Latest tests reveal potential for increased organic growth at Rhyolite Ridge

- Ioneer positioned to quadruple US lithium production by 2026 and to substantially increase supply over time – with sufficient lithium to power over 50 million electric vehicles (3.4Mt LCE).
- Findings from latest leach tests conducted on low-boron (Type 3) mineralisation demonstrated organic growth potential based on this material – currently excluded from Project economics but located within the mine footprint.
- The results for Type 3 mineralisation far exceeded expectations with leach recoveries of 89% to 94% coupled with free draining characteristics.
- Results confirmed Type 3 and North Basin mineralisation as candidates for heap or vat leaching methods, similar to those to be employed for processing Type 1 mineralisation.
- Only Type 1 mineralisation included in the current development plan and economic analysis contained within Company's 2020 Definitive Feasibility Study (DFS).

21 September 2023 – Today, **Ioneer Ltd ("Ioneer" or the "Company") (ASX: INR, NASDAQ: IONR),** an emerging lithium-boron producer, announced test results revealing 79% of the 360 million tonne Mineral Resource can be processed in a similar manner to Type 1 mineralisation, to create critical electric vehicle battery materials within the Rhyolite Ridge Project's existing footprint.

Previous estimates[1] indicated Rhyolite Ridge contains enough lithium to power more than 50 million electric vehicles over the course of its lifetime; today's results support those figures.

The potential to increase the lithium and boron produced and refined at Rhyolite Ridge comes at a time when the demand for a U.S. domestic supply of lithium continues to grow. According to a recent S&P Global study[2], the passage of the Inflation Reduction Act (IRA), caused a 15% increase to their 2035 demand forecast versus their estimate prior to the passage of the IRA.

"Rhyolite Ridge is one of a limited number of lithium projects in the U.S. expected to begin production this decade," said Bernard Rowe, Managing Director at Ioneer. "These results further reinforce Rhyolite Ridge's unique minerology and our ability to deliver these urgently needed battery materials within the existing footprint of our proposed mine site. We look forward to completing the important federal permitting process, delivering these critical and valuable materials, and strengthening domestic EV supply chains."

Once operational, Rhyolite Ridge will quadruple the current U.S. supply of lithium and help to rebalance the global production of boric acid. Upon anticipated completion of the U.S. federal permitting process, Stage 1 construction at Rhyolite Ridge, largely funded through the combination of conditional commitments of $490 million USD in equity from Sibanye-Stillwater and $700 million USD

[1] See ASX announcement titled "Mineral Resource increases by 168% to 3.4 Mt lithium carbonate - Underscores growth potential for U.S. supply chain" dated 26 April 2023.

[2] See S&P Global article published August 15, 2023 - https://press.spglobal.com/2023-08-15-United-States-Faces-New-Challenges-Meeting-Increased-Demand-for-Critical-Minerals-One-Year-After-Historic-Inflation-Reduction-Act,-S-P-Global-Study-Finds

in debt from the U.S. Department of Energy's Loan Programs Office, is set to begin in 2024. Lithium production is expected to follow in 2026.

With a total of more than 400 individual leach tests across the entire 360Mt Mineral Resource, the latest results showed the low-boron, low-clay mineralisation (Type 3) shares similar characteristics to the high-boron Type 1 mineralisation, with leach recoveries between 89%-94%. The findings build upon the April 2023 Mineral Resource Estimate (MRE) and together, provide an update to Ioneer's 2020 Definitive Feasibility Study (DFS)[3], which focused exclusively on the high-boron, low-clay mineralisation (Type 1).

The metallurgical testing on the low-boron, low-clay material (Type 3) was undertaken to determine the most efficient and economic 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 mineralisation is a candidate for heap or vat leaching methods industrially, similar to those employed for the high-boron Type 1 mineralisation.

In these latest results, Ioneer has completed a metallurgical test work program comprising 120 separate leach tests exclusively targeting the low-boron Type 2 and Type 3 mineralisation. In addition, preliminary leach tests have been conducted on lithium mineralisation from the North Basin.

Three distinct styles of lithium mineralisation, recognised in the April 2023 Mineral Resource Estimate, comprise:

- **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).

- **Type 2 Mineralisation: Lithium with high clay content** (dominantly smectite clay)
  75Mt Mineral Resource containing 1.0Mt of LCE.

- **Type 3 Mineralisation: Lithium with low boron and low clay content** (feldspar dominant, mainly illite clay)
  128Mt Mineral Resource containing 1.1Mt of LCE.

Mineralisation at Rhyolite Ridge

In April 2023, Ioneer published an updated Rhyolite Ridge Mineral Resource Estimate[1] (MRE) that included all lithium mineralisation irrespective of its boron content. Previous MREs only included lithium mineralisation with >5000 parts per million (ppm) boron.

Recent test work showed that a classification of the MRE based on clay content and clay mineralogy is highly relevant, in addition to the classification based on boron content. Clay abundance and clay mineralogy, above all other factors, determines the way the mineralisation can be leached (vat, heap, or agitated tank).

