

Quarterly Activities Report for the period ending 31 March 2019

Highlights

- Drill results from 45-hole (9,000m) drilling program show consistently higher lithium and boron grades within and immediately south of the planned starter pit
- Kemetco Research Inc (**Kemetco**) awarded contract to build pilot plant as part of the Definitive Feasibility Study (**DFS**)
- **In early April**, SNC-Lavalin awarded the engineering and design contract for the sulphuric acid plant component of the Rhyolite Ridge DFS, delivering an estimated capex saving of US\$60 million
- DFS progressing to schedule with approximately one third complete

Monday, 29 April 2019 – Emerging lithium-boron supplier ioneer Ltd (**ioneer** or the **Company**) (ASX: INR) is pleased to report progress on its 100%-owned Rhyolite Ridge Lithium-Boron Project in Nevada, USA, for the quarter ending 31 March 2019.

Commenting on progress made during the quarter, ioneer's Managing Director Bernard Rowe said:

"The results from our latest drilling program have been very positive with the first 17 of the 45 holes showing consistently higher lithium and boron grades than the Ore Reserve grades in the Pre-Feasibility Study (**PFS**). The results from the drill program will be incorporated into the updated mine plan and Ore Reserve for the DFS which is on track for completion in Q3 2019."

"The appointment of Kemetco to build and operate the metallurgical testwork pilot plant and SNC-Lavalin to design the sulphuric acid plant are key steps in the DFS. Both partners have strong track records in their respective fields, and it is a testament to the quality and potential of Rhyolite Ridge that we are able to work with partners of such international calibre."

Drill Results Continue to Provide Higher Grades

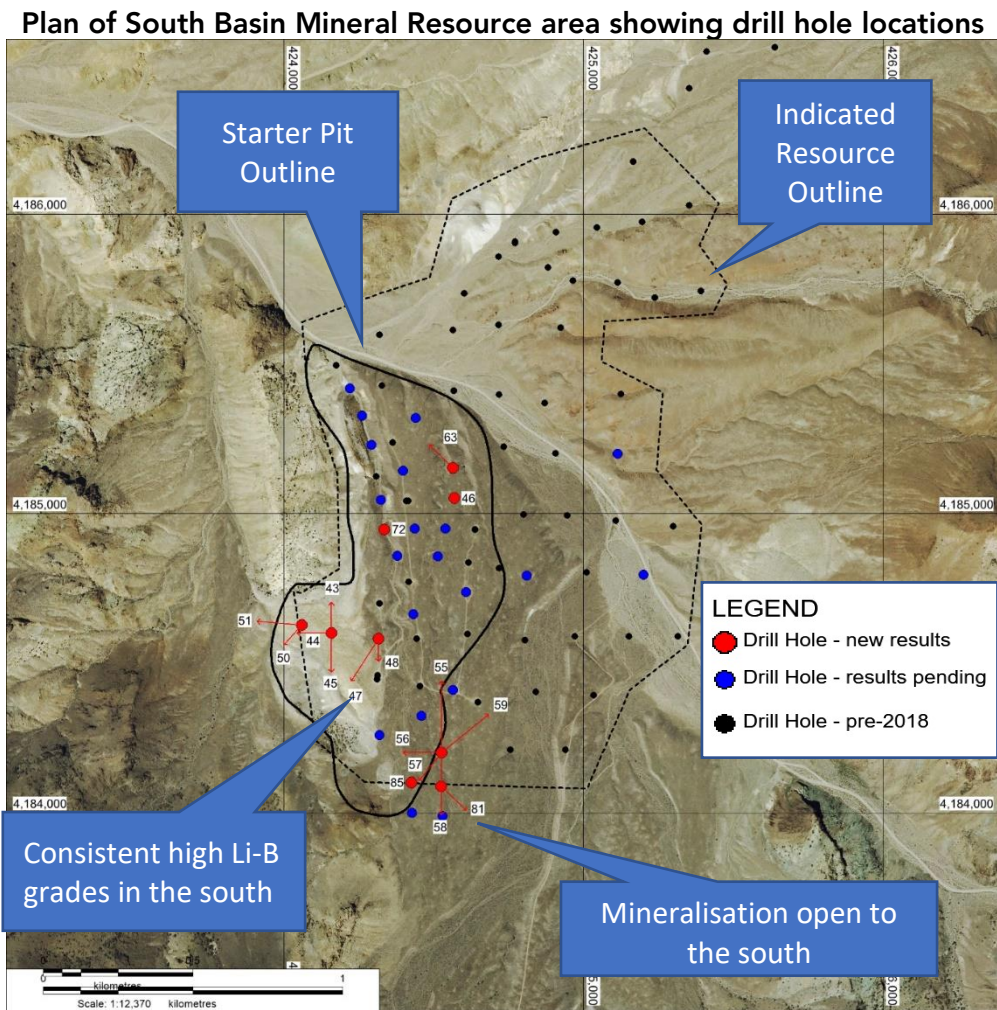
In February 2019, ioneer announced further drilling results from the 45-hole (9,000m) drilling program completed in late January 2019. The drilling program was designed to increase the confidence of the Ore Reserve estimate by infill drilling the planned starter pit and testing for extensions of mineralisation to the south of the current Ore Reserve.

