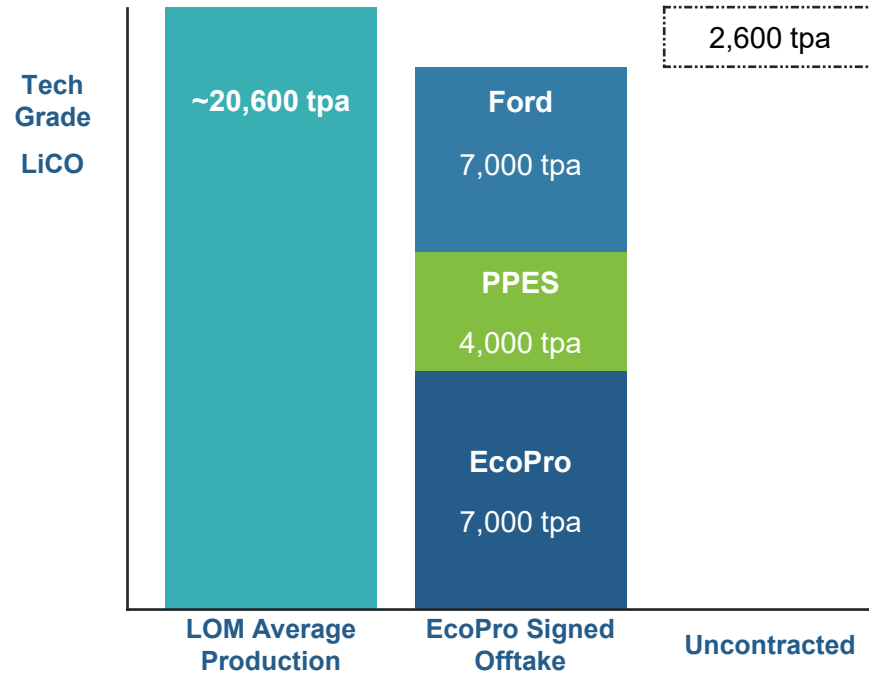
- INR believes:
  - Rhyolite Ridge is a strategic asset for US lithium supply security
  - US investors have demonstrated an increasing interest in "Electrification"
  - Provides opportunity for wider participation in ioneer share ownership from North American investors
  - Allows existing investors the opportunity for liquidity in two markets
  - Increase market profile across North America
- Level 2 ADR listing<sup>1</sup> achieved 1H 2022



Trading on Nasdaq commenced 30 June 2022

<sup>1</sup> Note there is no share offering with a Level 2 ADR

## Lithium Offtake Status



## Lithium Offtake Strategy

- Offtakes signed with Ford, PPES (Toyota & Panasonic) and EcoPro
- Focused on US EV Supply chain
- Offtakes support funding
  - Minimum volumes
  - 3 to 5 year tenor
  - Index based price formula
  - Credit worthy counterparties

