Investor Presentation RIU Sydney Resources Round-up

3 May 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 = (lithium carbonate tonnes produced + lithium hydroxide tonnes produced \* 0.880

#### Note

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

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# Content



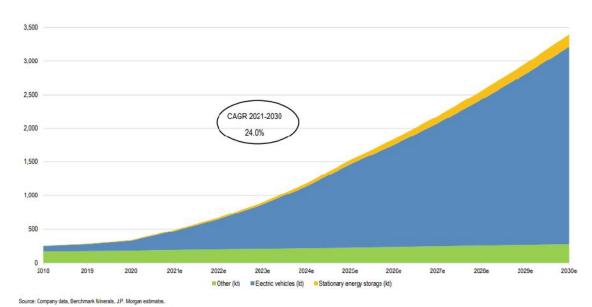




#### Global Lithium Market Trends

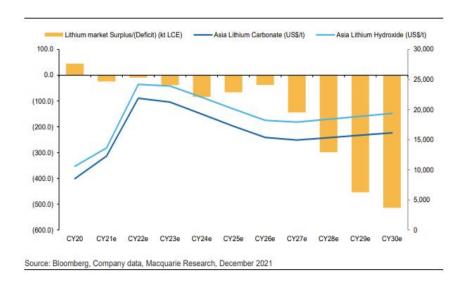


Increasing demand
Global lithium demand (LCE kt)



Lithium demand driven by growth in EVs

Short supply
Widening deficit in lithium market



**Underinvestment in lithium supply** 

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





+5 OTHER PLANTS

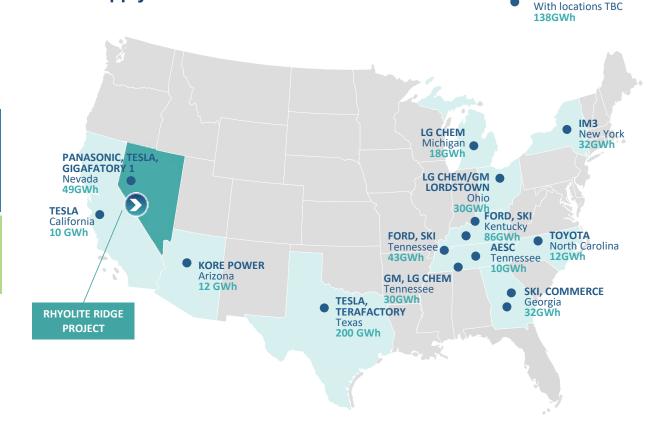
Rhyolite Ridge is ideally positioned to serve the US supply chain

#### **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)



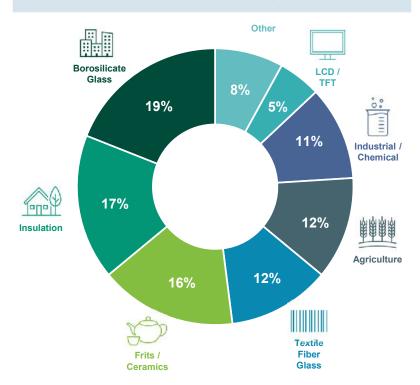
#### US car market overly dependent on foreign battery supply chain

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

#### **Boron Market**



#### 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-\$800tpa)
- 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 loneer 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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# Corporate Snapshot

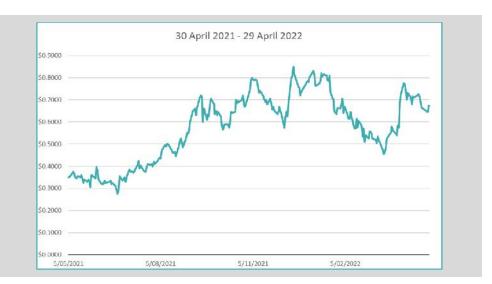


#### **Capital Structure**

(As at 29 April 2022)

SHARES OUTSTANDING	2.09b
PERFORMANCE RIGHTS AND OPTIONS OUTSTANDING	36.8m
CASH BALANCE (31/03/2021)	A\$144.2m
SHARE PRICE ASX	A\$0.675
MARKET CAPITALISATION	A\$1.411b
52 WEEK SHARE PRICE RANGE	A\$0.27 - A\$0.855

