Lithium Ionic Announces PEA and Expanded Mineral Resource Estimate for Bandeira; Post-tax NPV8% US$1.6 Billion & IRR of 121%

written by Raj Shah | October 19, 2023

October 19, 2023 (Source) – Lithium Ionic Corp. (TSXV: LTH; OTCQX: LTHCF; FSE: H3N) ("Lithium Ionic" or the "Company") is pleased to report the results of the Preliminary Economic Assessment ("PEA") and the updated Mineral Resource Estimate ("MRE") for its wholly owned Bandeira project ("Bandeira" or the "Project") located in Minas Gerais, Brazil.

The PEA was completed by independent Brazilian consultancy, GE21 Consultoria Mineral Ltda ("GE21"), with support of SNC Lavalin, and indicates that Bandeira has the potential to be a viable and highly economic mining project and a substantial and long-life producer of low-cost spodumene concentrate.

Bandeira PEA – Production & Economic Highlights *($USD unless otherwise stated)*:

- Post-tax Net Present Value ("NPV")$_{8\%}$ of $1.6 billion (approximately C$2.2 billion)
- Post-tax Internal Rate of Return ("IRR") of 121%
- Underground mine scenario processing 1.3Mtpa of ore over a 20-year mine life
- After-tax payback of 14 months
- Avg. LOM annual production of 217,700t of high-quality

spodumene concentrate at 5.5% Li2O (“SC5.5”) equivalent (187,230 tpa SC5.5, in addition to 56,860 tpa of spodumene tails concentrate at 3% Li2O, or “SC3”)
- Total capital expenditure (“CAPEX”) of $233 million (including a 25% contingency)
- Pre-tax annual average free cash flow of $243 million
- All-in LOM operating costs (“OPEX”) of $349/t of spodumene concentrate SC5.5

Bandeira Updated MRE Highlights:

- Measured & Indicated: 13.72Mt at 1.40% Li20 (474,892t LCE) representing a 196% increase in tonnes compared to the June 2023 MRE for Bandeira of 4.63Mt at 1.35% Li20 (154,198t LCE)
- Inferred: 15.79Mt at 1.34% Li20 (523,118t LCE)

Commenting on the PEA, Blake Hylands, P.Geo, CEO of Lithium Ionic, “We congratulate our team on advancing the Project to this stage in a short time span. As a Company, we are focused on being the next significant Brazilian lithium producer and this is reflected in the approach we have taken. Commencing with a highly attractive underground project will result in significantly less surface disturbance and the experience of CBL on the adjacent mine site provides a proven production model for developing the mining operation. The Company has a highly experienced team in Brazil that has taken numerous projects through the permitting and development process and as such the Project is well advanced in this regard. We believe the deliverables in this PEA are achievable.”

Blake Hylands, P.Geo., continued, “The robust results of our PEA marks a major de-risking milestone towards our goal of becoming a near-term supplier of high-quality spodumene concentrate to

the global lithium and electric vehicle supply chains. The Bandeira deposit has demonstrated its technical simplicity and remarkable economic viability, placing it among the lowest-cost spodumene concentrate producers globally. Furthermore, this PEA showcases an impressive 20-year mine life from just one of our deposits. The Bandeira project will serve as a solid foundation for further growth as we continue to expand both the mineral resources and potential production scale through ongoing drilling and exploration in the region. We are rapidly advancing Bandeira through the next phases of development, with a Definitive Feasibility and Environmental Impact Assessment expected by the end of 2023, paving the way for the initiation of the environmental permitting process. As a proposed underground operation, Bandeira benefits from a minimal environmental footprint and an expected accelerated permitting timeline."

Helio Diniz, President of Lithium Ionic, stated, "We believe that the best approach for all of our stakeholders is to develop a significant producing operation in the shortest possible time frame. We will continue to expand the resources and develop our other targets, which will represent future expansions to support what we believe will be a multi-generational production center."

Bandeira Project PEA Overview

The Bandeira Project covers 175 hectares within Lithium Ionic's large land package of 14,182 hectares and is located between the towns of Araçuaí and Itinga within Brazil's "Lithium Valley" – a hard rock lithium district that is quickly emerging as an important global lithium producer (see Figure 1).