[3] See ASX announcement titled "Ioneer delivers Definitive Feasibility Study that confirms Rhyolite Ridge as a world-class lithium and boron project" dated 30 April 2020

Rhyolite Ridge low-clay mineralisation typically has illite as the clay species and has been shown to be readily leachable by both vat and heap leach methods – methods that allow for simple solid-liquid separation without the need for complex filtration and associated lithium losses.

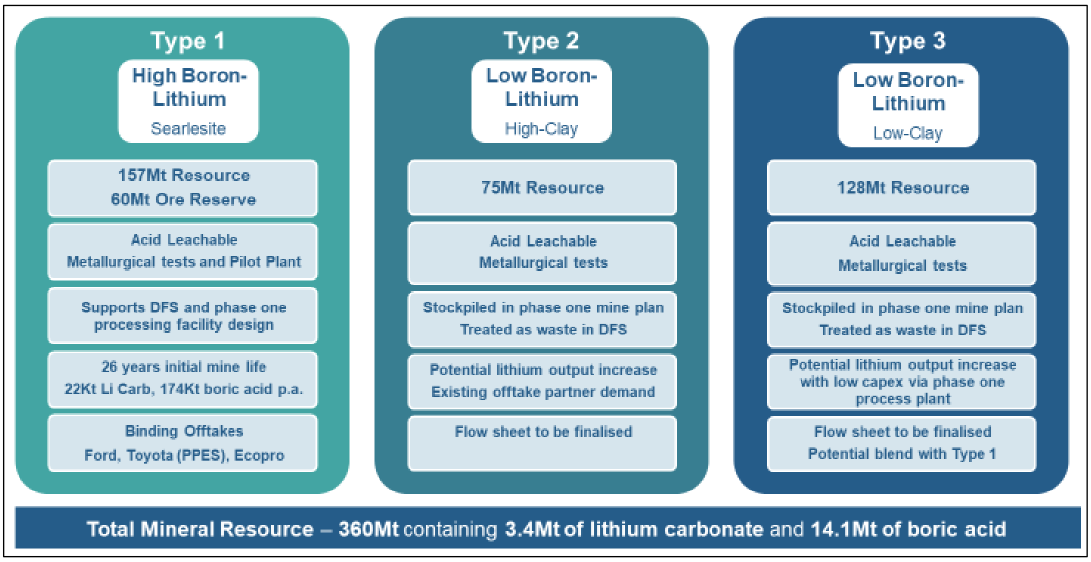

Figure 1. Summary of mineralisation types and characteristics for South Basin

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

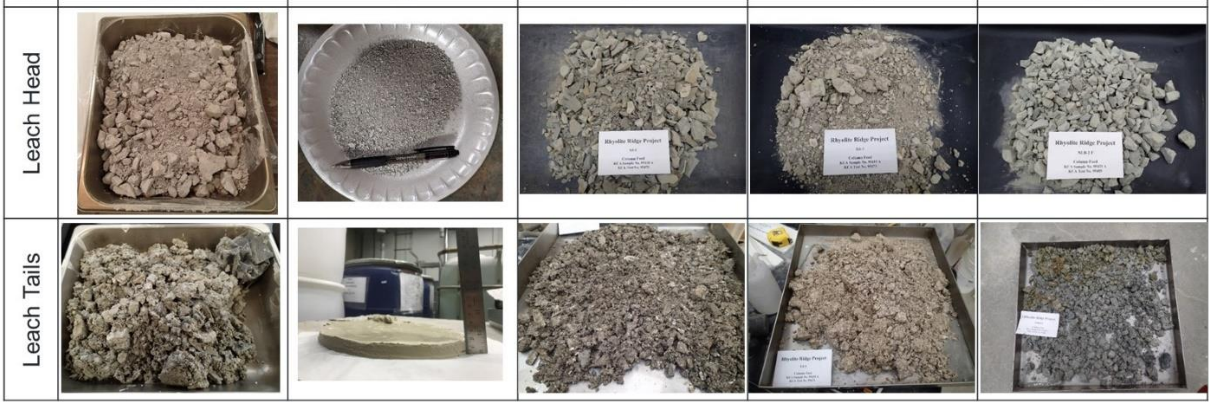

Figure 2. Summary of all acid leach testwork at Rhyolite Ridge – over 400 individual leach tests in total. Type 1 and Type 3 mineralisation can be processed via vat leach because the coarse crushed rock maintains its integrity during and after leach, meaning it resists blocking and plugging and is therefore 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.