#### **Share Price**



#### **Shareholders (28/02/2022)**

**Insider Ownership** 6.0%

**Top 50 Ownership** ~65.2%

**Substantial holders** 

Centaurus Sibanye-Stillwater

7.1% 9.1%

**Institutional holders** 25.4% (Excl. Centaurus & SSW)



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

**BERNARD ROWE** 

**Managing Director** 

**IONEER:** 

**Managing Director** 

since August 2007



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



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



**JULIAN BABARCZY** Non-executive Director **FORMER:** Head of Australian Equities, **Regal Funds Management** 

#### **Management Team**



JAMES D. **CALAWAY Executive Chairman** 



**BERNARD ROWE** Managing Director



**MATT WEAVER** Snr VP Engineering & Operations



IAN BUCKNELL CFO & Company Secretary



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





**YOSHIO NAGAI VP Commercial Sales** & Marketing

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# Surrounded by World-Class Partners





ioneer has invested ~US\$100m to date appraising and developing the Project

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

Fluor led the DFS work and is EPCM on the Project

DOE loan Programs Office Application deemed complete

loneer has sought best in class advisors to partner with

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# 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 Li 22,000 tpa Production B 174,400 tpa Capex US\$785M All in sustaining cash US\$2,510t of LCE cost **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

ASX: INR

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

<sup>2.</sup> 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





ON TRACK TO BE CONSTRUCTION READY BY Q4 2022



~50% DETAILED ENGINEERING COMPLETED. KEY CONTRACTS ARE BEING AWARDED



FULL SIMULATION PILOT PLANT THROUGH TO LI CARBONATE AND HYDROXIDE



**ENVIRONMENTAL BASELINE STUDIES COMPLETED AND ACCEPTED BY BLM** 



BINDING OFFTAKE AGREEMENTS FOR BORON PRODUCTION AND FIRST LITHIUM CARBONATE



SIBANYE-STILLWATER ANNOUNCED AS 50% JV PARTNER, US\$490 MILLION INVESTMENT

# Commitment to Sustainability



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

Low emissions
Low water usage
Small mine footprint
Efficient equipment
Commitment to sustainability











- 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
- 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 TSM¹ ESG program



<sup>&</sup>lt;sup>1</sup> Towards Sustainable Mining



# **Key Workstreams**





Additional lithium offtake

- US focused



US Listing on Nasdaq



# **Project Funding**

- Government loan program
- Project Finance



# **Detailed Engineering**

- Award of additional contracts
- Construction ready



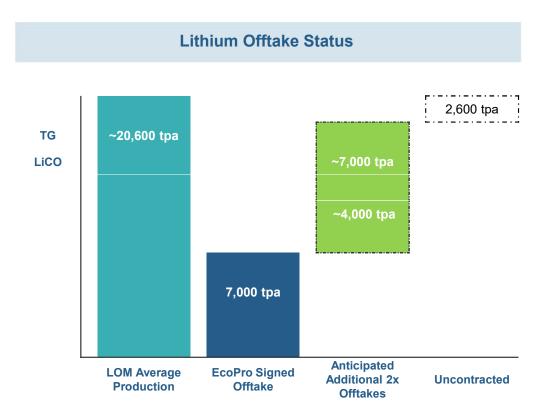
# Permitting & Environmental

- Federal permit
- Final Investment Decision



#### Lithium Offtake





#### **Lithium Offtake Strategy**

- Focused on US EV Supply chain
- Partner with champions
- Diversify supply chain to OEMs
- Spread offtake across ~3 parties
- Offtakes to support funding
  - Minimum volumes
  - Tenor 3 to 5 years
  - Index based price formula
  - Pricing floors and ceilings on additional offtakes

Additional lithium offtake agreements anticipated in the coming months

# **US Listing on Nasdaq**



#### **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
- Targeting Level 2 ADR listing<sup>1</sup> 1H 2022



# Nasdaq listing expected in the coming months

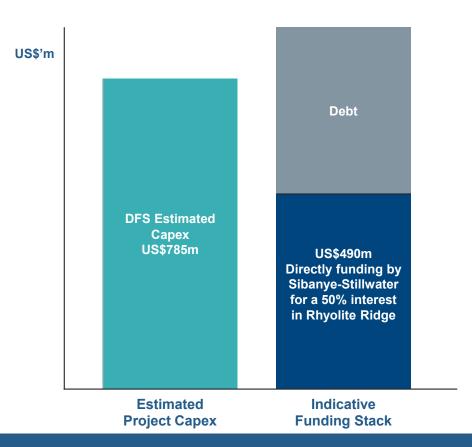
<sup>1</sup> Note there is no share offering with a Level 2 ADR

