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Ioneer Announces Results of Initial Upgrading Testwork Demonstrating Growth Optionality

Highlights

- New mine plan focusing on **Stream 1** (high-boron lithium ore) nears completion and is due to be released this month alongside updated project economics including capital and operating expense estimates
- Testwork focusing on upgrading **Streams 2 and 3** mineralisation prior to acid leach has produced highly encouraging results and demonstrates future growth optionality and potential
- **Streams 2 and 3** (low-boron lithium ore), the focus of the latest testwork, to be primarily stockpiled as part of the new mine plan

May 6, 2025 – Sydney, Australia – **Ioneer Ltd (ASX: INR, Nasdaq: IONR) (Ioneer)** today announced a project update and results from recent testwork that reinforce future growth options beyond the first phase of the project.

"Rhyolite Ridge is one of the only lithium deposits globally that has the benefit of a substantial co-product like boric acid," said Bernard Rowe, Managing Director, Ioneer. "These results provide another proof point in Rhyolite Ridge's unique mineralogy, its flexibility and potential for growth. We are keen to take these and our upcoming findings to investors in the coming months as we seek a new equity partner in the project."

The Rhyolite Ridge Lithium-Boron Project deposit hosts a Mineral Resource[1] of more than 510 million tonnes (Mt) containing 3.97 Mt of lithium carbonate and 14.66 Mt of boric acid.

The deposit comprises three distinct ore types based on primary mineralogy:

1. **Stream 1:** High-boron lithium mineralisation – **179Mt Resource**
   – amenable to vat leach
2. **Stream 2:** Low-boron lithium mineralisation – **274Mt Resource**
   – amenable to vat, heap and agitated tank leach
3. **Stream 3:** Low-boron, high-clay lithium mineralisation – **58Mt Resource**
   – only amenable to agitated tank leach due to high clay content

Ioneer is finalising a mine plan to prioritize **Stream 1** high-boron lithium ore due to its higher contained metal value and superior economic returns. Rhyolite Ridge is one of the only lithium deposits globally that has the

[1] See ASX announcement titled "February 2025 Rhyolite Ridge Lithium-Boron Mineral Resource Estimate" dated 5 March 2025.

benefit of a substantial co-product like boric acid.

Streams 2 and 3 low-boron lithium mineralisation is largely excluded as feed to the vat leach process plant and will be either stockpiled or left in-situ. Given this "excluded" material is within the permitted project boundary and will be mined and stockpiled, it provides significant optionality to increase lithium production in the future. This would likely involve additional processing plants specifically designed to process low-boron lithium ore. The current planned 2.5Mtpa processing plant has been designed to process high-boron lithium ore but can accept Stream 2 ore and minor amounts of Stream 3 ore.

Beneficiation of low boron lithium mineralisation

The testwork on **Stream 2 and Stream 3** used a Sepro Falcon gravity concentrator to separate heavy from light particles with the knowledge that in these layers, lithium is preferentially concentrated in the finer, lighter fraction of minerals present. A description of the process and detailed results are summarized in Appendix 1.

The Falcon testwork demonstrates our ability to achieve material increases in both lithium grade and lithium yield (lithium produced per unit of acid consumed) through the application of Falcon gravity concentration. This technology is well known, widely used in the mineral processing industry and is now shown to be beneficially applicable for use at Rhyolite Ridge.

Results to date for **Streams 2 and 3** are highly encouraging by showing that material increases in lithium grade can be achieved through the rejection of the coarse heavier particle fraction. The concentrate produced is not only higher in lithium grade, but also lower in overall mass, materially reducing the amount of acid required to produce a given amount of lithium (lithium yield). Lithium yield (acid consumption) is a key economic measure driving the operating cost per tonne of Rhyolite Ridge lithium chemicals production.