Resource Distribution

	Ore Unit	Ore Tons mT	Lithium Grade ppm	Contained LCE kT	Boron Grade ppm	Contained Boric Acid kT
High Boron	B5	79	1,800	770	17,200	7,790
	L6	73	1,350	530	10,900	4,520
Low Boron	M5 (Clay)	75	2,450	990	1,200	510
	S5	20	1,650	200	1,200	410
	L6	108	1,500	870	1,450	910
	Total	360	1,750	3,350	6,850	14,060

Figure 3. April 26, 2023 Mineral Resource Estimate for Rhyolite Ridge South Basin

Leach Testwork

Metallurgical testwork conducted by Kappes, Cassiday & Associates (Reno, NV) and Kemetco Research Inc (Richmond, BC) has demonstrated that simple acid leach processes (vat and heap) can be used to extract lithium at high recovery from low-boron, low-clay mineralisation (Type 3) found in both the South Basin (S5 and L6 units) and the North Basin at Rhyolite Ridge. Testwork was conducted on drill core samples collected from six drill holes within the South Basin Mineral Resource area and two drill holes from the North Basin. Individual stratigraphic units were sampled across their entire thickness and samples were kept separate for each drill hole. The samples are considered to be representative of the low-boron, low-clay (Type 3) mineralisation found in the S5 and L6 stratigraphic units across the Mineral Resource.

The samples were leached using leach parameters developed by ioneer from the >300 tests previously performed on the Type-1 mineralisation. Prior to leaching, the samples were crushed (P80 <19mm), homogenised and split into 4 equal parts. Samples of 2-3kg were used for each leach test.

In additional to recording high leach recoveries, the samples remained free draining throughout the duration of the tests. These leach characteristics are only possible due to the low clay content of the mineralisation. In contrast, samples with high clay content from the M5 unit (Type 2) were deemed unsuitable for vat and heap leach testwork and instead were subject to agitation tank leach (see Figure 2 Type 2 M5).

The attraction of vat and heap leach methods over agitation tank leach is both a reduction in processing cost, water requirements and energy consumption together with dewatering and storage advantages for the leached ore. Vat and heap leach require only coarse crushing (P80 <19mm) and are free draining (no filtration required) during and after the leach process, meaning they are easier to wash, dewater, transport and store. This results in higher recoveries and negates the need for a tailings dam.

Vat Leaching

A vat leach unit operation will be utilised for the high-boron, low-clay (Type 1) ore. A vat leach is a sulfuric acid flooded tank leach. The leaching solution is fed, bottom to top, through a series of seven tanks counter current to the ore loading. In lab test work, this operation is simulated by an ore column; where the leaching solution is fed from the bottom of the column, flooded up through the column, then collected from the top and recirculated, in a closed circuit, back through the column.

Heap Leaching

Sulfuric acid heap leaching is typically used in the mining industry for low-grade ores. The crushed ore is configured into a large mound or heap on a lined leach pad. A leaching solution is then sprayed or dripped onto the top of the heap, percolating through and is collected from the base as a pregnant leach solution (PLS). The heap leaching operation is simulated, in the lab, by an ore column where the leach solution is applied to the top of the column and collected at the bottom.

Figure 4a: Vat leaching lab setup

Figure 4b: Heap leaching simulated by top fed columns

Figure 4 – Laboratory leach tests to simulate vat and heap leach methods.

Agitated Leach

An agitated leach operation utilises large tanks or vessels, typically equipped with mechanical agitators, to facilitate the leaching process. In this technology, the ore needs to be more finely crushed, P80 2.8 - 1.1 mm in the metallurgical test work, than in vat or heap leaching. The ore is added into the tank with the leaching solution, and the agitator is activated. The agitation enhances the contact of the ore particles and the leaching solution thus promoting thorough extraction of elements into the leach solution. An agitated leach system was simulated in the lab by a 3L glass reactor fitted with baffles, a heating mantle, and a condenser to minimise evaporation.

Rhyolite Ridge South and North Basin

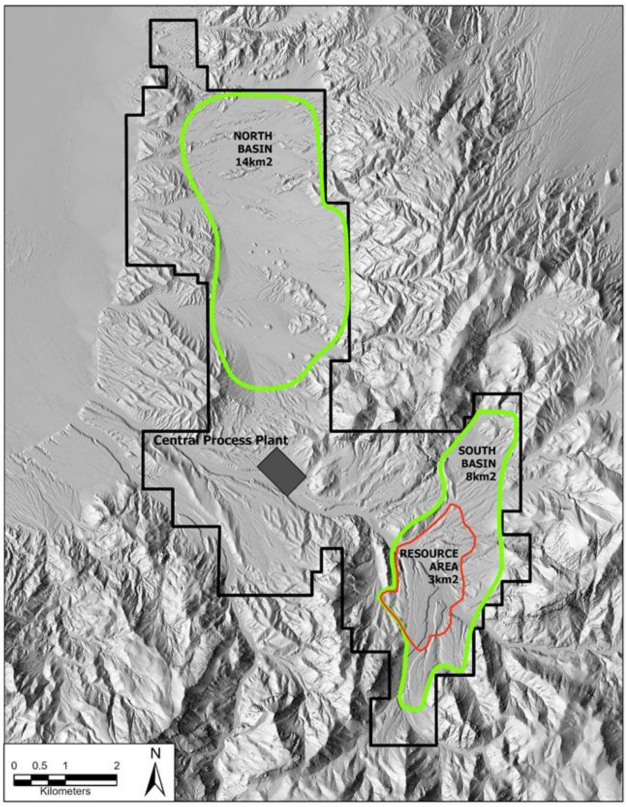

Figure 5 - North and South Basins are well defined by geological mapping, gravity and drilling. 113 drill holes in South Basin and 42 drill holes within the North Basin including those drilled by US Borax (Rio Tinto) in the 1980's and 1990's.