# **Project Funding**



#### **Funding Strategy**

- Sibanye-Stillwater is directly funding ~60% of the DFS estimated capital (US\$490m)
- Capex spend to FID is funded from existing cash
- 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. Detailed due diligence has commenced
  - 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.

# **Detailed Engineering**



#### **Engineering Status**

- ~50% detailed engineering complete. Key contracts are being awarded
- 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 1H 2022
  - Advancing vendor engineering packages



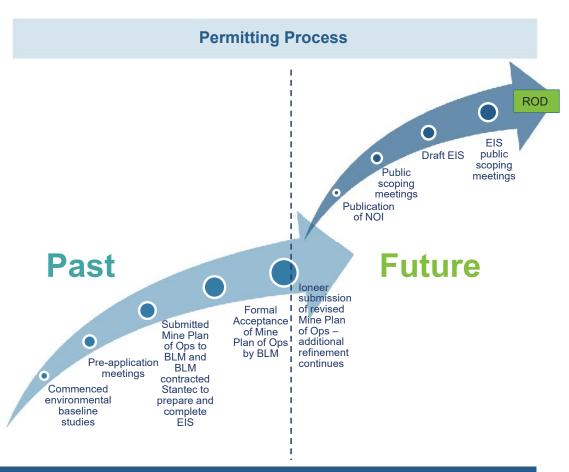
# On track to be construction ready by Q4 2022

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# Permitting & Environmental



Permitting Overview - Status of key permits						
Permit	Agency	Status				
Class II Air Quality Permit	Nevada Division of Environmental Protection	Issued in June 2021				
Water Pollution Control Permit	Nevada Division of Environmental Protection	Issued in July 2021				
Environmental Impact Statement	Bureau of Land Management (BLM)	<ul> <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)	In preparation; ongoing; will be secured before construction				



# Next key permitting milestone is the publishing of the NOI

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# **Key Milestones**



Milestone	Estimated Timing <sup>1</sup>	12.0
US Listing on Nasdaq	2Q 2022	
Announcement of additional lithium offtake agreements	2Q 2022	
Resubmission of the Plan of Operations	2Q 2022	•
Publishing of NOI	2Q 2022	
Finalise debt financing	2H 2022	
Finalise engineering to 'construction ready status'	2H 2022	
Anticipated ROD (assumed 12 months from NOI), Final Investment Decision (FID) and close of Sibanye-Stillwater strategic partner agreement	1H 2023	
Construction commences (assumed 24 months)	1H 2023	
First Production	2H 2025	



# Timing is dependent

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



# 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

Offtake, US Listing, Debt, Permitting



WITH A CLEAR PATH TO PRODUCTION



#### Contact information





# ioneer Thank you

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

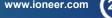
#### Resources & Reserves



	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>	H <sub>3</sub> BO <sub>3</sub>
Mineral Resource				(%)	(%)	(kt)	(kt)
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
Measured and Indicated Resource	127.0	1,600	14,270	0.8	8.2	1,090	10,350
Inferred Resource	19.5	1,600	13,800	0.9	7.9	170	1,530
Total Mineral Resource	146.5	1,600	14,200	0.9	8.1	1,250	11,890
Ore Reserve							
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
Total Proved and Probable Ore Reserve	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 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





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# 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> <li>Acquired interest in</li> <li>Ma</li> </ul>	Project  aiden Resource  Start drilling campaign  Procur rights  Dougles	Boric A  Rela  C e	ease of PFS  complete xploration drilling  Maiden Reserve  Start Pilot Plant  LiCO pro Pilot Plar	by BLM duced at	signed with EcoPro Innovation an of Complete     Stillwar Signed with EcoPro Innovation	ke ontrol sued h Sibanye-	

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

#### Tiehm's buckwheat



#### **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
  - loneer 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 loneer'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 coexistence of Rhyolite Ridge and Tiehm's buckwheat is achievable