Results received for the first 17 of the 45 holes were highly encouraging with lithium and boron grades consistently higher than the Ore Reserve grades. In the group of ten holes drilled at the southern end of the deposit, grades are approximately 15% higher for lithium and 20% higher for boron, when compared to the Ore Reserve grades used in the 2018 PFS.

	Tonnes (Million)	Lithium (ppm)	Boron (%)
Probable Reserve (starter pit)	15.8	1,900	1.22%
Indicated Resource	104.1	1,700	1.28%
Average of 10 most southerly drill holes	N.A.	2,162	1.44%

Note: the above Ore Reserve and Mineral Resource were used in the 2018 Rhyolite Ridge Pre-Feasibility Study.

Results from the drilling program are being incorporated into an updated Mineral Resource, Ore Reserve and mine plan for the DFS. The high-grade, lithium-boron mineralisation remains open to the south and additional drilling is being planned to test for further extensions.



Notes: South Basin Resource area showing drill hole locations. The Resource remains open to the north, south and east. UTM Zone 11 (NAD83).

Pilot Plant Contract Awarded

In March 2019, Kemetco was awarded the contract to build and operate the pilot plant for the Rhyolite Ridge Lithium-Boron Project. The main bulk sample run will be conducted in May-June 2019. Output from the plant will provide sufficient products with defined specifications for ioneer's off-take partner marketing purposes.

The pilot plant will enable ioneer to confirm the PFS flowsheet and finalise the DFS process flowsheet. It will also collect the data required for detailed design plant engineering and assess the quality of the final boric acid and lithium carbonate product. By running the completed process flowsheet, the pilot plant will also serve as a demonstration plant underpinning strategic and financing partner discussions.

The pilot plant is expected to commence operation in early May 2019, with the main run expected to follow in May-June 2019. Approximately 30 tonnes of outcropping lithium-boron ore have been sourced from Rhyolite Ridge. Approximately seven tonnes of drill core from the recently completed drill program will also be processed in the pilot plant.

Sulphuric Acid Plant Contract Awarded

In early April, SNC-Lavalin was awarded the engineering and design contract to complete the sulphuric acid plant component of the DFS. SNC-Lavalin will incorporate MECS® best-in-class sulphuric acid production technology from DuPont Clean Technologies into the plant.

As part of the contract bidding process, SNC-Lavalin provided an updated cost estimate of approximately US\$111 million for the supply and installation of the sulphuric acid plant. This is approximately US\$60 million lower than the US\$170 million estimated in the PFS completed in October 2018. This capex saving is significant and materially improves the already robust project economics.

The acid plant will produce 3,500 tonnes per day of sulphuric acid for the vat leaching and all of the steam/heat necessary for the processing plant. Excess steam will be used to generate approximately 50 megawatts per annum of carbon-free electricity.

DFS Progress

Work continued on the DFS during the period and the study is now approximately one third complete. The main focus of the work was around the trade-off studies which include:

- Sulphur prill versus molten sulphur
- Process optimisation
- Materials of construction
- Cooling system (towers versus fin fan)
- Power supply (grid versus steam turbine)
- Mining equipment sizing and automation
- Logistics

With the completion of the drilling program, the geological model is being updated in preparation for an updated Resource/Reserve estimate, mine sequencing and pit shell design. Work is progressing on optimizing blasting and overburden storage including in-pit overburden storage. Equipment sizing and engineering work on the spent ore storage facility has commenced.