This ASX release has been authorised by Ioneer Managing Director, Bernard Rowe.

--ENDS—

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About Ioneer

Ioneer Ltd is the 100% owner of the Rhyolite Ridge Lithium-Boron Project located in Nevada, USA, the only known lithium-boron deposit in North America and one of only two known such deposits in the world. The Definitive Feasibility Study (DFS) completed in 2020 confirmed Rhyolite Ridge as a world-class lithium and boron project that is expected to become a globally significant, long-life, low-cost source of lithium and boron vital to a sustainable future. In September 2021, Ioneer entered into an agreement with Sibanye-Stillwater where, following the satisfaction of conditions precedent, Sibanye-Stillwater will acquire a 50% interest in the Project, with Ioneer maintaining a 50% interest and retaining the operational management responsibility for the joint venture. In January 2023, Ioneer received a conditional commitment from the U.S. Department of Energy Loan Programs Office for up to $700 million of debt financing. Ioneer signed separate offtake agreements with Ford Motor Company and PPES (joint venture between Toyota and Panasonic) in 2022 and Korea's EcoPro Innovation in 2021.

To learn more about Ioneer, visit www.Ioneer.com/investors.

Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Bernard Rowe, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Rowe is a full-time employee and Managing Director of the company and he holds shares and performance Rights in the company. Mr Rowe has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Rowe consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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 reports titled "Rhyolite Ridge Ore Reserve Increased 280% to 60 million tonnes" dated 30 April 2020 and "Mineral Resource increases by 168% to 3.4 Mt lithium carbonate Underscores growth potential for U.S. supply chain" dated 26 April 2023, 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.

The following table provides a summary of important assessment and reporting criteria used at the ioneer Ltd. Rhyolite Ridge Project (the Project) for the reporting of exploration results and Lithium-Boron Mineral Resources and Ore Reserves in accordance with the Table 1 checklist in The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition). Table 1 is a checklist or reference for use by those preparing Public Reports on Exploration Results, Mineral Resources, and Ore Reserves.

JORC TABLE 1

SECTION 1 SAMPLING TECHNIQUES AND DATA

(Criteria listed in this section apply to all succeeding sections.)

Criteria	JORC Code 2012 Explanation	Commentary
Sampling Techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling*	• This Report relates to leach tests performed on drill core samples collected from holes drilled at South (6 holes) and North (2 holes) Basins at the Project • No grades, intersections or mineral resource estimates are being reported in this Report • The core holes used for this testwork were included in the Mineral Resource Estimate dated April 26, 2023. • The nature and quality of the sampling from the various sampling programs includes the following: • Core Drilling: Core samples were collected from HQ (63.5 mm core diameter) and PQ (85.0 mm core diameter) drill core and cut using a water-cooled diamond blade core saw.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• Measures taken to ensure sample representivity include the following: • Core sample intervals were selected using geological logs and multi-element assay data, to ensure sample representivity across the selected stratigraphic unit. • All core sampling were completed by or supervised by a senior ioneer geologist. The senior ioneer geologists referenced here, and throughout this Table 1, have sufficient relevant experience for the exploration methods employed, the type of mineralisation being evaluated, and are registered professional geologists in their jurisdiction; however, they are not Competent Persons according to the definition presented in JORC as they are not members of one of the Recognized Professional Organization" included in the ASX list referenced by JORC. • The Competent Person was not directly involved during the

Criteria	JORC Code 2012 Explanation	Commentary
		sampling of the core for this Report. Based on review of the procedures and subsequent review of the data, it is the opinion of the Competent Person that the measures taken to ensure sample representivity were reasonable for the purpose of the leach testwork being reported.
	• *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information*	• Core drilling was used to obtain samples from the various stratigraphic sedimentary units that host lithium mineralisation. • Half core was collected and composited from the selected units following geological and geotechnical logging and full geochemical analysis.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc..) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	• The samples referred to in this Report were only from core drilling techniques. Exploration drilling programs targeting Lithium-Boron (**Li-B**) mineralisation on the Project have been implemented by American Lithium Minerals Inc. (2010-2012) and ioneer (formerly Global Geoscience) in 2016, 2017, 2018 and 2019. • All core holes (vertical and inclined) were drilled as either PQ or HQ sized core. Drilling was completed using a triple-tube core barrel (split inner tube) which was preferred to a double-tube core barrel (solid inner tube) as the triple-tube improved core recovery and core integrity during core removal from the core barrel.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• For the 2010-2012 and 2016 core drilling programs, both core recovery and rock quality index (**RQD**) were recorded for each cored interval. Core recovery was determined by measuring the recovered linear core length and then calculating the recovered percentage against the total length of the core run from the drill advance. The core recovery for all the drilling ranged from 0% to 100%, with over 65 % of the drill holes having greater than 80% mean core recovery. The core recovery values were recorded by the logging geologist and reviewed by the senior ioneer geologist. The majority of the 2010-2012 and 2016 core drill holes reported greater than 95% recovery in the B5, M5 and L6 mineralized intervals.