In summary, the test results show that:

- **Increase in lithium grade by a factor of between 1.4-2.0 times**
- **Reduction in mass pull of between 39-72%**
- **Increase in lithium yield of between 45-125%**

There is a notable correlation between the lithium upgrade factor, lithium yield and mass rejection.
It should be noted that this test-work is preliminary and has not yet been optimised. Further improvements are expected with additional testwork including the use of a two-step Falcon process where a middling (rougher) tails would be processed a second time to increase lithium recovery.

Discussion of Results

The low boron content of **Streams 2 and 3** lithium mineralisation, and the fact that most of this material will be stockpiled, prompted Ioneer to investigate beneficiation methods that could be implemented prior to acid leaching to enhance lithium yield. Given the known mineralogy and results of earlier testwork, it was thought that gravitational concentration was likely to provide the most favourable beneficiation process. Beneficiation is simply any process that helps to maximize mineral recovery and reduce tonnage to downstream processes (i.e., increase grade and at the same time reduce mass).

Sepro Mineral Systems Corp. ("Sepro") manufacture Falcon Gravity Concentrators that are high G-force gravity concentration equipment that improves the efficiency of fine mineral recovery for a wide range of industries. They are primarily used to maximise mineral recovery and reduce tonnage to downstream processes. The Falcon can collect fine minerals that would be missed by dense medium separators, spirals and other low G-force processes. These characteristics made it a promising choice for testing the low-boron lithium mineralisation from Rhyolite Ridge.

Falcon gravity concentrator testwork was performed on samples from **Stream 2** and **Stream 3** material. The testwork demonstrated the ability to achieve material increases in both lithium grade and lithium yield (lithium produced per unit of acid consumed) combined with significant mass rejection through the application of gravity concentration.

A resource of this scale clearly justifies the future expansion of operations. To that end, ioneer has been, and will continue, working on a number of initiatives, like that described above, aimed at increasing economic lithium and boron output over time. These include optimisation steps for the initial, phase 1 operation as well as future expansion and growth opportunities.

Stream	Before Leach	After Leach	Li Leach Recovery %
1			94
2			89
3			89

Table 1. Before and after leach photographs of Streams 1, 2 and 3 sample material. Note the coarse nature of the Streams 1 and 2 material after it has been leached – making it ideally suited to vat leaching. Stream 3 with high content, forms a cake after leaching and is not suitable for vat leaching. Appendix 1: Test Data

Sample	Million Tonnes in Resource[1]	Li grade before Falcon (A)	Li grade after Falcon (B)	Lithium upgrade factor (B/A)	Li reporting to Conc %	Li reporting to Tail %	Total Mass reporting to Conc %	Total Mass reporting to Tail %	Increase in Lithium Yield %
Stream 2 L6 - 1	274	2132	3451	1.6	72	28	45	55	52
Stream 2 L6 - 2	274	1580	2970	1.9	53	47	28	72	65
Stream 3 M5 - 1	58	2289	3227	1.4	85	15	61	39	45
Stream 3 M5 - 2	58	2340	4680	2.0	62	38	31	69	125

Table 2. Summary of Falcon gravity concentration test results.