Lithium offtake strategy completed



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## Next Steps

# Key Workstreams



Project Funding



Detailed Engineering



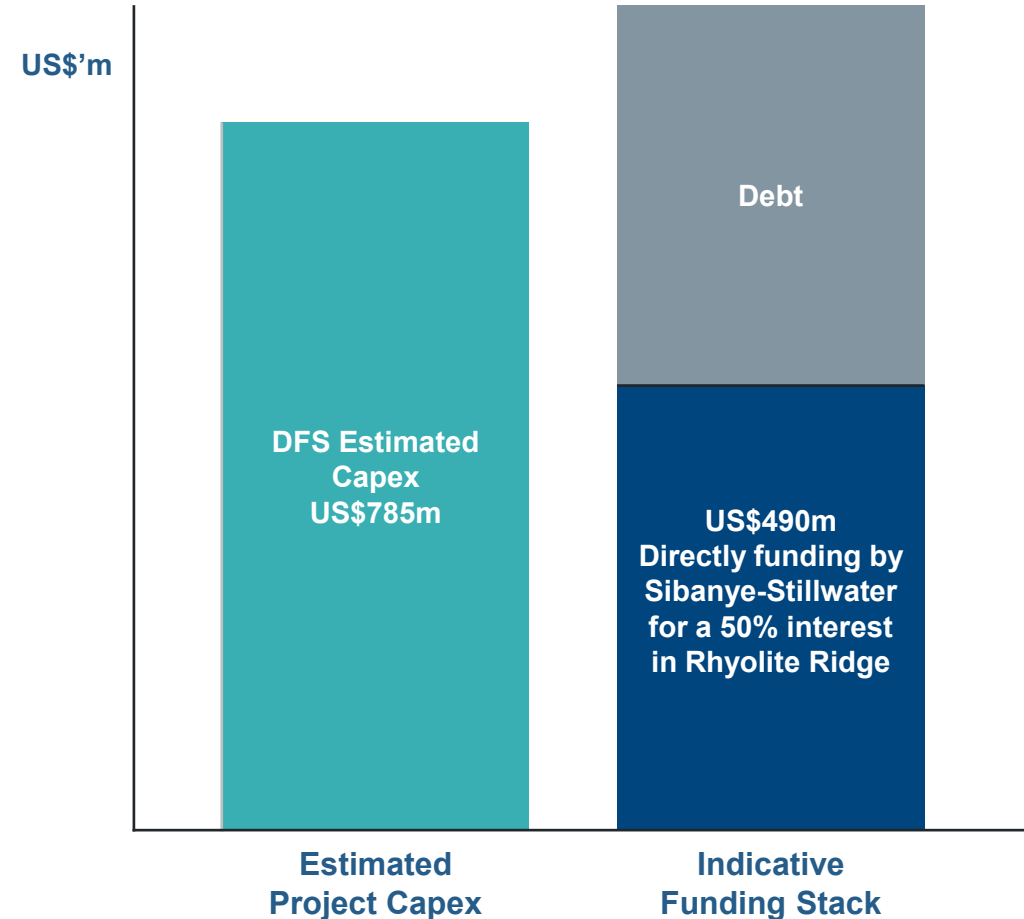
Permitting & Environmental



Looking east over the Rhyolite Ridge South Basin

## Funding Strategy

- Capex spend to FID is funded from existing cash
- Sibanye-Stillwater is directly funding US\$490m of the capital
- Ioneer and Sibanye-Stillwater (JV) aiming to jointly secure full debt financing for the Project from either:
  - U.S. Department of Energy (“DOE”) Loan Programs Office application in advanced stage of detailed due diligence
  - Project Finance - discussions progressing
  - Export credit agencies
  - Vendors
- JV to agree a debt solution in 2022
- Debt process supported by Goldman Sachs