Table 1. Bandeira Project PEA Highlights *($USD unless otherwise stated)*

Project Economics

Post – Tax NPV_8	$1.6 billion
Post – Tax IRR	121%
Pre – Tax NPV_8	$2.3 billion
Pre – Tax IRR	163%
Annual Revenue – Average	$337 million
Annual Free Cash Flow	$243 million
Payback	14 months
Economic Assumptions & Parameters	
SPO 5.5% Li2O Price, CIF China	$1,859/t
SPO 3.0% Li2O Price, CIF China	$865/t
Exchange rate	US$5.00 /R$
Discount Rate	8%
Production Profile	
Total Project Life (LOM)	20 years
Total LOM production (ore mined)	22.9 Mt
Nominal Plant Capacity	1.3 Mtpa
Average plant throughput	1.26 Mtpa
Run-of-Mine grade, Li2O (ore diluted)	1.23%
Run-of-Mine underground mine dilution	16.8%
Waste generation Average	439 ktpa
SPO Annual Production @ 5,5% Li2O	187 ktpa
SPO Annual Production @ 3,0% Li2O	56 ktpa
SPO Annual Production @ 5.5% Li2O Equivalent	218 ktpa
SPO 5,5% Li2O metallurgical recovery	67.0%
SPO 3,0% Li2O metallurgical recovery	10.7%
SPO 5,5% Li2O mass recovery	15.2%
SPO 3,0% Li2O mass recovery	4.5%

Project Capital Costs	
Mine (Development + Equipment’s + Pre-Production)	$72.5 million
Plant	$80.5 million
Environmental	$2.9 million
Engineering Services	$20.0 million
General Infrastructure & Others	$10.3 million
Contingency (25%)	$46.6 million
Total Capital Cost Estimate	$232.8 million
SUDENE Incentive tax benefit over first 10 years	75%
Operating Costs (OPEX)	
Operating costs (based on ore processed)	$61/t ore
Mining	$45/ t ore
Processing + Tailings handling	$12/ t ore
SG&A	$4/t ore
Operating costs (based on SPO 5.5 concentrate produced)	$349/t SPO 5.5E
Mining	$258/t SPO 5.5E
Processing + Tailings handling	$68/t SPO 5.5E
SG&A	$23/t SPO 5.5E
Transportation costs to customer destination *(Mine in Itinga – Araçuaí to Shanghai Port, China)*	$120/t SPO