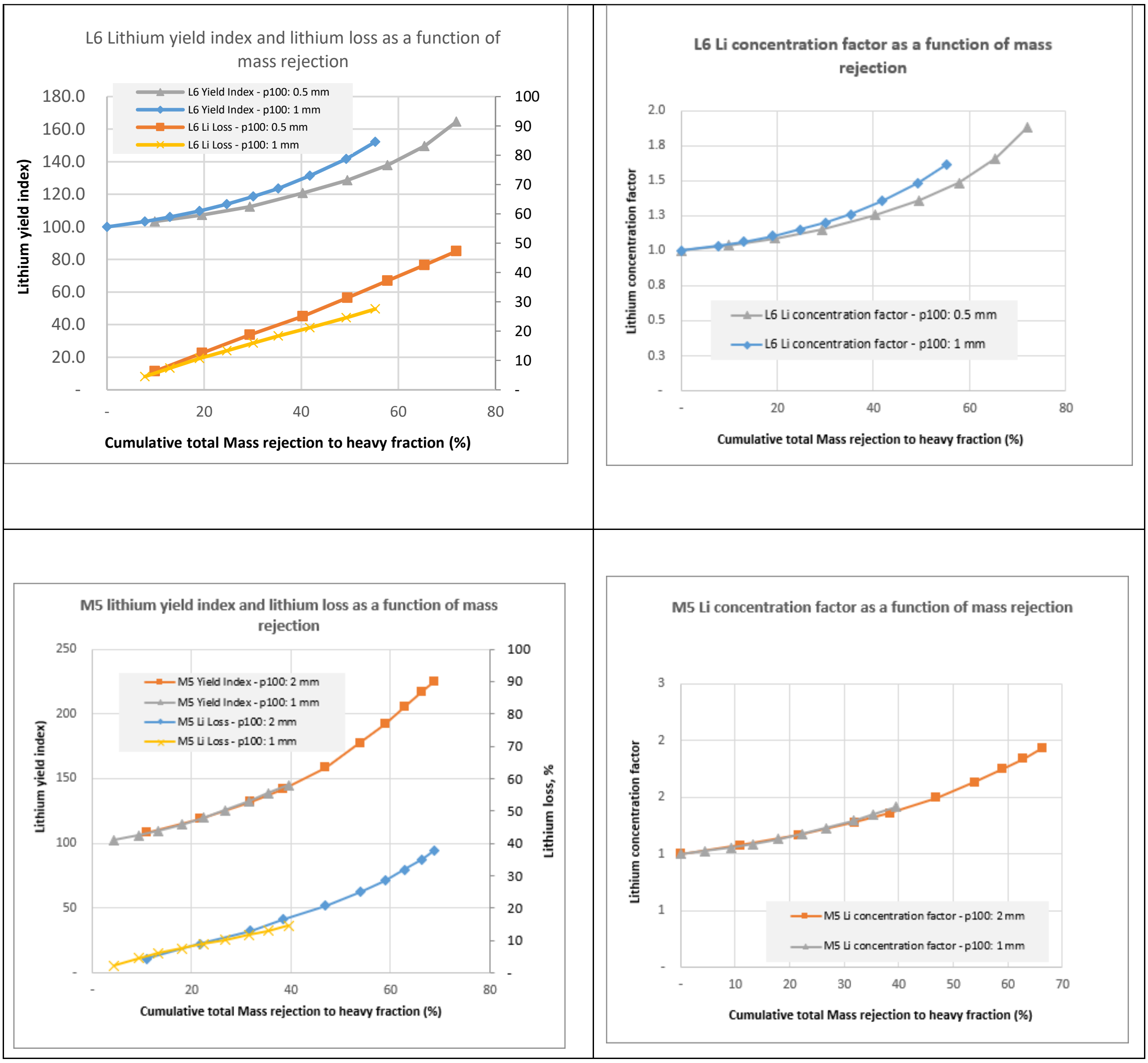

Table 3. Selected graphs showing lithium yield and lithium concentration for Stream 2 (upper) and Stream 3 (lower) samples.

Sample Site Name	Hole Type	Easting	Northing	Elevation	Depth	Azimuth	Dip
		NV State Plane (ft)			Ft		
SBH-52	Core- PQ	2833746.69	14235347.64	6215.42	756	225	-58
SBH-81	Core- PQ	2834446.93	14234786.63	6242.05	1271	136	-61
SBH-84	Core- PQ	2834418.49	14234458.04	6264.78	498	225	-41
SBH-85	Core- PQ	2834155.26	14234810.4	6244.36	370	0	-90
SBH-110	Core- HQ	2835362.04	14233786.56	6242.91	448.5	126	-45
SBH-129	Core- HQ	2836999.98	14234108.93	6255.22	625	0	-90
SBH-137	Core- HQ	2837521.46	14234136.25	6270.7	656.2	0	-90

Table 4. Location of drill holes from which metallurgical samples were taken.