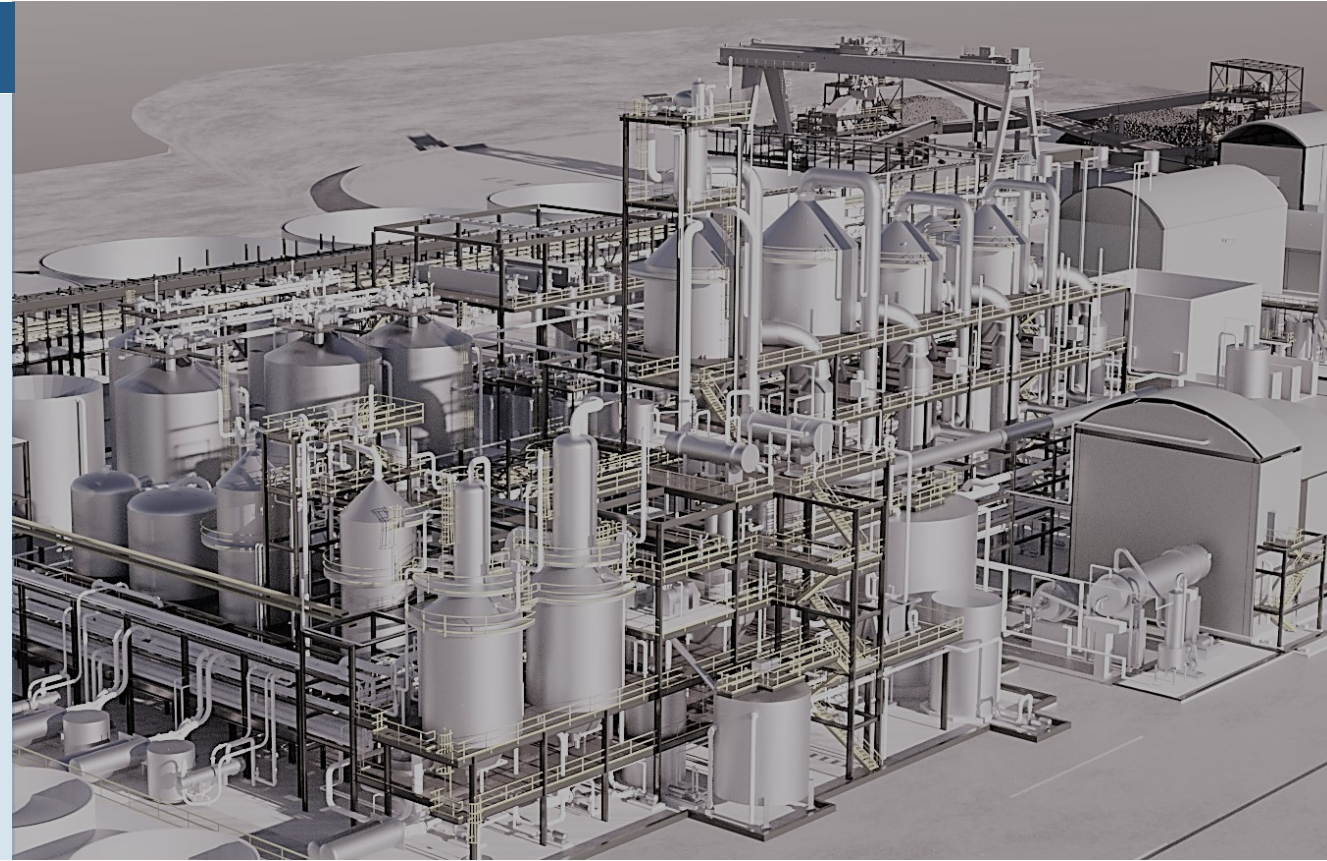


**Fully funded to final Investment decision**

Note: The size of the boxes and timescale are illustrative only and should not be relied upon as an indicator of the final composition of the capital stack.