The environmental program is progressing with preparation of the plan of operation. Hydrogeologic pumping tests were completed and groundwater flow modelling is underway.

Upcoming Work Program

The work program over the coming months includes:

- Working with a global investment bank, Ioneer is progressing discussions with potential off-take, and financial partners.
- Progress the DFS towards completion in Q3 2019.
- Pilot scale testing of the processing flowsheet aimed at confirming recovery and design parameters as well as producing samples for potential customers.
- Update the Mineral Resource based on latest drilling with the aim of increasing the overall lithium-boron Resource (currently 104 million tonnes) and upgrading the Resource within the starter-pit area to the Measured category.
- Update the mine plan and Ore Reserve with the aim of having 100% of the Measured and Indicated Resource included in the updated Ore Reserve.
- Testwork and trade-off study relating to the production of alternate lithium products, including battery-grade lithium carbonate, lithium hydroxide and lithium sulphate.
- Environmental permitting – complete remaining baseline surveys, plan of operation and start formal process with Federal Government.

Corporate Activities

Change of Company Secretary

Immediately after quarter end, Ioneer announced the resignation of Joanna Morbey as Company Secretary of the Company (effective 1 April 2019). Joanna had served as Company Secretary of Ioneer since the Company's listing on the ASX in December 2007. Ioneer Directors and management would like to thank Jo for her hard work, dedication and commitment to the Company and its shareholders.

Mr. Ian Bucknell, the Company's Chief Financial Officer, was appointed to the role of Company Secretary. Ian has previously acted as Company Secretary at AWE Limited, Drillsearch Energy Limited and Great Artesian Oil and Gas Limited.

Expenditure

Expenditure during the March quarter totalled:

- \$9.5 million on exploration and evaluation; and
- \$0.8 million on corporate/administration/salaries (net of interest received).

Cash on hand at 31 March 2019 was \$60.1 million.

Capital Structure

At the end of the quarter, ioneer had on issue:

- 1.47 billion ordinary shares;
- 47.4 million options; and
- 1.4 million performance rights.

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About ioneer

The Company's 100%-owned Rhyolite Ridge Lithium-Boron Project in Nevada, USA provides a substantial foundation for ioneer to become a responsible and profitable producer of the materials necessary for a sustainable future.

The Rhyolite Ridge PFS demonstrated the Project's scale, long life and potential to become the lowest cost lithium producer in the world as well as the largest lithium producer in the United States.

With forecast annual production of 20,200 tonnes lithium carbonate and 173,000 tonnes boric acid, Rhyolite Ridge will be a globally significant producer of both lithium and boron.

Lithium and boron are both used in a diverse range of everyday items and innovative technologies that are essential to modern life and emerging clean technologies such as electric vehicles.

Recent Announcements

The table below lists announcements made by the Company during the quarter.

Date Released	Title
7 January 2019	Change of directors' interest notice – A Davies
8 January 2019	Appendix 3B amended
29 January 2019	Appendix 3B
30 January 2019	December 2018 quarterly activities report
30 January 2019	December 2018 Appendix 5B
20 February 2019	Drill results continue to enhance Rhyolite Ridge Project

1 March 2019	Half yearly report and accounts
7 March 2019	Presentation at PDAC Convention, Toronto
13 March 2019	Pilot Plant contract awarded to Kemetco Research Inc

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. Bernard Rowe is a shareholder, employee and Managing Director of Ioneer Ltd. 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' (JORC Code 2012). Bernard 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 report titled "Updated Rhyolite Ridge Mineral Resource Statement" dated 23 October 2018 and released on ASX. Further information regarding the Mineral Resource estimate can be found in that report. All material assumptions and technical parameters underpinning the estimates in the report continue to apply and have not materially changed.

In respect of Ore Reserves 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 report titled "Rhyolite Ridge Drilling Update and Maiden Ore Reserve" dated 21 December 2018 and released on ASX. Further information regarding the Ore Reserve 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.

The Company intends to report updated Mineral Resource and Ore Reserve estimates as part of the Definitive Feasibility Study currently in progress and due for completion in Q3 2019.