Composite	Subsample ID	Hole ID	Interval	
			From, ft	To, ft.
M5-1 Comp	M5	SBH -52	81.8	110
		SBH -81	590	625
		SBH -84	275.5	305
		SBH -85	130	145
M5-2 Comp	M5	SBH-129	338.4	363
L6-1 Comp	L6	SBH-137	527	537
		SBH-137	537	542
		SBH-137	542	546
L6-2 Comp	L6	SBH-110	387	402

Table 5. List of samples used for metallurgical testwork.

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About Ioneer

Ioneer Ltd is an emerging lithium–boron producer and the 100% owner of the Rhyolite Ridge Lithium-Boron Project. Rhyolite Ridge is the only known lithium-boron deposit in North America, one of only two known such deposits in the world and a linchpin project in Nevada's burgeoning Lithium Loop.

Rhyolite Ridge closed a US$996 million loan with the U.S. Department of Energy Loan Programs Office under the Advanced Technology Vehicles Manufacturing program in January 2025. In October 2024, Ioneer received the final federal permit for the project from the Bureau of Land Management, concluding the formal federal permitting process which began in early 2020. Ioneer signed separate offtake agreements with Ford Motor Company and Prime Planet & Energy Solutions (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 or join our online communities on X, Facebook, LinkedIn, Instagram and YouTube.

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

Competent Persons Statement

The information in this report that relates to Exploration Results (including metallurgical testwork) 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.

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 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*	• The metallurgical samples being reported were sourced from selected core drill holes. • The nature and quality of the drill core sampling 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, on a mean interval of 1.52 m, and cut using a water-cooled diamond blade core saw. ○ ½ core was used for the metallurgical test work being reported
	• *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 to reflect visually identifiable lithological boundaries wherever possible, to ensure sample representivity. In cases where the lithological boundaries were gradational, the best possible interval was chosen and validated by geochemical assay results.
	• *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*	• Aspects of the determination of mineralization included visual identification of mineralized intervals by a senior ioneer geologist using lithological characteristics including clay and carbonate content, grain size and the presence of key minerals such as Ulexite (hydrated sodium calcium borate hydroxide) and Searlesite (sodium borosilicate). A visual distinction between some units, particularly where geological contacts were gradational was initially made. Final unit contacts were then determined by a senior ioneer geologist once assay data were available.

Criteria	JORC Code 2012 Explanation	Commentary
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.).*	• Core holes were tricone drilled through unconsolidated alluvium, then cored (PQ and HQ) through to the end of the drill hole. 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.*	• 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.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• A triple-tube core barrel was used 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.

Criteria	JORC Code 2012 Explanation	Commentary
	• *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.*	• 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 samples have been geologically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies, such that there are lithological intervals for each drill hole, with a correlatable geological/lithological unit assigned to each interval. • The core was geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
	• *Whether logging is qualitative or quantitative in nature.*	• The core logging were both qualitative (geological/lithological descriptions and observations) and quantitative (unit lengths, angles of contacts and structural features and fabrics).
	• *Core (or costean, channel, etc.) photography.*	• 100% of the core was photographed.
	• *The total length and percentage of the relevant intersections logged.*	• 100% of the core was geotechnically logged by an engineering geologist/ geotechnical engineer and reviewed by the senior ioneer geologist