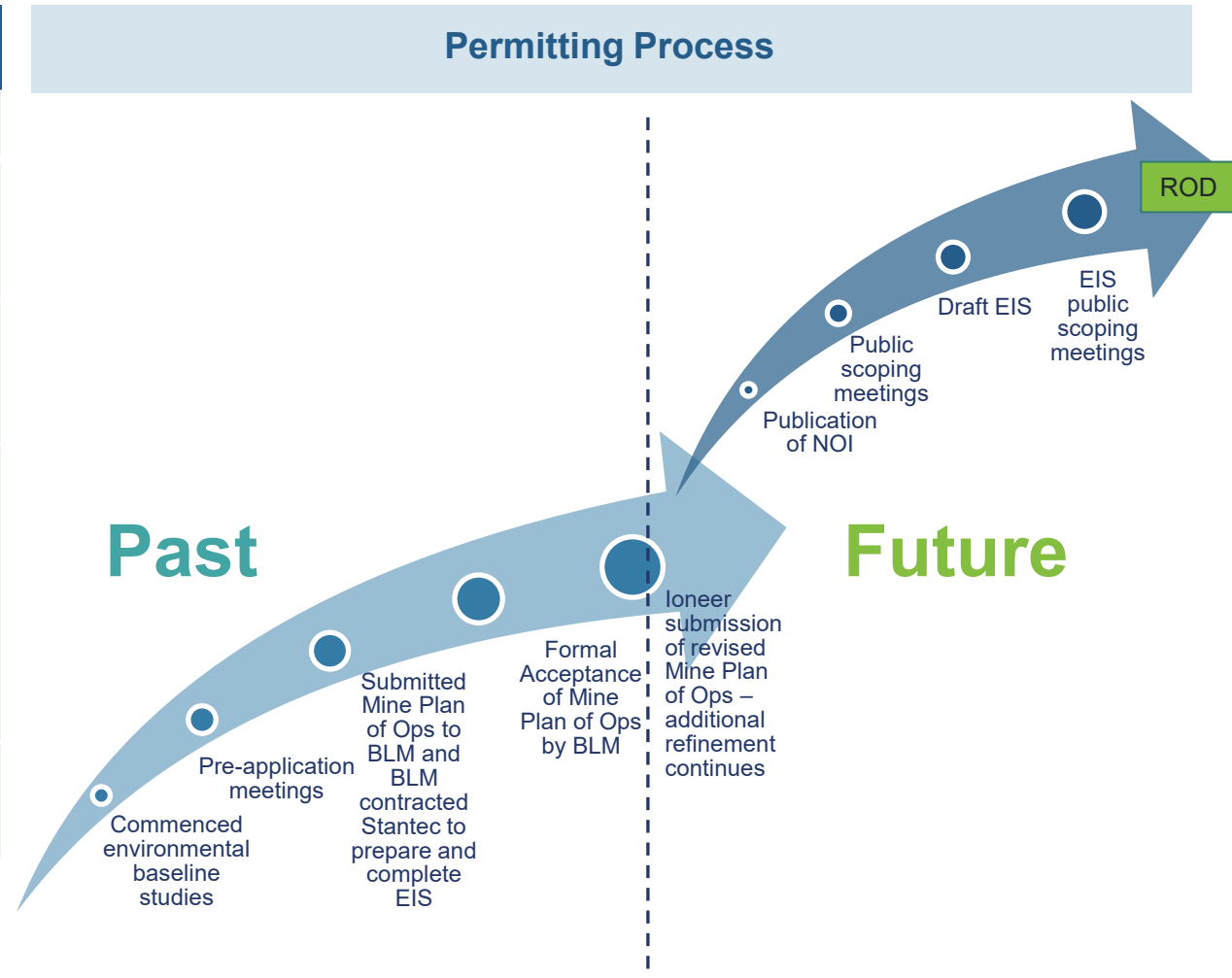
## Engineering Status

- Majority of key contracts awarded
- ~50% detailed engineering complete.
- Continuing engineering effort is focused on further decreasing execution risk, through:
  - Releasing further engineering and vendor packages/contracts for bid/award
  - Preparing an updated budget estimate for completion 2H 2022
  - Advancing vendor engineering packages



**On track to be construction ready in line with full permitting**

Permitting Overview - Status of key permits		
Permit	Agency	Status
Class II Air Quality Permit	Nevada Division of Environmental Protection	<ul style="list-style-type: none"> <li>Issued in June 2021</li> </ul>
Water Pollution Control Permit	Nevada Division of Environmental Protection	<ul style="list-style-type: none"> <li>Issued in July 2021</li> </ul>
Environmental Impact Statement	Bureau of Land Management (BLM)	<ul style="list-style-type: none"> <li>SERs completed.</li> <li>Draft EIS document in preparation</li> <li>Paused due to revision of starter pit design</li> <li>EIS completed within approximately 12-months of NOI publish date; issue ROD</li> </ul>
Other Permits & Licenses (~30 in total)	Various (Fed, State, Local)	<ul style="list-style-type: none"> <li>In preparation; ongoing; will be secured before construction</li> </ul>



**Next key permitting milestone is the publishing of the NOI**

# Key Milestones

Milestone	Estimated Timing <sup>1</sup>
US Listing on Nasdaq	Completed
Lithium offtake agreements	Completed
Resubmission of the Plan of Operations	Completed
Publishing of NOI	3Q 2022
Finalise debt financing	2H 2022
Finalise engineering to 'construction ready status'	2H 2023
Anticipated ROD (assumed 12 months from NOI), Final Investment Decision (FID) and close of Sibanye-Stillwater strategic partner agreement	2H 2023



