ioneer

Newly identified Shelf Zone delivers standout drill results ahead of Ore Reserve update

Highlights:

- Drill results confirm importance of the recently recognised "Shelf Zone" located in the southeast section of the South Basin deposit at Rhyolite Ridge.
  - Lithium grades in all 12 holes average >2000ppm lithium in the main B5 ore unit,
  - Lithium grades more than 20% higher than the Stream 1 resource average
  - Shallow and easily accessible beneath <30 metres of unconsolidated gravel
- The Shelf Zone lies completely outside of Critical Habitat.
- Permitting remains on schedule with final EIS and Record of Decision expected over the next three to four months.
- Updated ore reserve estimate to follow in the coming weeks.

18 July 2024 – SYDNEY, Australia – **Ioneer Ltd ("Ioneer" or the "Company") (ASX: INR, NASDAQ: IONR)** announced the latest core drill results at the Rhyolite Ridge Lithium-Boron Project located in Nevada, USA, finding lithium grades well above the average of previous estimates.

Results for its newly identified "Shelf Zone" in the southeast section of the South Basin, an area outside of the Tiehm's buckwheat critical habitat, show the average lithium grades at more than 20% higher than the comparable Mineral Resource average. The findings demonstrate the project's unique mineralogy, flexibility in commencing operations, and the company's continued commitment to minimize potential impact to Tiehm's buckwheat alongside its $2.5 million voluntary conservation investments to date, including the 2023 opening of its dedicated greenhouse.

"Rhyolite Ridge continues to surprise with its unique lithium-boron mineralogy. The southeast section of the South Basin allows us to begin our work providing these critical energy transition materials." said Bernard Rowe, Managing Director, Ioneer. "Importantly, these findings further demonstrate Rhyolite Ridge and Tiehm's buckwheat can co-exist, and we remain committed to providing these necessary materials while conserving the plant's critical habitat for pollinators. We look forward to the anticipated conclusion of the federal permitting process and Record of Decision in the coming months and beginning construction in 2025 on the United States' first new lithium mine in almost fifty years."

Ioneer previously announced an updated South Basin Mineral Resource Estimate on April 30, 2024, but results for the final 12 drill holes were not included in the estimate.[1] Highlights from the Shelf Zone drill program, completed in January 2024, include:

- SBH-132: 19.9m at 2070ppm lithium and 11,716ppm boron from 66.8m
- SBH-135: 25.9m at 2153ppm lithium and 10,443ppm boron from 44m
- SBH-137: 17.6m at 2503ppm lithium and 523ppm boron from 96.6m
- SBH-139: 20.7m at 2039ppm lithium and 9,752ppm boron from 79.9m

[1] See ASX announcement titled "Mineral Resource update delivers high-grade, shallow Shelf Zone, outside of critical habitat" dated 30 April 2024.

South Basin and the Shelf Zone

Ioneer's three-dimensional modelling of detailed ground gravity and magnetic data coupled with drill hole information revealed the South Basin is made up of four main sub-basins.

The sub-basins are separated by faults and folds that have either uplifted or down-dropped the sedimentary layers that host lithium and boron mineralisation. An uplifted block in the southeast portion of the South Basin referred to as the "Shelf Zone" was the primary focus of the most recent drilling. The Shelf Zone measures approximately 1500 x 750 m and until recently, was largely undrilled.

The Shelf Zone represents a highly prospective area due to:

- the shallow depth of the mineralized units,
- the sediments sub-crop beneath unconsolidated gravel,
- lithium grades are consistently higher than the Resource average,
- sediments are relatively flat lying to gentle dipping, and
- the entire area lies outside of Tiehm's buckwheat critical habitat.

Within the area of the Shelf Zone, mineralised units lie within 30 metres of the surface and are covered by unconsolidated gravel. The mineralised units dip to the east at shallow angles which is likely to prove favourable for mining. The uplifted block that separates the Shelf Zone from the deeper mineralised units to the west is well defined by gravity and magnetic data and has been confirmed with multiple drill hole intersections. Refer to cross-sections included in ***Figures 4 and 5.***

Rhyolite Ridge Site Geology and Overview

Sedimentary layers containing lithium and boron were deposited into the lakebed at Rhyolite Ridge approximately six million years ago. The lake formed within a closed structural basin measuring approximately 2 km by 6 km (South Basin). Over time, the lake filled with sediments and was eventually drained of water. The initially soft, sedimentary layers were turned into solid rock over time. Today, the sedimentary rocks are up to 300m in thickness, can be subdivided into 11 separate units and are almost entirely concealed beneath a 20m thick layer of unconsolidated gravel.