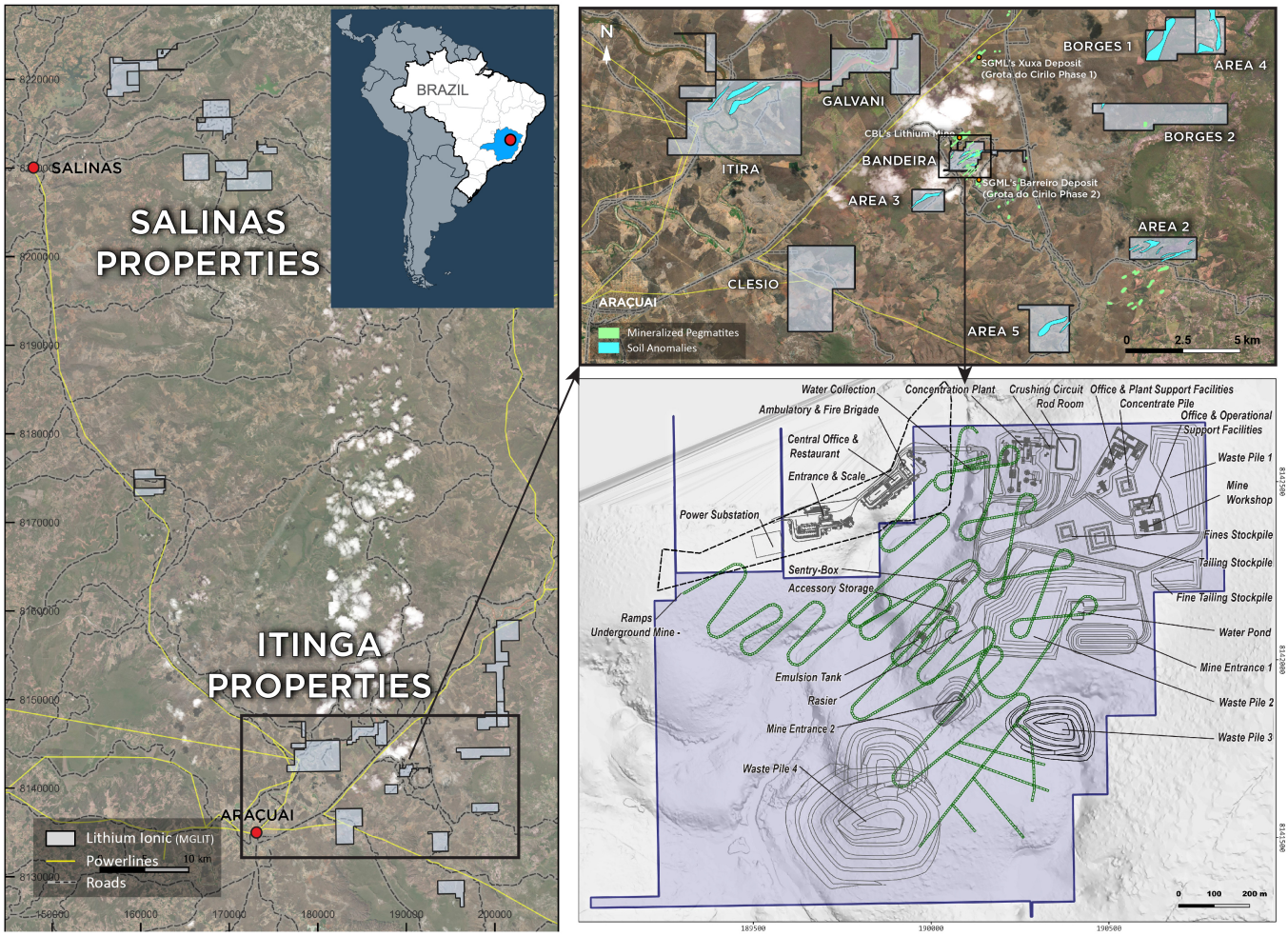


Figure 1. Bandeira Project Location

View Figure 1 here: https://www.globenewswire.com/NewsRoom/AttachmentNg/716584f0-30f6-4a40-810d-27d71375a06b