Criteria	JORC Code 2012 Explanation	Commentary
		• For the 2018-2019 drilling program, both core recovery and RQD were recorded for each cored interval. Core recovery was determined by measuring the recovered linear core length and then calculating the recovered percentage against the total length of the core run from the drill advance. The core recovery for all the drilling ranged from 41% to 100%, with over 65% of the drill holes having greater than 90% mean core recovery. The core recovery values were recorded by the logging geologist and reviewed by the senior ioneer geologist. In the target mineralized intervals (M5, B5 & L6), the mean core recovery was 86% in the B5, 87% in the M5 and 95% in the L6 units, with most of the drill holes reporting greater than 90% recovery in the mineralized intervals. • The Competent Person considers the core recovery for the 2018-2019, 2016 and 2010-2012 core drilling programs to be acceptable based on statistical analysis which identified no grade bias between sample intervals with high versus low core recoveries.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• No specific measures for maximizing sample recovery were documented for the 2010-2012 and 2016 core drilling programs. • During the 2018-2019 drilling program ioneer implemented the use of a triple-tube core barrel to maximize sample recovery and ensure representative nature of samples. A triple-tube core barrel generally provides improved core recovery over double-tube core barrels, resulting in more complete and representative intercepts for core logging, sampling and geotechnical evaluation. It also limited any potential sample bias due to preferential loss/gain of material.
	• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Based on the Competent Person's review of the 2010-2012, 2016 and 2018-2019 drilling recovery and grade data there was no observable relationship between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	• All core and chip samples have been geologically logged to a level of detail to support appropriate Mineral Resource estimation, such that there are lithological intervals for each drill hole, with a correlatable geological/lithological unit assigned to each interval. • The 2018-2019 drilling was also geotechnically logged to a level of detail to support appropriate Mineral Resource estimation.
	• *Whether logging is qualitative or quantitative in nature.*	• The RC and core logging were both qualitative

Criteria	JORC Code 2012 Explanation	Commentary
		(geological/lithological descriptions and observations) and quantitative (unit lengths, angles of contacts and structural features and fabrics).
	• *Core (or costean, channel, etc.) photography.*	• Core photography was completed on every core drill hole for the 2010-2012, 2016 and 2018-2019 core drilling programs.
	• *The total length and percentage of the relevant intersections logged.*	• Prior to 2018, a total length of 8,900 m of RC drilling and 6,000 m of core drilling was completed for the Project, 100% of which was geologically logged by a logging geologist and reviewed by the senior ioneer geologist. • For the 2018-2019 drilling, a total length of 300 m of RC drilling and 8,800 m of core drilling was completed for the Project, 100% of which was geologically logged by a logging geologist and reviewed by the senior ioneer geologist. • For the 2018-2019 drilling, 86% of the 8,800 m of core was geotechnically logged by an engineering geologist/ geotechnical engineer and reviewed by the senior ioneer geologist. The Competent Person reviewed the geological core logging and sample selection for two complete drill holes.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	• Half core samples were collected using a water-cooled diamond blade core saw utilizing the following methodology for the two target units.
	• *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.*	• Not applicable for this report
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• The Competent Person considers the nature, type, and quality of the sample preparation techniques to be appropriate based on the general homogeneous nature of the mineralized zones and the drilling methods employed.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• Quality control procedures adopted for sub-sampling to maximize representivity include the following: • During 2016-2017 and 2018-2019 drilling programs, field duplicate/replicate samples were obtained. For the 2017 RC drilling, a duplicate sample was collected every 20th sample. For the 2016 and 2018-2019 core drilling programs two ¼ core samples were taken at the same time and were analysed in sequence by the laboratory to assess the representivity.

Criteria	JORC Code 2012 Explanation	Commentary
		◦ Twin drill holes at the same site were drilled during the 2010-2012 drilling program. The twin drill hole pairing comprises one RC drill hole (SBH-04) and one core drill hole (SBHC-01). The Competent Person recommends twinning additional drill hole pairs as part of any future pre-production or infill drilling programs to allow for a more robust review of sample representivity.
	• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*	• The Competent Person considers the samples to be representative of the in-situ material as they conform to lithological boundaries determined during core logging and multi-element geochemical analysis.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The Competent Person considers the sample sizes to be appropriate given the general homogeneous nature of the mineralized zones. The two main types of mineralisation are lithium mineralisation with high boron >/=5,000 parts per million (**ppm**) (**HiB-Li**) and lithium mineralisation with low boron <5,000 ppm (**LoB-Li**). The HiB-Li mineralisation occurs consistently throughout the B5, M5 and L6 target zones, while LoB-Li mineralisation occurs throughout the M5, S5 and L6 units, and is not nuggety or confined to discreet high-grade and low-grade bands.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• No assays results are being reported. • For vat and heap leach tests, the samples were processed at Kappes Cassiday & Associates in Reno, Nevada as follows: ◦ Half core composited across the stratigraphic unit being sampled (ie. M5, B5, S5 and L6) ◦ crushed at P80 -19mm ◦ homogenised, coned and quartered ◦ 2 or 3kg sample subject to leach using sulphuric acid • For agitated leach, samples were processed at Kemetco Research Inc in Richmond, British Columbia. • The Competent Person considers the nature and quality of the laboratory analysis methods and procedures to be appropriate for

Criteria	JORC Code 2012 Explanation	Commentary
		the type of mineralisation.
	• *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc..*	• Not applicable to this Report, no geophysical tools, spectrometers, handheld XRF instruments were used on the Project.

	• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• The following Quality Assurance and Quality Control (**QA/QC**) procedures were adopted for the various drilling programs:
		  • During the 2010-2012 program, Standard Reference Material (**SRM**) samples and a small number of field blanks were also inserted regularly into the sample sequence to QA/QC of the laboratory analysis.
		  • For 2016-2017 program, a duplicate sample was collected every 20th primary sample. Field blanks and SRM's were also inserted approximately every 25 samples to assess QA/QC.
		  • During the 2018-2019 program, QA/QC samples comprising 1 field blank and 1 SRM standard were inserted into each sample batch every 25 samples. Submission of field duplicates, laboratory coarse/pulp replicates and umpire assays were submitted in later stages of the 2018-2019 drilling program.
		• The Competent Person reviewed the control charts produced for each SRM, field blank and field duplicate, and determined that there was an acceptable level of accuracy and precision for each for the purpose of estimating Mineral Resources.

Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• Not applicable as no drill intersections or assay data are being reported.
	• *The use of twinned holes.*	• Not applicable as no drill intersections or assay data are being reported.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• Not applicable as no drill intersections or assay data are being reported.
	• *Discuss any adjustment to assay data.*	• Not applicable as no drill intersections or assay data are being reported.
	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings*	• Not applicable as no drill intersections or assay data are being reported.

Criteria	JORC Code 2012 Explanation	Commentary
Location of data points	*and other locations used in Mineral Resource estimation.*	
	• *Specification of the grid system used.*	• Not applicable as no drill intersections or assay data are being reported.
	• *Quality and adequacy of topographic control.*	• Not applicable as no drill intersections or assay data are being reported.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	• Not applicable as no drill intersections or assay data are being reported.
	• *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*	• Not applicable as no drill intersections, assay data or mineral resource estimates are being reported.
	• *Whether sample compositing has been applied.*	• Not applicable as no drill intersections or assay data are being reported.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• Not applicable as no drill intersections or assay data are being reported.
	• *If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Not applicable as no drill intersections or assay data are being reported.
Sample security	• *The measures taken to ensure sample security.*	• The measures taken to ensure sample security include the following: • For the 2016-2017 drill holes, samples were securely stored on-site and then collected from site by ALS and transported to the laboratory by truck. Chain of custody forms were maintained by ALS. • For the 2018-2019 drill holes, core was transported daily by ioneer and/or Newfields personnel from the drill site to the ioneer secure core shed (core storage) facility in Tonopah. Core awaiting logging was stored in the core shed until it was logged and sampled, at which time it was stored in secured sea cans inside a fenced and locked core storage facility on site. Samples were sealed in poly-woven sample bags, labelled with a pre-form numbered and barcoded sample tag, and securely stored until shipped to or dropped off in Reno. Chain of custody forms

Criteria	JORC Code 2012 Explanation	Commentary
		were maintained by Newfields and ioneer.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The Competent Person reviewed the core and sampling techniques and found that the sampling techniques were appropriate for collecting data for the purpose of preparing geological models and Mineral Resource estimates.

SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code 2012 Explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	• The mineral tenement and land tenure for the Rhyolite Ridge (the Project) are held by ioneer Minerals Corporation, a wholly owned subsidiary of ioneer. • The mineral tenements consist of unpatented Lode Mining Claims • ioneer has entered into a proposed joint venture agreement with Sibanye-Stillwater, the details of which are presented in the September 16, 2021, ASX press release by ioneer. • With the exception of the proposed joint venture agreement with Sibanye-Stillwater, the Competent Person is not aware of any agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings relating to the Project.
	• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• There are no identified concerns regarding the security of tenure nor are there any known impediments to obtaining a license to operate within the limits of the Project. The unpatented Lode Mining Claims for the Project are located on federal land and are administered by the United States Department of the Interior - Bureau of Land Management (BLM).
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• There have been two previous exploration campaigns targeting Li-B mineralisation at the Project site. • US Borax conducted surface sampling and drilling in the 1980s, targeting B mineralisation , with less emphasis on Li mineralisation . A total of 57 drill holes (totalling approximately 14,900 m) were drilled in the North Borate Hills area, with an additional 12 drill holes (unknown total meterage) in the South Basin area. These drill holes were not available for use in the current Study. • American Lithium Minerals Inc and Japan Oil, Gas and Metals National Corporation (**JOGMEC**) conducted further Li exploration in the South Basin area in 2010-2012. The exploration included at least 465 surface and trench samples and 36 drill holes (totalling approximately 8,800 m), of which 21 were core and 15 were RC. Data collected from this program, including drill core, was made