Hole ID	Easting	Northing	Elevation (ft)	Dip	Azimuth	Total Depth (ft)
SBH-128	2834232	14233432	6327	-50	0	392
SBH-129	2837000	14234109	6255	-90	0	625
SBH-132	2835650	14233427	6305	-60	65	634
SBH-133	2835953	14233095	6268	-90	0	298
SBH-134	2835950	14233092	6268	-60	218	413
SBH-135	2835954	14233096	6268	-55	42	704
SBH-137	2837521	14234136	6270	-90	0	656.5
SBH-138	2837518	14234139	6270	-65	305	585
SBH-139	2836381	14232752	6344	-55	355	352
SBH-140	2836782	14233131	6342	-90	0	478
SBH-141	2836999	14234105	6254	-60	121	607
SBH-142	2836784	14233128	6342	-60	125	620

Table 1. Drill collar information. Coordinates in Nevada State Plane, NAD83 and units are in feet.

Hole ID	Unit ID	From (m)	To (m)	Width (m)	Li ppm	B ppm
SBH-128	B5	96.3	119.5	23.2	2,530	390
SBH-129	B5	112.2	124.7	12.5	2,235	12,805
SBH-132*	B5	66.8	86.7	19.9	2,070	11,716
SBH-133	B5	29.2	44.2	15.0	2,096	9,075
SBH-134	B5	27.4	42.6	15.2	2,064	9,648
SBH-135*	B5	44.0	70.0	25.9	2,153	10,443
SBH-137	B5	96.6	114.3	17.6	2,503	523
SBH-138	B5	147.3	162.2	14.8	2,373	8,196
SBH-139*	B5	79.9	100.6	20.7	2,039	9,752
SBH-140	B5	80.0	94.1	14.1	2,044	347
SBH-140	B5	112.5	125.5	13.0	2,057	11,542
SBH-141	B5	135.0	151.5	16.5	2,146	10,880
SBH-142	B5	79.8	95.7	15.9	2,149	259
SBH-142	B5	122.0	135.3	13.4	2,562	584

Table 2. Core drill hole intersections of the B5 unit, South Basin deposit, Rhyolite Ridge. Widths shown are true widths other than where indicated with an asterisk (*). For holes with an asterisk, true widths are approximately 80% of the width shown. Whilst the B5 typically has boron contents >5000ppm B, the holes shown above with low boron B5 all occur on the margins of the basin and the low boron is interpreted to reflect facies change or basin shallowing.

				Contained	
Stream	**Tonnage** Ktonnes	**Li** ppm	**B** ppm	**Li2CO3** (kt)	**H3BO3** (kt)
Stream 1 Li+B	153,021	1639	12872	1335	11262
Stream 2 Li	142,520	1578	1425	1197	1161
Stream 3 – Li clay	55,862	2422	1232	720	394
Grand Total	**351,403**	**1,739**	**6,379**	**3,251**	**12,817**

Table 3. Summary of April 2024 Mineral Resource Estimate[2] – Rhyolite Ridge South Basin included here for reference.

[2] See ASX announcement titled "Mineral Resource update delivers high-grade, shallow Shelf Zone, outside of critical habitat" dated 30 April 2024.

