

Ioneer Limited (ASX: INR): The draft EIS to position Rhyolite Ridge Lithium-Boron mine to commence operations in 2027

BY ACE INVESTORS / 19 APRIL 2024



Reading Time: 5 Mins

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Stock Code	ASX: INR
Shares O/S	2.11 million
Closing Price	AUD 0.205
Market Cap	411.84 million
52 W H/L	0.400/0.105
One Year Stock Performance	-37.50%
Avg. Volume	4.19 million
EPS(TTM)	-0.002
P/E	-
Annual Dividend Yield	0.00%
Franking	-
Last Dividend Ex-Date	-
Last Dividend Pay Date	-
DPS (USD)	-
ROE (%)	-1.69%

(Source: ASX)

Company Overview

loneer is an emerging lithium-boron producer developing one of the most attractive lithium projects globally. The company is focused on the development of its Rhyolite Ridge Lithium-Boron Project ('Rhyolite Ridge' or 'Project') in Nevada, United States of America to production. Rhyolite Ridge is one of the largest lithium and boron deposits in the world and has the potential to become a strategic, long-life source of lithium and boron. The Project is located close to existing infrastructure and is well-positioned to become a major US domestic lithium producer capable of supplying a meaningful portion of future American lithium demand. The Group holds exploration licenses issued by the relevant government authorities and continues to advance the project through the NEPA permitting process with no major issues or delays encountered to date. The Project continues to progress through NEPA with a draft Environmental Impact Statement (DEIS) expected to be completed and distributed to the public during Q1 2024. Upon anticipated completion of the U.S. federal permitting process, construction at Rhyolite Ridge will be largely funded through the combination of conditional commitments of \$490 million in equity from Sibanye-Stillwater and a \$700 million conditional loan from the U.S. Department of Energy's Loan Programs Office. Lithium production is expected to follow in 2027.

Investment Rationale

The metallurgical testing on Type3 mineralization demonstrated organic growth potential at the Rhyolite Ridge

- On 21 Sep'2023, loneer announced that the findings from its latest leach tests conducted on low-boron (Type 3) mineralization demonstrated organic growth potential which is currently excluded from Project economics but located within the mine footprint. The results for Type 3 mineralization far exceeded expectations with leach recoveries of 89% to 94% coupled with free draining characteristics.
- The metallurgical testing on the low-boron, low-clay material (Type 3) was undertaken to determine the most efficient and economical processing pathway for this material. Lithium extraction measured between 89-94% using sulfuric acid under heap and vat leaching conditions applied to coarsely crushed material (P80, <19mm). These extractions, coupled with the free-draining nature of the material suggest that Type 3 mineralization is a candidate for heap or vat leaching methods industrially, similar to those employed for the high-boron Type 1 mineralization.
- In April 2023, loneer published an updated Rhyolite Ridge Mineral Resource Estimate (MRE) of 360Mt containing 3.4Mt lithium carbonate and 14.1 Mt boric acid. The company recognized three distinct styles of lithium mineralization in its April 2023 Mineral Resource Estimate comprising (i) Type 1 Mineralisation: Lithium with high boron and low clay content (searlesite dominant, mainly illite clay): 152Mt Mineral Resource containing 1.2Mt of lithium carbonate equivalent (LCE); (ii) Type 2 Mineralisation: Lithium with high clay content (dominantly smectite clay): 75Mt Mineral Resource containing 1.0Mt of LCE; (iii) Type 3 Mineralisation: Lithium with low boron and low clay content (feldspar dominant, mainly illite clay): 128Mt Mineral Resource containing 1.1Mt of LCE.

Acid Leaching Results - Average recoveries > 89% Li



	South Basin				North Basin
	Type 1 B5 (Vat)	Type 2 M5 (Agitated)	Type 3 S5 (Vat or Heap)	Type 3 L6 (Vat or Heap)	Type 3 NLB (Vat or Heap)
Li	770 kMT LCE	990 kMT LCE	200 kMT LCE	1,400 kMT LCE	1000 – 3000 kMT LCE
Gr	1,800 ppm	2,450 ppm	1,650 ppm	1,500 ppm	1000 – 1700 ppm
R	94% Li	89% Li	90 – 94% Li	89 – 91% Li	91% Li
#test	300 +	45	20	20	35
Leach Head					
Leach Tails					

Figure 2. Summary of all acid leach testwork at Rhyolite Ridge – over 400 individual leach tests in total. Type 1 and Type 3 mineralisation can be processed via vat leach because the coarse crushed rock maintains its integrity during and after leach, meaning it resists blocking and plugging and is therefore free draining. Type 2 mineralisation is high-clay and not suitable for processing via vat or heap leach. Leach Head – crushed rock before acid leach, Leach Tails – the same rock after acid leach is complete, Li-lithium, Gr-grade in ppm, R-recovery %Li and #test-total number of leach tests performed.