In respect of production targets referred to in this report and previously disclosed, the Company confirms that it is not aware of any new information or data that materially affects the information included in the public report titled "Outstanding Results from Rhyolite Ridge Pre-Feasibility" dated 23 October 2018. Further information regarding the production estimates can be found in that report. All material assumptions and technical parameters underpinning the estimates in the report continue to apply and have not materially changed.

Appendix 1

Mineral Resource Estimate

The Indicated and Inferred Resource estimate for the South Basin at Rhyolite Ridge totals 475.4 million tonnes at 0.9% lithium carbonate and 2.3% boric acid (at a 1,050ppm Li cut-off). This includes both the lithium-boron (searlesite) mineralisation and the lithium-only (clay-rich) mineralisation.

October 2018 Mineral Resource Estimate (1,050ppm Li Cut-off)

Total Resource including Lithium-Only Mineralisation and Lithium-Boron (Searlesite) Mineralisation

Group	Classification	Tonnage Mt	Li ppm	B ppm	Li ₂ CO ₃ %	H ₃ BO ₃ %	K ₂ SO ₄ %	Contained		
								Li ₂ CO ₃ kt	Boric Acid kt	Potassium kt
Upper Zone	Indicated	149.6	1,890	7,250	1.0	4.1	1.6	1,510	6,180	2,430
	Inferred	49.4	1,860	4,300	1.0	2.4	1.6	490	1,200	770
	Total	199.1	1,880	6,520	1.0	3.7	1.6	2,000	7,380	3,210
Lower Zone	Indicated	192.4	1,370	2,880	0.7	1.6	1.6	1,410	3,060	3,020
	Inferred	83.9	1,480	1,080	0.8	0.6	1.5	660	490	1,230
	Total	276.3	1,410	2,340	0.7	1.3	1.5	2070	3,550	4,250
Upper & Lower Zone	Indicated	342.0	1,600	4,800	0.9	2.7	1.6	2,910	9,240	5,450
	Inferred	133.4	1,600	2,300	0.9	1.3	1.5	1,150	1,690	2,000
	Grand Total	475.4	1,610	4,100	0.9	2.3	1.6	4,060	10,930	7,460

The Indicated and Inferred Resource includes the lithium-boron (searlesite) mineralisation totalling 121.4 million tonnes at 0.9% lithium carbonate and 7.1% boric acid (at a 1,050ppm Li and 0.5% B cut-off) containing a total of 1.1 million tonnes of lithium carbonate and 8.6 million tonnes of boric acid.

October 2018 Mineral Resource Estimate (1,050ppm Li & 0.5% B Cut-off Cut-off)

Lithium-Boron (Searlesite) Mineralisation

Group	Classification	Tonnage Mt	Li ppm	B ppm	Li ₂ CO ₃ %	H ₃ BO ₃ %	K ₂ SO ₄ %	Contained		
								Li ₂ CO ₃ kt	Boric Acid kt	Potassium kt
Upper Zone	Indicated	71.9	1,840	14,110	1.0	8.1	2.0	700	5,800	1,420
	Inferred	14.7	1,970	12,150	1.0	6.9	2.0	150	1,020	300
	Total	86.6	1,860	13,780	1.0	7.9	2.0	860	6,830	1,720
Lower Zone	Indicated	32.2	1,430	9,750	0.8	5.4	1.7	240	1,730	530
	Inferred	2.6	1,620	6,690	0.9	3.3	1.8	20	90	50
	Total	34.8	1,440	9,520	0.8	5.2	1.7	270	1,820	580
Upper & Lower Zone	Indicated	104.1	1,700	12,800	0.9	7.2	1.9	950	7,540	1,950
	Inferred	17.3	1,900	11,300	1.0	6.4	2.0	180	1,110	340
	Grand Total	121.4	1,740	12,600	0.9	7.1	1.9	1,130	8,650	2,300

Note: Mineral Resources quoted in this report are inclusive of Ore Reserves.

Ore Reserve Estimate

The initial Ore Reserve for Rhyolite Ridge has been estimated only within the area targeted for the starter pit in the PFS.

The Ore Reserve is estimated to total 15.8 million tonnes at 1,900ppm lithium (equivalent to 1.0% lithium carbonate) and 12,200ppm boron (equivalent to 7.0% boric acid).