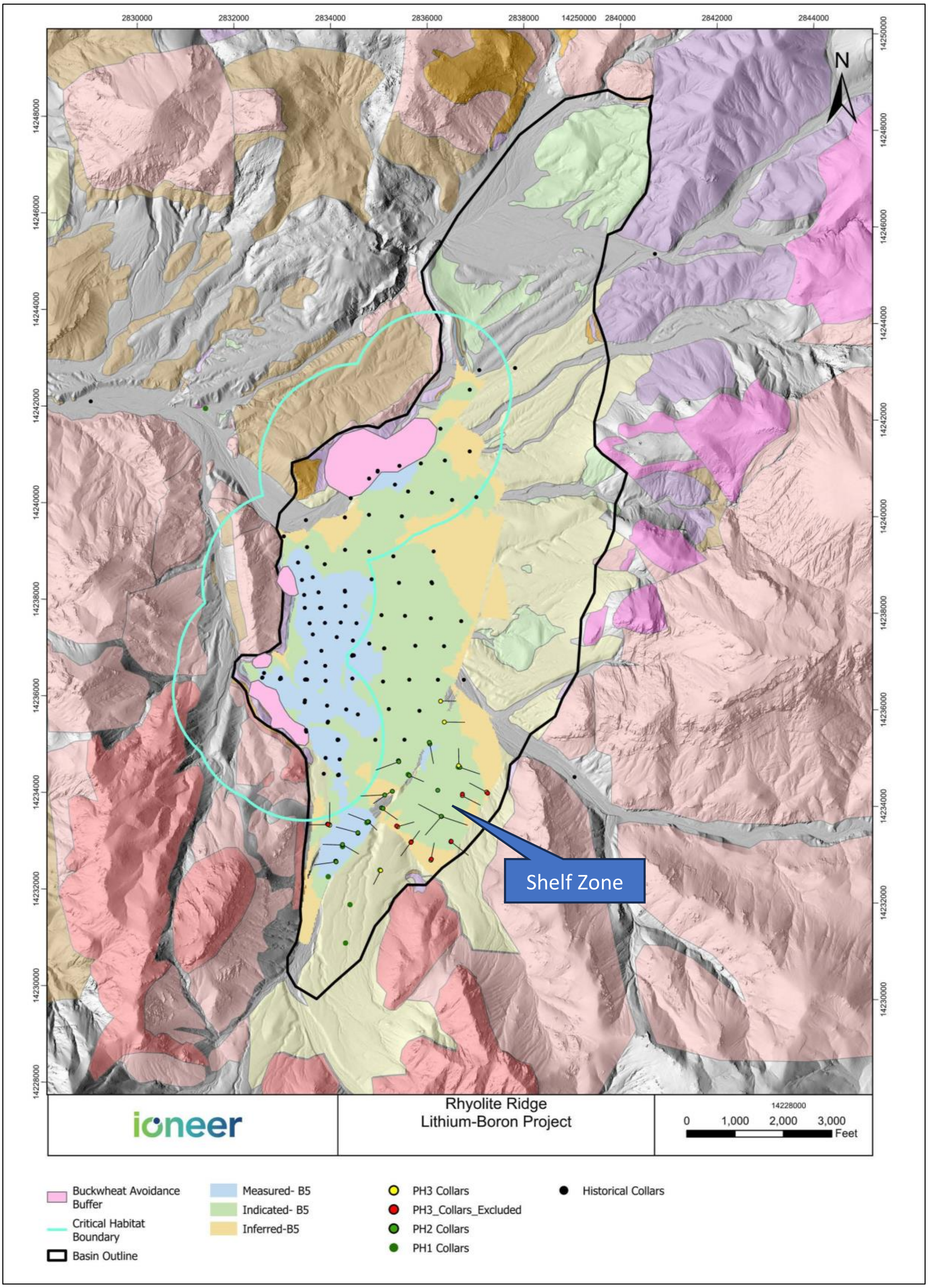

Figure 1. Geological plan map of the South Basin showing the areal extent of the B5 Resource coloured by resource category (30 April 2024 resource estimate) and all drill holes.