(Source: Company reports)

Ioneer expanded its partnership with EcoPro to bolster U.S. lithium production

On 31 Oct'2023, Ioneer signed an MOU with EcoPro Innovation Co Ltd ("EcoPro") to research, test, and develop lithium clay (M5) at its Rhyolite Ridge site in Nevada. EcoPro is a global leader in battery grade high purity lithium hydroxide conversion. EcoPro will conduct research and development on the lithium clay resource – one of three distinct styles of lithium mineralization found at Ioneer's Rhyolite Ridge Lithium-Boron project ("Rhyolite Ridge"). The goal will be to develop a process to commercialize Rhyolite Ridge lithium clay to produce refined lithium materials for the U.S. EV battery supply chain. As part of the new agreement, EcoPro has agreed to fund and build a commercial-scale refining plant to develop lithium clay supplied from Rhyolite Ridge. The lithium clay raw material would be supplied at no cost to EcoPro, and the profits from the commercial refining plant would be equally shared between EcoPro and Rhyolite Ridge.

- Signed a binding MOU with Korea's EcoPro Innovation Co. Ltd to research, test, and develop lithium clay (M5) at Ioneer's Rhyolite Ridge site in Nevada.
- The MOU provides an opportunity for Rhyolite Ridge to accelerate technical activities and the potential commercialization of the 1MT (million tonnes) lithium carbonate equivalent (LCE) clay resource within the soon-to-be-permitted Rhyolite Ridge Lithium-Boron Project.
- The agreement includes funding from EcoPro for a commercial lithium hydroxide refining plant once the process is successfully developed.

The draft EIS to position Rhyolite Ridge Lithium-Boron mine to commence operations in 2027

On 12 Apr'2023, the Bureau of Land Management (BLM) issued a press release on the proposed Rhyolite Ridge Lithium-Boron Mine in Nevada. In its press release, the BLM notified that it is seeking public comment on a draft environmental impact statement for the proposed Rhyolite Ridge Lithium-Boron Mine Project. If approved, the project, located in southern Nevada's Silver Peak Range, could potentially produce enough lithium to supply nearly 370,000 electric vehicles each year. It marks a key milestone in the environmental permitting review process for the proposed Greenfield project in Nevada and is set to inject a critical supply of integral transition materials into the U.S. EV battery production supply chain. With this, Ioneer will now move a step closer to constructing its Rhyolite Ridge Lithium-Boron project in the US following the planned issuance of a draft Environmental Impact Statement (EIS) by the Bureau of Land Management (BLM). The draft document will include Ioneer's efforts to redesign and relocate proposed project activity away from Tiehm's buckwheat, an endangered species classified by the U.S. Fish and Wildlife Service (FWS) in Dec'2022. The draft EIS will also detail Ioneer's investments as part of a formal protection plan and propagation strategy for the Nevada plant. To date, Ioneer has voluntarily invested \$2.5 million in conservation efforts and committed an additional \$1 million annually to ensure the plant and its surrounding habitat are protected.

Next Steps: Following the prescribed 45-day comment period, which will include BLM-organized public meetings, the BLM will incorporate feedback into a final draft and issue a final EIS and a Record of Decision (ROD), expected in Oct'2024. Upon issuance of a positive ROD, construction at Rhyolite Ridge can begin following a Final Investment Decision (FID). Based on that timeline, Ioneer anticipates production to begin in 2027.

Estimated Project Timeline

Ioneer's estimated timing for the Rhyolite Ridge Lithium-Boron Project is as follows:

Table 1: Ioneer Milestones (estimated and subject to change)

Milestone	Targeted timing ²	Comment
Anticipated ROD	October 2024	Based on the current BLM timeline.
Anticipated FID	December 2024	Based on current management estimates.
Estimated Period to First Production	24-36 months	Includes supply of long-lead items and construction. Subject to lead times and when orders are placed.
Anticipated Commercial Production	2027	Produce and process high-grade lithium and boron.

(Source: Company reports)

ACE's Recommendation

Ioneer is focused on the development of its Rhyolite Ridge Lithium-Boron Project in the US. Rhyolite Ridge is one of the largest lithium and boron deposits in the world and has the potential to become a strategic, long-life source of lithium and boron. The Group holds exploration licenses issued by the relevant government authorities and continues to advance the project through the NEPA permitting process with no major issues or delays encountered to date. On 12 Apr'2023, the Bureau of Land Management (BLM) issued a press release on the proposed Rhyolite Ridge Lithium-Boron Mine in Nevada. In its press release, the BLM notified that it is seeking public comment on a draft environmental impact statement for the proposed Rhyolite Ridge Lithium-Boron Mine Project. It marks a key milestone in the environmental permitting review process for the proposed Greenfield project in Nevada. With this, Ioneer will now move a step closer to constructing its Rhyolite Ridge Lithium-Boron project in the US following the planned issuance of a draft Environmental Impact

Statement (EIS) by the Bureau of Land Management (BLM). Following the prescribed 45-day comment period, BLM will incorporate feedback into the final draft and issue a final EIS and a Record of Decision (ROD) in Oct 2024 and a Final Investment Decision (FID) in Dec'2024. We believe that the FID on Rhyolite Ridge in Dec'2024 is the key near-term catalyst for growth. The stock closed the day above its 50-day EMA at A\$0.205/share today and presents an investment case in our view. So, we would like to recommend a **BUY** rating on the stock.

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