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		available to ioneer. The Competent Person reviewed the data available from this program and believes this exploration program was conducted appropriately and the information generated is of high enough quality to include in preparing the current geological model and Mineral Resource estimate.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The HiB-Li and LoB-Li mineralisation at Rhyolite Ridge occurs in two separate Miocene sedimentary basins; the North Basin and the South Basin, located within the Silver Peak Range in the Basin and Range terrain of Nevada, USA. The information in this Report relates to drill core collected in both the South Basin and the North Basin. • The stratigraphy comprises lacustrine sedimentary rocks of the Cave Spring Formation overlaying volcanic flows and volcaniclastic rocks of the Rhyolite Ridge Volcanic unit. The Rhyolite Ridge Volcanic unit is dated at approximately 6 mega-annum (**Ma**) and comprises rhyolite tuffs, tuff breccias and flows. The Rhyolite Ridge Volcanic rocks are underlain by sedimentary rocks of the Silver Peak Formation. • The Cave Spring Formation comprises a series of 11 sedimentary units deposited in a lacustrine environment, as shown in the following table. Within the study area the Cave Spring Formation can reach total thickness in excess of 400 m. Age dating of overlying units outside of the area and dates for the underlying Rhyolite Ridge Volcanic unit bracket deposition of the Cave Spring Formation between 4-6 Ma; this relatively young geological age indicates limited time for deep burial and compaction of the units. The Cave Spring Formation units are generally laterally continuous over several miles across the extent of the South Basin; however, thickness of the units can vary due to both primary depositional and secondary structural features. The sedimentary sequence generally fines upwards, from coarse clastic units at the base of the formation, upwards through siltstones, marls and carbonate units towards the top of the sequence. • The key mineralized units are in the Cave Spring Formation and are, from top to bottom, the M5 (high-grade Li, low- to moderate-grade B bearing carbonate-clay rich marl), the B5 (high-grade B, moderate-grade Li marl), the S5 (low- to moderate Li, very low B)

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		and the L6 (broad zone of laterally discontinuous low- to high-grade Li and B mineralized horizons within a larger low-grade to barren sequence of siltstone-claystone). The sequence is marked by a series of four thin (generally on the scale of several meters or less) coarse gritstone layers (G4 through G7); these units are interpreted to be pyroclastic deposits that blanketed the area. The lateral continuity across the South Basin along with the distinctive visual appearance of the gritstone layers relative to the less distinguishable sequence of siltstone-claystone-marl that comprise the bulk of the Cave Spring Formation make the four grit stone units good marker horizons within the stratigraphic sequence. • The Cave Springs Formation is unconformably overlain by a unit of poorly sorted alluvium, ranging from 0 to 40 m (mean of 20 m) within the Study Area. The alluvium is unconsolidated and comprises sand through cobble sized clasts (with isolated occurrences of large boulder sized clasts) of the Rhyolite Ridge Volcanic Rocks and other nearby volcanic units.

Criteria	JORC Code 2012 Explanation	Commentary
		(table below)

Formation	Model Unit	Mean Thick (m)	Min. Thick (m)	Max. Thick (m)	Lithology Description
Alluvium	Q1	21	2	61	Sand through cobble sized clasts, isolated boulder size clasts of Rhyolite Ridge Volcanic Rocks and other nearby volcanic units
Cave Springs Fm.	S3	70	3	235	Mixed lacustrine sediments (claystone, marl, siltstone, and thin sandstone)
	G4	6	1	24	Coarse gritstone (immature volcaniclastic wacke)
	M4	12	6	30	Carbonate rich, with interbedded marl
	G5	3	1	12	Coarse gritstone
	M5	13	3	94	Carbonate-clay rich marl, high-grade Lithium, low- to moderate-grade Boron
	B5	19	6	40	Marl, high-grade Boron, moderate-grade Lithium
	S5	21	3	43	Siltstone-claystone, moderate to high-grade Lithium and low to-very low grade-Boron
	G6	9	1	43	Coarse gritstone
	L6	40	3	107	Marl, siltstone-claystone, laterally discontinuous low- to high-grade Lithium and Boron mineralized horizons within a larger low-grade to barren sequence
	Lsi	30	3	64	Silicified siltstone-claystone
	G7	17	2	52	Coarse gritstone, diamictite, grading into tuff
Rhyolite Ridge Volcanics	Tlv		0	>30	Latite flows and breccia, believed to be the Argentite Canyon formation
	Tbx	43	6	168	Quartz-feldspar lithic tuff containing minor biotite, phenocrystic-rich lithic tuff, and massive lithic tuff breccia, volcanic lava flows and welded tuff

- Structurally, the South Basin is folded into a broad, open syncline with the sub-horizontal fold axis oriented approximately north-south representing the long axis of the basin. The syncline is asymmetric, with moderate to locally steep dips along the western limb, a flat central area, and interpreted steep dips on the eastern edge. The stratigraphy is further folded, including one significant southeast plunging syncline located in the southern part of the study area. The basin is bounded along its western and eastern margins by regional scale high angle faults of unknown displacement, while localized steeply dipping normal, reverse and strike-slip faults transect the