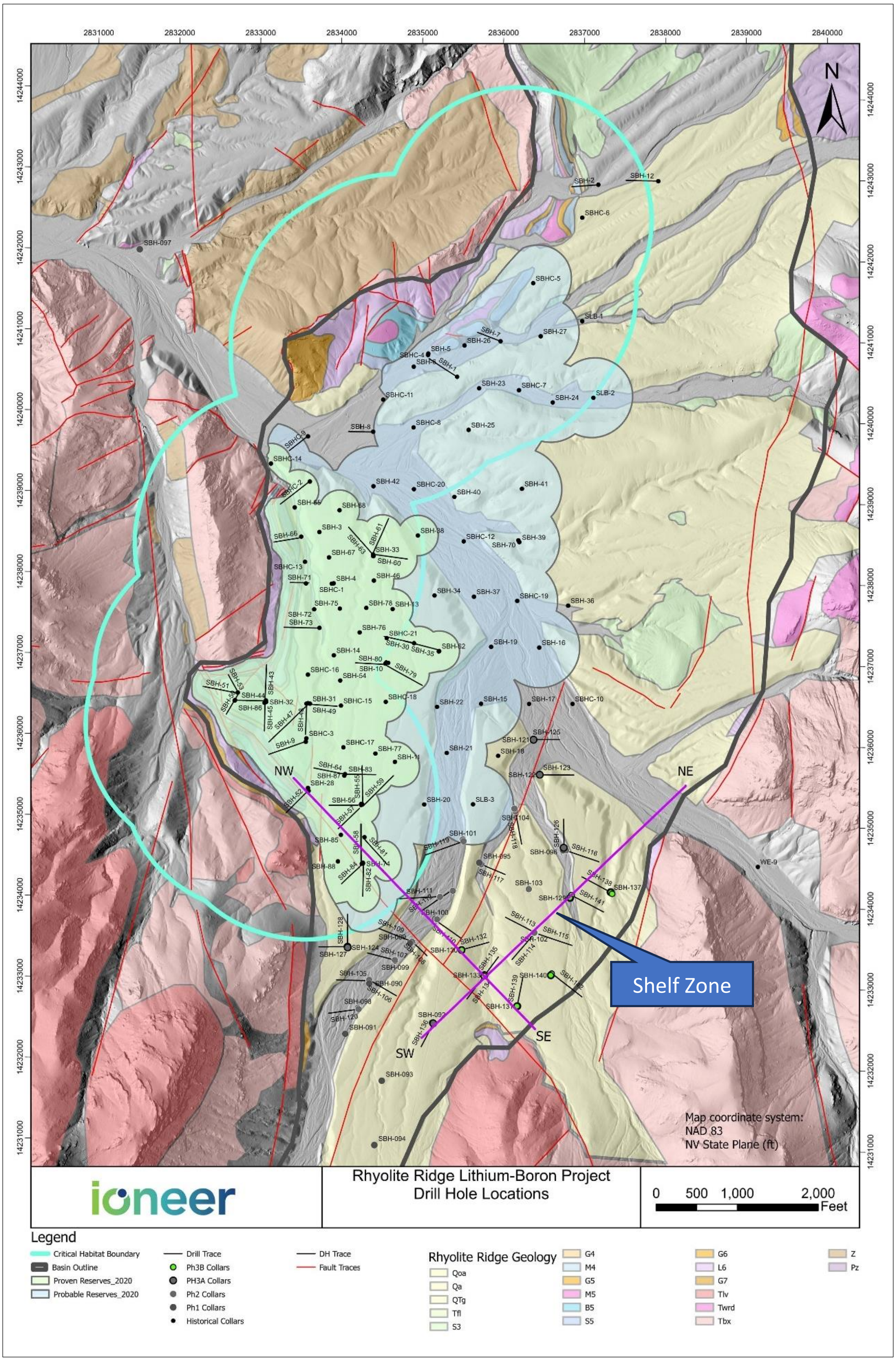

Figure 2. Geological plan map of the South Basin showing all drill holes including the twelve holes from Phase 3B and the location of the two cross-sections in Figures 4 and 5.