Classification	Tonnage Mt	Li ppm	B ppm	Contained		Li ₂ CO ₃ %	H ₃ BO ₃ %	Contained	
				Li kt	B kt			Li ₂ CO ₃ kt	Boric Acid kt
Proved	-	-	-	-	-	-	-	-	-
Probable	15.8	1,900	12,200	31	193	1.0	7.0	160	1,102
Total	15.8	1,900	12,200	31	193	1.0	7.0	160	1,102

Appendix 2 - Lithium and boron conversion factors

Lithium and boron grades are fundamentally presented in parts per million ("ppm") or percentages of each element in a given sample or estimate.

Lithium and boron grades are also expressed as various compounds in percentages in order to facilitate comparisons between different types of deposits and/or various products. The conversion factors presented below are calculated on the atomic weights and number of atoms of each element in the various compounds.

The standard lithium conversion factors are set out in the table below:

Convert from		Convert to Li (lithium)	Convert to Li ₂ O (lithium oxide)	Convert to Li ₂ CO ₃ (lithium carbonate)
Lithium	Li	1.000	2.152	5.322
Lithium Oxide	Li ₂ O	0.465	1.000	2.473
Lithium Carbonate	Li ₂ CO ₃	0.188	0.404	1.000

Lithium (chemical symbol: Li) is the lightest of all metals and the third element in the periodic table. The element lithium does not exist by itself in nature but is contained within mineral deposits or salts including brine lakes and sea water.

The lithium carbonate grades reported in the Company's Mineral Resource estimates are calculated using the conversion factors in the table above and assume 100% of the contained lithium is converted to lithium carbonate.

The standard boron conversion factors are set out in the table below:

Convert from		Convert to B (boron)	Convert to B ₂ O ₃ (boric oxide)	Convert to H ₃ BO ₃ (boric acid)
Boron	B	1.000	3.219	5.718
Boric Oxide	B ₂ O ₃	0.311	1.000	1.776
Boric Acid	H ₃ BO ₃	0.175	0.563	1.000

Boron (chemical symbol: B) is a rare light metal and the fifth element in the periodic table. The element boron does not exist by itself in nature. Rather, boron combines with oxygen and other elements to form boric acid, or inorganic salts called borates.

Borates are an important mineral group for modern society with demand expected to continue to grow at or above global GDP rates. There are few substitutes for borates especially in high-end applications and agriculture. These markets are expected to grow as global population grows and becomes more affluent.



Appendix 3 - Schedule of Tenements

Country	Project	Tenement ID	Tenement Name	Area (km ²)	Interest at beginning of quarter	Interest at end of quarter	Note
USA	Rhyolite Ridge	NMC1118666	NLB claims (160)	13	100%	100%	No change
USA	Rhyolite Ridge	NMC1117360	SLB claims (199)	16.5	100%	100%	No change
USA	Rhyolite Ridge	NMC1171536	SLM claims (122)	9.7	100%	100%	No change
USA	Rhyolite Ridge	NMC 1179516	RR claims (65)	5.4	100%	100%	No change
USA	Rhyolite Ridge	NMC 1129523	BH claims (81)	7	0%	0%, option to purchase 100%	No change
USA	SM	NMC1166813	SM claims (96)	7.7	100%	100%	No change
USA	GD	NMC1166909	GD claims (13)	1.1	100%	100%	No change
USA	CLD	NMC1167799	CLD claims (65)	5.2	100%	100%	No change
USA	New Morenci	AMC393550	MP claims (2)	0.12	100%	100%	No change
USA	Tokop	NMC883619	TK claims (73)	4.82	100%	100%	No change
USA	Tokop	NMC285234	Path Patents (11)	0.74	0%, option to purchase 100%	0%, option to purchase 100%	No change
USA	Tokop	NMC814692	Path Unpatented (5)	0.40	0%, option to purchase 100%	0%, option to purchase 100%	No change
USA	Bartlett	NMC938020	PEARL claims (8)	0.67	0%, option to purchase 100%	0%, option to purchase 100%	No change
USA	Lone Mt	NMC913404	NAMMCO claims (71)	5.43	0%, earning 100%	0%, earning 100%	No change
USA	Lone Mt	NMC1071591	LMG claims (37)	2.80	100%	100%	No change
USA	Lone Mt	NMC1094601	SW claims (24)	2.0	100%	100%	No change
USA	Towers Mt	AMC426407	CK claims (32)	2.54	100%	100%	No change