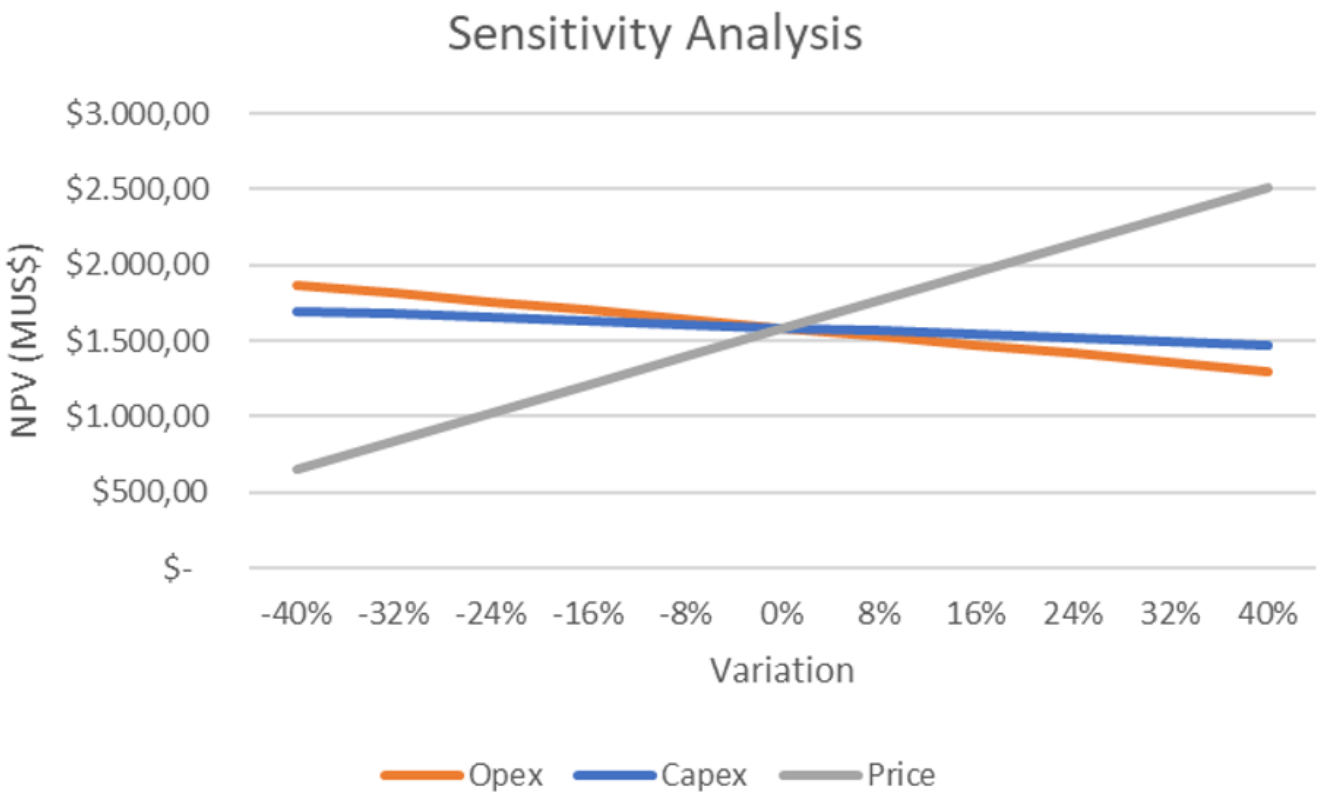


Figure 2. Post-Tax NPV8% Price Sensitivity Analysis

View Figure 2 here: https://www.globenewswire.com/NewsRoom/AttachmentNg/f23b883c-4887-47e2-a21f-cd3a2c644ff6

Mining

The Bandeira project engineering design contemplates dual underground mining operations. The primary orebodies, accounting for approximately 90% of the deposit, are proposed to be extracted using a bottom-up “sublevel stoping” method (Bandeira Sublevel Mine, “BSL mine”). Simultaneously, the secondary southeast orebody, comprising approximately 1.5 million tonnes, is expected to be mined using “room-and-pillar” technique (Bandeira Room and Pillar, “BRP mine”).

The BSL mine has been planned with two declines, extending along

a NE/SW mineralized trend spanning 1.0 km. It is divided into 12 panels, each measuring 55 meters, and consists of two sublevels (see Figure 3).

The BRP mine features a single panel with approximate dimensions of 380 meters in length, 330 meters in width, and 10 meters in height. Access to the ore chamber will be provided through five crosscuts originating from the southern decline. Once fully operational, the BSL and BRP mines are expected to achieve a combined production of approximately 1.3 million tonnes per annum. Figure 4 shows the annual plant feed along with Li_2O grade.