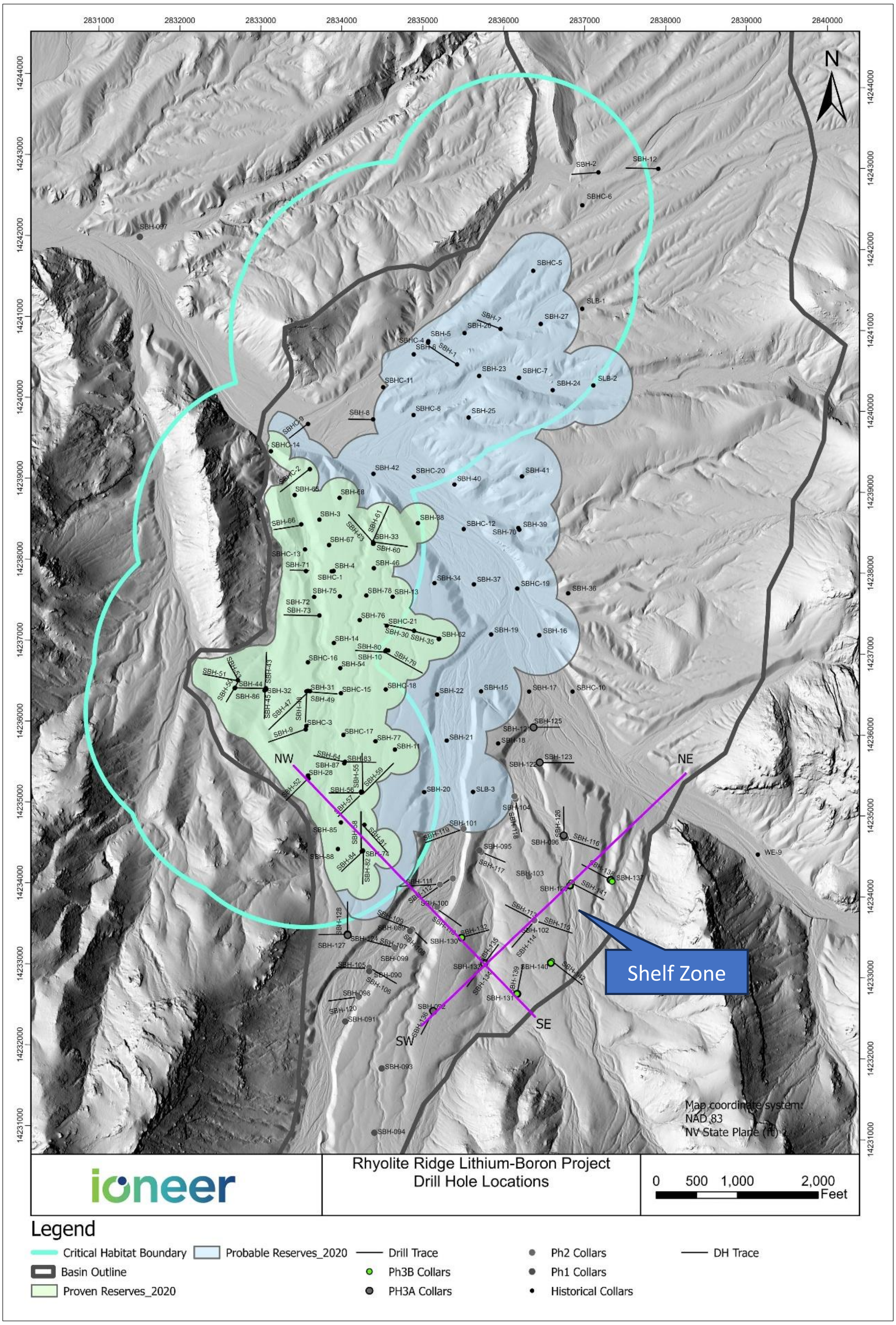

Figure 3. Lidar topographic plan map of the South Basin showing all drill holes including the twelve holes from Phase 3B and the location of the two cross-sections in Figures 4 and 5.