<table>
<tr><th>Criteria</th><th>JORC Code 2012 Explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>Cave Spring formation throughout the basin. Displacement on these faults is generally poorly known but most appear to be on the order of tens of meters of displacement although several located along the edge of the basin may have displacements greater than 30 m.
• HiB-Li and LoB-Li mineralisation is interpreted to have been emplaced by hydrothermal fluids travelling up the basin bounding faults; based on HiB-Li and LoB-Li grade distribution and continuity it is believed the primary fluid pathway was along the western bounding fault. Differential mineralogical and permeability characteristics of the various units within the Cave Spring Formation resulted in the preferential emplacement of HiB-Li bearing minerals in the B5 and L6 units and LoB-Li bearing minerals in the M5, S5 and L6 units. HiB-Li mineralisation occurs in isolated locations in some of the other units in the sequence, but with nowhere near the grade and continuity observed in the aforementioned units.</td></tr>
<tr><td>Drill hole Information</td><td>• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:
○ easting and northing of the drill hole collar
○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar
○ dip and azimuth of the hole
○ down hole length and interception depth
○ hole length.</td><td>• A summary table providing key details for all identified drill holes for the Project is presented by type and drilling campaign in the following table:
<table>
<tr><th rowspan="2">Drill Type</th><th rowspan="2">Year</th><th colspan="2">Inclined Drill Hole</th><th colspan="2">Vertical Drill Hole</th><th rowspan="2">Total Drill Holes</th><th rowspan="2">Total Depth (ft)</th></tr>
<tr><th>Count</th><th>Total Depth (ft)</th><th>Count</th><th>Total Depth (ft)</th></tr>
<tr><td rowspan="3">RC Drill Holes</td><td>2010-2012</td><td>6</td><td>1,355</td><td>9</td><td>2,313</td><td>15</td><td>3,668</td></tr>
<tr><td>2016-2017</td><td>2</td><td>707</td><td>25</td><td>4,582</td><td>27</td><td>5,289</td></tr>
<tr><td>2018-2019</td><td></td><td></td><td>4</td><td>474</td><td>4</td><td>474</td></tr>
<tr><td rowspan="3">Core Drill Holes</td><td>2010-2012</td><td>2</td><td>531</td><td>19</td><td>4,608</td><td>21</td><td>5,139</td></tr>
<tr><td>2016-2017</td><td></td><td></td><td>3</td><td>853</td><td>3</td><td>853</td></tr>
<tr><td>2018-2019</td><td>28</td><td>6,415</td><td>14</td><td>2,671</td><td>42</td><td>9,087</td></tr>
<tr><td colspan="2">Total</td><td>38</td><td>9,008</td><td>74</td><td>15,502</td><td>112</td><td>24,510</td></tr>
</table>
• Leach results being reported in this Report relate to drill core collected from 6 drill holes in the South Basin and 2 drill holes in the North Basin
• Information relating to these 8 drill holes has been previously reported by ioneer.</td></tr>
<tr><td></td><td>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the</td><td>• Not applicable as no information is being excluded.</td></tr>
</table>

Criteria	JORC Code 2012 Explanation	Commentary
	Competent Person should clearly explain why this is the case.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	• No drill intersections or assay data are being reported. • A cut-off grade of 5,000 ppm B for the HiB-Li mineralisation and 1,090 ppm Li for the LoB-Li mineralisation was applied during the Mineral Resource estimation process for the purpose of establishing reasonable prospects of eventual economic extraction based on high level mining, metallurgical and processing grade parameters identified by mining, metallurgical and processing studies performed to date on the Project.
	• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*	• Not applicable as individual intercepts are not being reported.
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not applicable as metal equivalents are not being reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.*	• Most drill hole intercepts are approximately orthogonal to the dip of the beds (intercept angles between 70-90 degrees).
	• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	• Based on the geometry of the mineralisation , it is reasonable to treat all samples collected from inclined drill holes at intercept angles of greater than 70 degrees as representative of the true thickness of the zone sampled.
	• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Not applicable as individual down hole intercepts are not being reported.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Appropriate plan map is included in the Report. Drill hole assay results are not being reported.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Not applicable as grades are not being reported.

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Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Surficial geological mapping performed by a senior ioneer geologist was used in support of the drill holes to define the outcrops and subcrops as well as bedding dip attitudes in the geological modelling. Mapped geological contacts and faults were imported into the model and used as surface control points for the corresponding beds or structures.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• The April 2023 Mineral Resource Estimate together with the information being reported in this Report justify the commencement of a study to further evaluate the low-boron mineralisation at South Basin and North Basin
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Not applicable as the further work being recommend relates to previously reported Mineral Resource Estimate. • Refer to ioneer Ltd announcement dated April 26, 2023, and published on ASX titled "Mineral Resource increases by 168% to 3.4 Mt lithium carbonate"