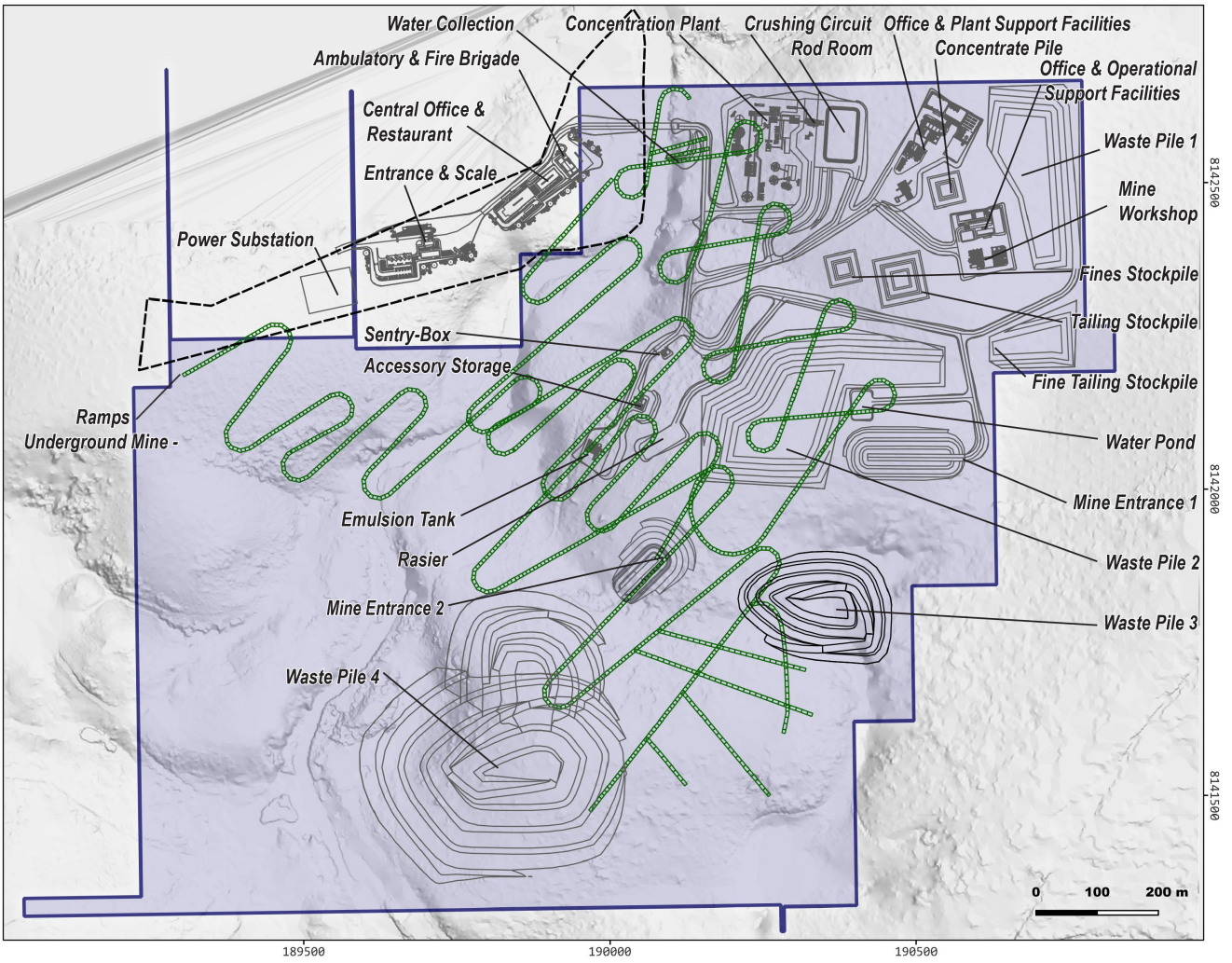


Figure 3. Proposed Project Layout and Infrastructure

View Figure 3 here:https://www.globenewswire.com/NewsRoom/AttachmentNg/f635ab5d-4f33-424e-a922-ce1a6d518b1e