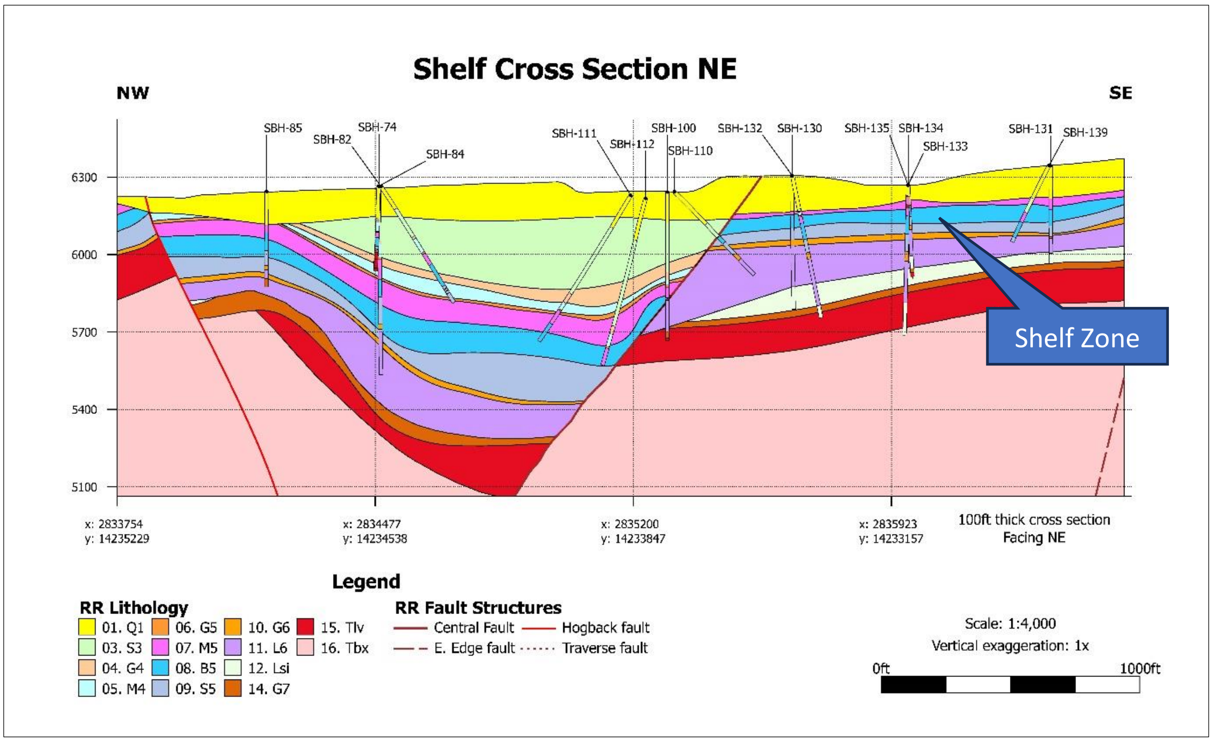

Figure 4. NW-SE Cross-Section looking NE and showing the Shelf Zone. Refer to Figures 2 and 3 for location of cross-section.

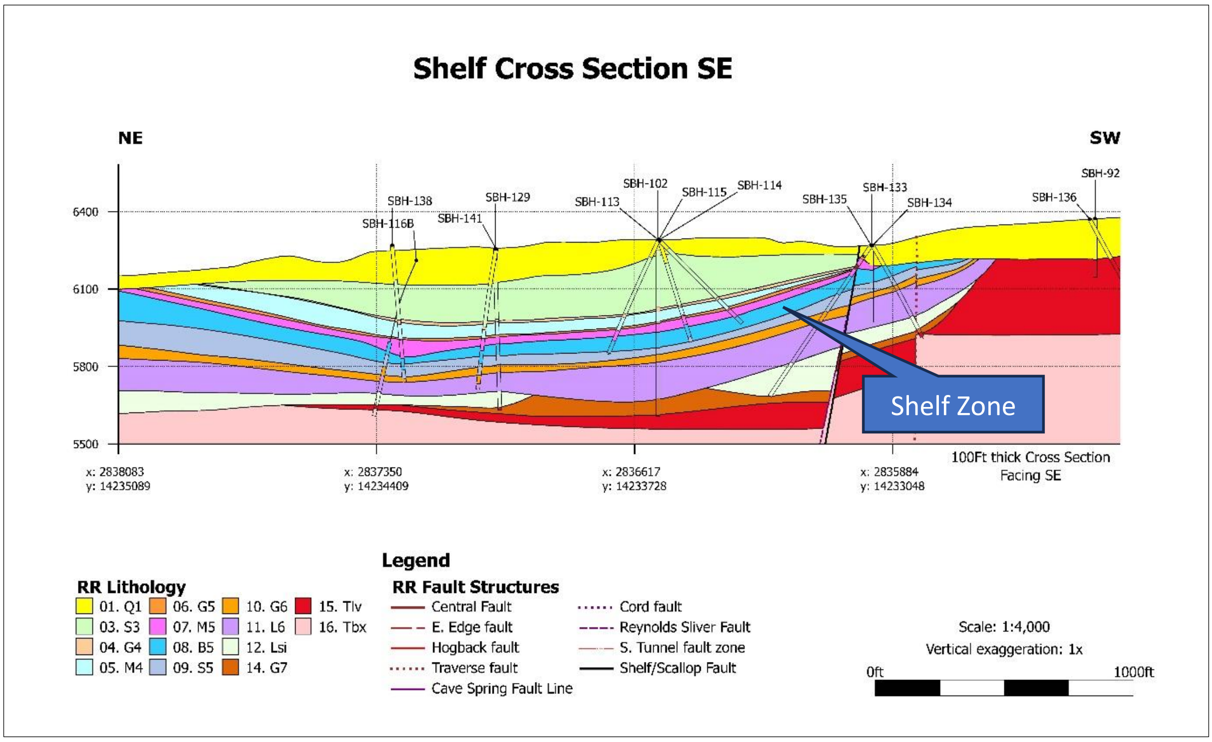

Figure 5. NE-SW Cross-Section looking SE through the Shelf Zone. Refer to Figures 2 and 3 for location of the cross-section.