Criteria	JORC Code 2012 Explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.*	• The following sub-sampling techniques and sample selection procedures apply to drill core samples: o Core samples were collected for target units every 1.52 m down hole interval. Target units were cut using a water-cooled diamond blade core saw utilizing the following methodology for the target units. For the M4, M5, B5, S5 and L6 unit, ½ core samples (HQ) or ¼ core samples (PQ) were submitted for assay, while the remaining ½- ¾ core was retained for reference.
	• *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 to obtain each sample.
	• *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: o Field duplicate/replicate samples were obtained. For the 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. • For the duplicate/replicate samples, the R2 value is 0.99, which is very good.
	• *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. A review of the primary and duplicate sample analyses indicates a high degree of agreement between the two sample sets.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled*	• The Competent Person considers the sample size to be appropriate given the general homogeneous nature of the mineralized zones. The two main types of mineralization are lithium mineralization with high boron >/=5,000 parts per million (**ppm**) (**HiB-Li**) and lithium mineralization with low boron <5,000 ppm (**LoB-Li**). The HiB-Li mineralization occurs consistently throughout the B5 and L6 target zones, while LoB-Li mineralization occurs throughout the M5, S5 and L6 units, and is not nuggety or confined to discreet high-grade and low-grade bands.

Criteria	JORC Code 2012 Explanation	Commentary
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.*	• Not applicable as assay results are not being reported.
	• *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 during the work being reported.
	• *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.*	• Not applicable as assay results are not being reported.

Criteria	JORC Code 2012 Explanation	Commentary
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• Not applicable as significant intersections are not being reported.
	• *The use of twinned holes.*	• Not applicable as assays results are not being reported.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• Not applicable as assay results are not being reported.
	• *Discuss any adjustment to assay data.*	• Not applicable as assay results are not being reported.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	• Accuracy and quality of surveys used to locate drill holes is as follows: o All inclined core drill holes were surveyed to obtain downhole deviation using a downhole Reflex Mems Gyros tool. o All drill hole collars were surveyed using a differentially corrected GPS (**DGPS**). • Upon completion, drill casing was removed, and drill collars were marked with a permanent concrete monument with the drill hole name and date recorded on a metal tag on the monument.
	• *Specification of the grid system used.*	• All holes were surveyed Nevada State Plane Coordinate System of 1983, West Zone (**NVSPW 1983**) for use in developing the geological model.
	• *Quality and adequacy of topographic control.*	• The quality and adequacy of the topographic surface and the topographic control is very good based on comparison against survey monuments, surveyed drill hole collars and other surveyed surface features. • A 2018 satellite survey with an accuracy of ± 0.17 m was produced for the Project by PhotoSat Information Ltd. The final report generated by PhotoSat stated that the difference between the satellite and ioneer provided ground survey control points was less than 0.8 m. • The topographic survey was prepared in NAD83, which was converted to NVSPW 1983 by Newfields prior to geological modelling.

Criteria	JORC Code 2012 Explanation	Commentary
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	• Drill holes are generally spaced between 90 m and 170 m on east- west cross-section lines spaced approximately 180 m apart. There was no distinction between RC and core holes for the purpose of drill hole spacing.
	• *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.*	• The spacing is considered sufficient to establish geological and grade continuity appropriate for a Mineral Resource estimation.
	• *Whether sample compositing has been applied.*	• Samples were predominately 1.52 m intervals honouring lithological boundaries and kept as the database for grade estimation. The 1.52 m sample length represents the modal value of the sample length distribution and the 1.52m vertical block height in the model. • Metallurgical samples were composted as described in Table 5 in the report.
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.*	• Drill holes were angled between -55 and -90 degrees from horizontal and at an azimuth of between 0- and 350-degrees. • Inclined drill holes orientated between 220- and 350-degrees azimuth introduced minimal sample bias, as they primarily intercepted the mineralization at angles near orthogonal, approximating true-thickness.
	• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Inclined drill holes orientated between 0- and 220-degrees azimuth, especially those that were drilled at between 20- and 135-degrees azimuth, generally intercepted the beds down dip, exaggerating the mineralized zone widths in these drill holes.

Criteria	JORC Code 2012 Explanation	Commentary
Sample security	• *The measures taken to ensure sample security.*	• The measures taken to ensure sample security include the following: ○ 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 Reno by either ioneer or Newfields personnel. Chain of custody forms were maintained by either Newfields or ioneer.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The sampling techniques were appropriate for collecting data for the purpose of preparing geological models and Mineral Resource estimates and metallurgical test work being reported.