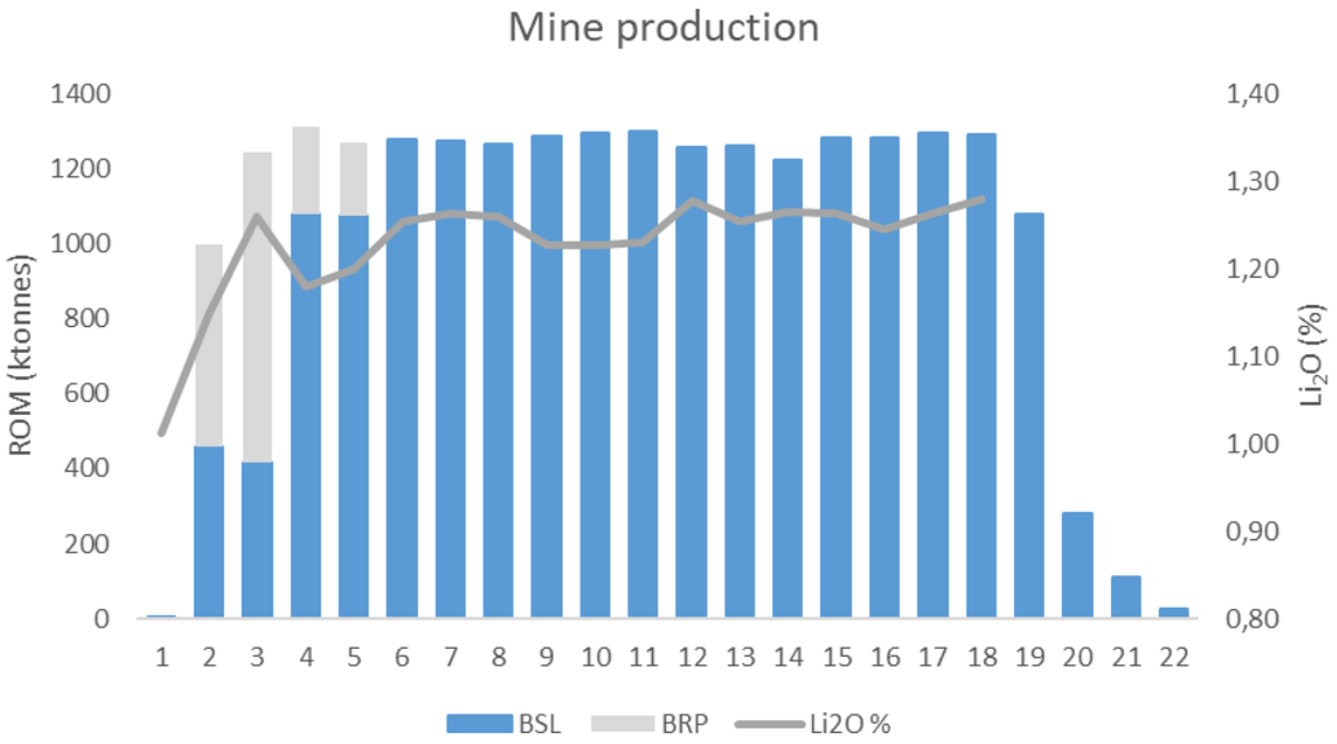


Figure 4. PEA Mine Plan and Schedule with Li2O, %

View Figure 4 here: https://www.globenewswire.com/NewsRoom/AttachmentNg/5100c94e-45dd-4f2c-98f6-ba78c4f43245

Mineral Processing

The mineral processing flowsheet is structured around a two-stage crushing circuit (comprising a Jaw crusher and Gyratory Cone crusher), ore size classification, the implementation of an ore sorter for coarse and medium materials, and the utilization of DMS (Dense Media Separation) for coarse and medium materials. Additionally, fines are subjected to gravity concentration with spirals. For a visual representation of the process, please refer to Figure 5, while Table 1 provides the specific design criteria for mineral processing.

The underground mine is anticipated to yield ore with an average Li_2O grade of 1.23% over the Life of Mine (LOM), accounting for dilution at 16.8%. The ore sorting process will effectively purify the ore by removing undesirable dilution and non-lithium-bearing minerals like albite, feldspar, and quartz. This enrichment process will improve the lithium oxide grade to approximately 1.50%, ensuring a higher feed for the DMS I and II units. Based on the preliminary testwork program, Li_2O recovery is projected to reach 67%, with an additional 10.7% achieved through gravity concentration in the fines fraction.