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

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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 ore 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 referred to in this report 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 "Mineral Resource update delivers high-grade, shallow Shelf Zone, outside of critical habitat" dated 30 April 2024, 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.

Important notice and disclaimer

Forward-looking statements

This announcement contains certain forward-looking statements and comments about future events, including Ioneer's expectations about the Project and the performance of its businesses. Forward looking statements can generally be identified by the use of forward-looking words such as 'expect', 'anticipate', 'likely', 'intend', 'should', 'could', 'may', 'predict', 'plan', 'propose', 'will', 'believe', 'forecast', 'estimate', 'target' and other similar expressions within the meaning of securities laws of applicable jurisdictions. Indications of, and guidance on, the Conditional Commitment, financing plans, future earnings or financial position or performance are also forward-looking statements.

Forward-looking statements involve inherent risks and uncertainties, both general and specific, and there is a risk that such predictions, forecasts, projections and other forward-looking statements will not be achieved. Forward-looking statements are provided as a general guide only and should not be relied on as an indication or guarantee of future performance. Forward looking statements involve known and unknown risks, uncertainty and other factors which can cause Ioneer's actual results to differ materially from the plans, objectives, expectations, estimates, and intentions expressed in such forward-looking statements and many of these factors are outside the control of Ioneer. Such risks include, among others, uncertainties related to the finalisation, execution, and funding of the DOE financing, including our ability to successfully negotiate definitive agreements and to satisfy any funding conditions, as well as other uncertainties and risk factors set out in filings made from time to time with the U.S. Securities and Exchange Commission and the Australian Securities Exchange. As such, undue reliance should not be placed on any forward-looking statement. Past performance is not necessarily a guide to future performance and no representation or warranty is made by any person as to the likelihood of achievement or reasonableness of any forward-looking statements, forecast financial information or other forecast. Nothing contained in this announcement, nor any information made available to you is, or shall be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of Ioneer.

Except as required by law or the ASX Listing Rules, Ioneer assumes no obligation to provide any additional or updated information or to update any forward-looking statements, whether as a result of new information, future events or results, or otherwise.

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*	• 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. Samples, with a mean weight of 1.8 kg, were submitted to ALS where they were proceeded for assay. ○ Drill Hole Deviation: Inclined core drill holes were surveyed to obtain downhole deviation by the survey company (International Directional Services, LLC) or drilling company (Major Drilling,) with a downhole Reflex Mems Gyros and Veracio TruShot tools.
	• *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.).*	• For the 2022-2024 drilling program, all core holes (vertical and inclined) 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.*	• For the 2022-2024 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.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• During the 2022-2024 drilling program, ioneer used 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.

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, 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.
	• *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: ○ During the 2022-2024 drilling programs, 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: ○ During 2022-2024 drilling programs, 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.*	• The nature and quality of the assaying and laboratory procedures used include the following: o All core samples were processed, crushed, split, and then a sub-sample was pulverized by ALS Minerals in Reno, Nevada. o All sub-samples were analysed by Aqua Regia with ICP mass spectrometry (ICP-MS) finish for 51 elements (including Lithium (Li)) and Boron (B) by NaOH fusion/ICP high grade analysis (>/=10,000 ppm B). o The laboratory techniques are total. • The Competent Person considers the nature and quality of the laboratory analysis methods and procedures to be appropriate for the type of mineralization.
	• *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 drill program 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.*	• The following Quality Assurance and Quality Control (**QA/QC**) procedures were adopted for the various drilling programs:

Criteria	JORC Code 2012 Explanation	Commentary
		• During the 2022-2024 programs, 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 2022-2024 drilling programs. • SRMs: Review of the five SRMs used determined that there was a reasonable variability for Li between the upper and lower control limits (± 2 standard deviation (**SD**)), however B shows an overall bias towards lower than expected values (i.e. less than the mean) for all sample programs). • Field Blanks: Review of the field blanks indicate that there is some variability in both the Li and B results. There are several samples that return higher than expected values. • Field Duplicates: Review of the 230 field duplicate sample pairs from the 2018-2019 drilling program determined that there was a strong correlation between each pair, as evidenced by an R^2 value of 0.99 for Li. • Umpire Laboratory Duplicates: 20 assay pulp rejects were sent from ALS to American Assay Laboratories (AAL) in Sparks, NV for umpire laboratory analysis. Review of the 20 umpire duplicate pairs found a strong correlation between each pair, with B returning an R2 value of 0.98. • 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.

Criteria	JORC Code 2012 Explanation	Commentary
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• Significant intersections have been verified by visual inspection of the drill core intervals by at least two ioneer geologists for all drilling programs.
	• *The use of twinned holes.*	• One pair of 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 reviewed and assessed two drill holes and the variance for thickness and grade parameters were within acceptable levels.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• For the 2022-2024 drilling programs, all field data was captured directly into formatted MS Excel files by logging geologists. All primary field data was reviewed by the senior ioneer geologist. • Data is stored in digital format in a MS Access database.
	• *Discuss any adjustment to assay data.*	• There has been no adjustment to assay data.

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:
		  ○ All inclined core drill holes were surveyed to obtain downhole deviation using a downhole Reflex Mems Gyros tool.
		  ○ 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 2022-2024 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. • For the 2022-2024 drilling program, there were multiple occurrences where several inclined drill holes were drilled from the same drill pad and oriented at varying angles away from each other. The collar locations for these inclined drill holes drilled from the same pad varied in distance from 0.3 m to 6.0 m apart; intercept distances on the floors of the target units were typically in excess of 90 m 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.
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: ○ For the 2022-2024 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 at the ALS laboratory in Reno by either ioneer or Newfields personnel. Chain of custody forms were maintained by either Newfields or ioneer and ALS.
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.

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 held by ioneer Minerals Corporation, a wholly owned subsidiary of ioneer Ltd. • 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 386 Lode Mining Claims for the Project. • The mineral tenement and land tenure referenced above excludes 241 additional unpatented Lode Mining Claims (totalling approximately 2,000 Ha) for the North Basin which are located outside of the current South Basin Project Area presented in this Report. These additional claims are held by ioneer subsidiaries (NLB claim group; 160 claims) or ioneer holds an option to acquire 100% ownership of the claims (BH claim group; 81 claims). ○ 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 12 core drill holes is included in the body of the report as Table 1 and Table 2. • 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:

Drill Type	Year	Inclined Drill Holes		Vertical Drill Holes		Total Drill Holes	Total Depth (ft)
		Count	Total Depth (ft)	Count	Total Depth (ft)		
RC Drill Holes	2010-2012	6	4,444	9	7,589	15	12,033
	2016-2017	2	2,320	25	15,033	27	17,353
	2018-2019			4	1,556	4	1,556
	2023			7	4,155	7	4,155
Core Drill Holes	2010-2012	2	1,742	19	15,119	21	16,861
	2016-2017			3	2,798	3	2,798
	2018-2019	28	21,048	14	8,764	42	29,812
	2022			9	3,504	9	3,504
	2023	15	9,572			15	9,572
	2023-2024	13	6,153	9	4,349	22	10,503
	Total	**66**	**45.279**	**7499**	**62,867**	**165**	**108,147**

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 no information is 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.*	• Intercepts were calculated using length weighted assay values for each individual 1.52m (5ft) length. This style of mineralization is not prone to sharp variations in grade over short distances. This is evident in the average grade being approximately two times the cut-off grade for lithium.
	• *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.*	• All drill hole intercepts presented in the Report are down hole thickness, not true thickness. As discussed in the Orientation of Data section of this Table 1, 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 mineralization, 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 geometry of mineralization is known and individual down hole intercepts are representative of true thickness.
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 maps and sections are included in the Report.
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.*	• Full widths of mineralization are being reported for all 12 drill holes.
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).*	• Additional drilling and sampling may be performed based on the results of current mining project studies. The mineralization being reported remains open in several directions.

	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Refer to Figure 1 in the body of this report.