**Project timing is dependent on permitting**

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



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## Investment Summary

# Why ioneer?



## THE RIGHT COMMODITIES

Lithium carbonate, lithium hydroxide and boric acid



## THE RIGHT LOCATION

Positioned to serve the US EV battery supply chain



## THE RIGHT TEAM

With a proven track record



## WITH NEAR TERM NEWSFLOW

Debt, Permitting



## WITH A CLEAR PATH TO PRODUCTION



Plug in to the future

Scan the QR  
code for more  
details



Our mission: to provide the materials for a sustainable & thriving planet

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Thank you

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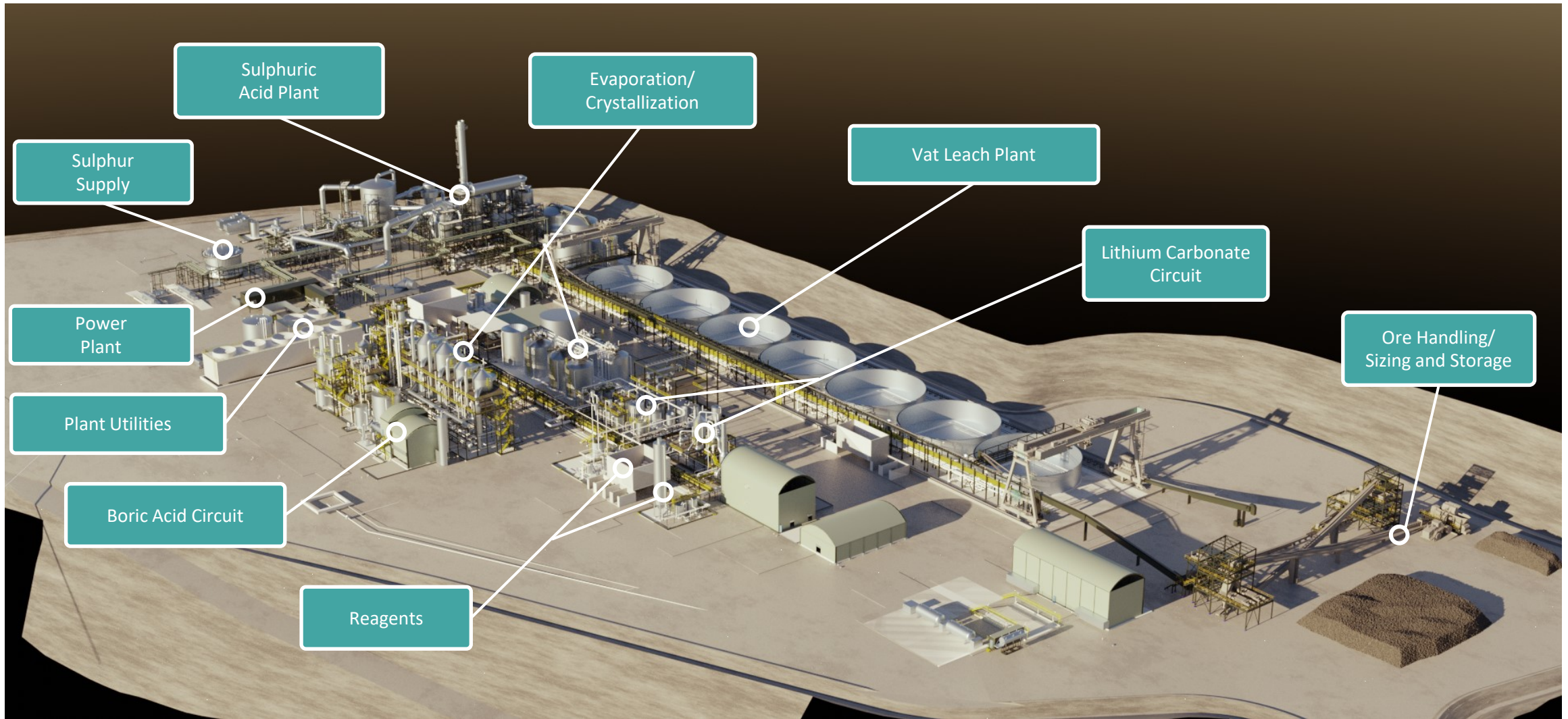
# Resources & Reserves