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 South Basin of Rhyolite Ridge (the Project) comprise 386 unpatented Lode Mining Claims (totalling approximately 3,150 hectare (**Ha**)); claim groups SLB, SLM and RR, spatial extents of which are presented in maps and tables within the body of the Report are 100% owned by ioneer Minerals Corporation, a wholly owned subsidiary of ioneer Ltd. • 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 386 Lode Mining Claims for the Project. • Some of the Lode Mining Claims and the deposit are located within the Critical Habitat of Tiehms' buckwheat, a plant listed under the Endangered Species Act. Mining is permitted within Critical Habitat with the appropriate approvals.
	• *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 386 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).

Criteria	JORC Code 2012 Explanation	Commentary

Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• There have been two previous exploration campaigns targeting Li-B mineralization at the Project site. • US Borax conducted surface sampling and drilling in the 1980s, targeting B mineralization, with less emphasis on Li mineralization. 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 available to ioneer. The Competent Person reviewed the data available from this program and believes this exploration program, except for the trench data, 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 mineralization 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 South Basin is the focus of the results presented in this Report and the following is focused on the geology and mineralization of the South Basin. • The South Basin 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.

Criteria	JORC Code 2012 Explanation	Commentary
		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 high Li, very low B) 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

Criteria	JORC Code 2012 Explanation	Commentary
		Volcanic Rocks and other nearby volcanic units.

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 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 Cave Spring formation throughout the

Criteria	JORC Code 2012 Explanation	Commentary
		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. Major fault structures within the basin tend to have a series of minor faults associated with them. These tend to have smaller offset than the parent fault structure. Along the western side, South Basin is folded into a broad, open syncline with the sub-horizontal fold axis oriented approximately north-south. The syncline is asymmetric, moderate to locally steep dips along the western limb. The stratigraphy is further folded, including a significant southeast plunging syncline located in the southern part of the study area. • HiB-Li and LoB-Li mineralization is interpreted to have been emplaced by hydrothermal/epithermal 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 mineralization 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.
Drill hole Information	• *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 feet) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.*	• A table with all material information relating to the core drill holes used for the metallurgical testwork being reported is included in the body of the report as Table 4.

Criteria	JORC Code 2012 Explanation	Commentary
	• *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 Competent Person should clearly explain why this is the case.*	• Not applicable as information is not being excluded
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.*	• All grade parameters presented in this report are presented as mass weighted grades. • Drill core samples are predominately 1.52 m lengths. The data set honoured geological contacts (i.e. assayed intervals did not span unit contacts). The data set is the drill hole assay database. • No minimum bottom cuts or maximum top cuts were applied to the thickness or grade data used to construct the geological models. No interpolation was applied to B and Li grade data for units other than the targeted mineralized units (B5, M5, S5 and L6). • A cut-off grade of 5,000 ppm B for the HiB-Li mineralization and 1,090 ppm Li for the LoB-Li mineralization was applied 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.*	• Aggregated intercepts are not being reported.
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Metal equivalents are not being reported.

Criteria	JORC Code 2012 Explanation	Commentary
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.*	• Not applicable as drill intercepts are not being reported.
	• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	• Not applicable as drill intercepts are not being reported.
	• *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 drill 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.*	• Not applicable as drill intercepts 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 drill intercepts are not being reported.
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. • Magnetic and Gravity geophysical surveys were performed and interpreted to inform the geological model, particularly in the identification of faulting, geologic structures and basin limits.
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).*	• Further metallurgical test work is planned and will be similar to what is being reported. The aim will be to increase representivity across the deposit, test for variability and further optimise. • Additional drilling and sampling may be performed based on the results of current mining project studies.

	• *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 only metallurgical results are being reported.