	Metric Tonnes (mt)	Li Grade (ppm)	B Grade (ppm)	Equivalent Grade		Equivalent Contained Tonnes	
				Li <sub>2</sub> CO <sub>3</sub> (%)	H <sub>3</sub> BO <sub>3</sub> (%)	Li <sub>2</sub> CO <sub>3</sub> (kt)	H <sub>3</sub> BO <sub>3</sub> (kt)
<b>Mineral Resource</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 and 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 Reserve</b>							
Proved Reserve	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.

# Rhyolite Ridge process plant



# 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
<ul style="list-style-type: none"> <li>Acquired initial interest in Project               <ul style="list-style-type: none"> <li>Maiden Resource</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Start drilling campaign</li> <li>Procure water rights</li> <li>Double Mineral Resource</li> <li>Discovery of heap leach Li-B extraction</li> <li>Completion of mining study</li> </ul>	<ul style="list-style-type: none"> <li>First production of Boric Acid               <ul style="list-style-type: none"> <li>Release of PFS</li> </ul> </li> <li>Complete exploration drilling</li> <li>Maiden Reserve</li> </ul>	<ul style="list-style-type: none"> <li>Start Pilot Plant</li> <li>LiCO produced at Pilot Plant</li> <li>BA – Binding offtake</li> </ul>	<ul style="list-style-type: none"> <li>Reserves &amp; Resources upgrade</li> <li>Complete DFS</li> <li>Complete BA Sales &amp; Distribution</li> <li>Final Plan of Operation deemed complete by BLM</li> </ul>	<ul style="list-style-type: none"> <li>Production of battery grade LiOH</li> <li>Air Permit issued</li> <li>First Li offtake signed with EcoPro Innovation</li> <li>Water Control Permit issued</li> <li>JV with Sibanye-Stillwater</li> <li>DOE Loan submission accepted as complete</li> </ul>	<ul style="list-style-type: none"> <li>US Listing on Nasdaq               <ul style="list-style-type: none"> <li>Register of NOI</li> </ul> </li> <li>Agree final financing decision               <ul style="list-style-type: none"> <li>Construction ready</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Anticipated Record of Decision (ROD)               <ul style="list-style-type: none"> <li>FID</li> </ul> </li> </ul>

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

## Endangered Species Act (ESA) Considerations

The protection and conservation of Tiehm's buckwheat, which is already classified as a Sensitive Species by the BLM, is and always has been a central part of Ioneer's environmental planning and approvals process for the Project. Ioneer has long anticipated the potential listing of Tiehm's buckwheat under the ESA due to the relative rarity of the species. This has been factored into every aspect of Rhyolite Ridge's Project planning including its design, engineering, operational and environmental considerations.

- In June 2021, the Fish and Wildlife Service (FWS) proposed listing rule Tiehm's buckwheat as an endangered species under the ESA
  - In December 2021, Ioneer and others submitted comments regarding the proposed listing rule
  - Ioneer does not oppose listing; we want the best science available to be used in order to determine how best to conserve and uplift the plant
- In February 2022, FWS proposed critical habitat
  - Announcement was in line with Ioneer's expectations
  - Critical habitat is primarily focused on providing area to support the pollinator (insect) population that is an important resource for the plant
  - Mining activity is allowable in areas designated as critical habitat with prior approval and consultation with FWS and BLM
- A final listing rule is expected in September 2022
- Ioneer continues to work with FWS and BLM to accommodate issues raised and remains confident that co-existence of Rhyolite Ridge and Tiehm's buckwheat is achievable