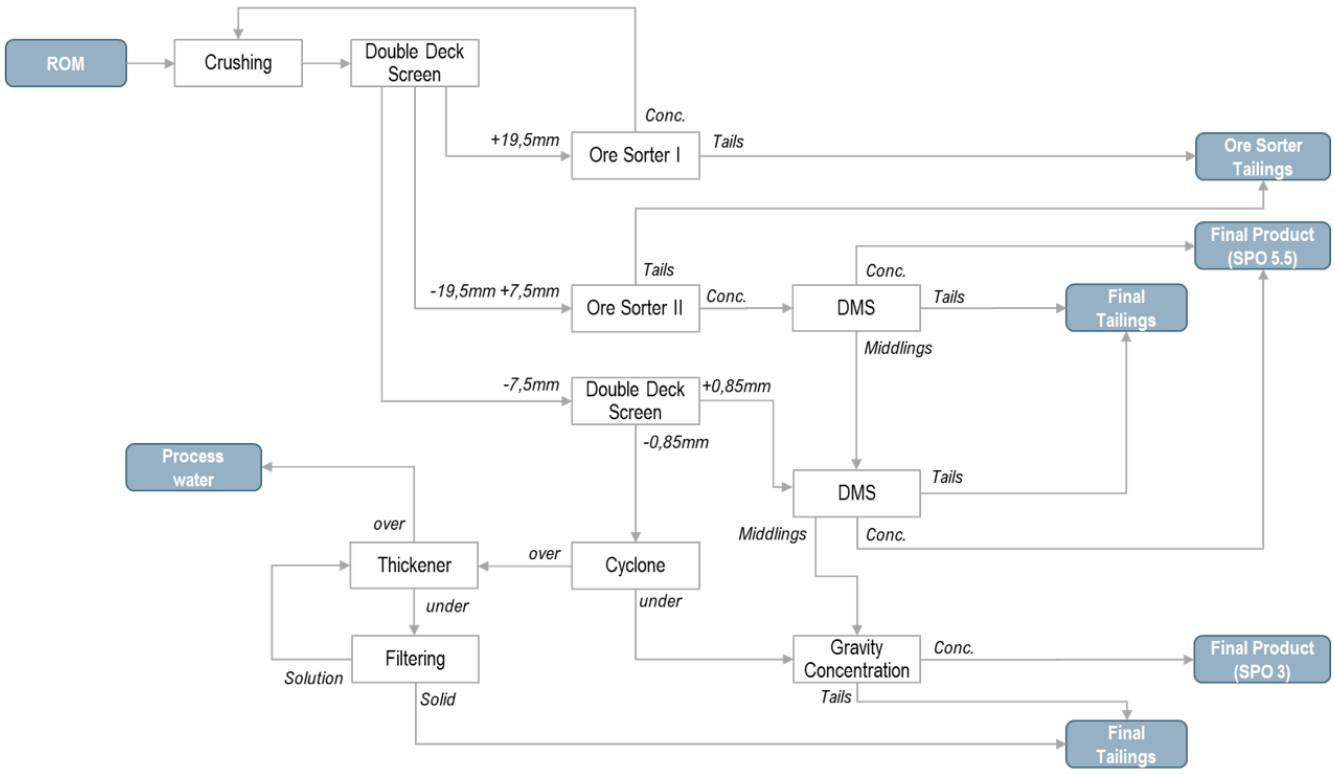


Figure 5. Block diagram for the Bandeira Process Flowsheet

View Figure 5 here: https://www.globenewswire.com/NewsRoom/AttachmentNg/5f4172b2-d997-4e96-a6ff-d2b323faa68d

Updated Mineral Resource Estimate for Bandeira

The PEA is based on an updated MRE for the Bandeira project

summarized in Table 2. The Bandeira MRE contains Measured and Indicated ("M&I") resources of 13.72Mt grading 1.40% Li2O, containing 474,892 tonnes of Lithium Carbonate Equivalent ("LCE"), the benchmark equivalent raw material used in the lithium industry, in addition to Inferred resources of 15.79Mt grading 1.34% Li2O, or 523,118 tonnes of LCE.

The updated MRE for Bandeira is based on 204 diamond drill holes conducted on the Bandeira property until August 30, 2023. This compares to drill data from 120 holes in the previous MRE for Bandeira announced on June 27, 2023. This additional drilling significantly expanded the MRE, with the tonnes in the Indicated category increasing by 196% compared to the previous estimate.

Table 2. Bandeira Mineral Resource Estimates *(base case cut-off grade of 0.5 % Li2O)*

Category	Resource (tonnes)	Grade (% Li2O)	Contained LCE (t)
Measured	2,000,000	1.40	69,226
Indicated	11,720,000	1.40	405,666
Measured + Indicated	**13,720,000**	**1.40**	**474,892**
Inferred	**15,790,000**	**1.34**	**523,118**

Notes related to the Mineral Resource Estimate:

1. *The spodumene pegmatite domains were modeled using composites with Li2O grades greater than 0.3%*
2. *The mineral resource estimates were prepared in accordance with the CIM Standards, and the CIM Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate to the deposit.*
3. *Mineral Resources are not ore reserves and are not demonstrably economically recoverable.*

4. *Grades reported using dry density.*
5. *The effective date of the MRE was October 11, 2023.*
6. *The MRE numbers provided have been rounded to the estimate relative precision. Values cannot be added due to rounding.*
7. *The MRE is delimited by Lithium Ionic Bandeira Target Claims (ANM).*
8. *The MRE was estimated using ordinary kriging in 12m x 12m x 4m blocks.*
9. *The MRE report table was produced in Leapfrog Geo software.*
10. *The reported MRE only contains fresh rock domains.*
11. *The MRE was restricted by grade shell using 0.5% Li2O cut-off.*

The complete NI 43-101 technical report associated with the PEA and updated MRE (the "Technical Report") will be available on SEDAR+ at www.sedarplus.ca under the Company's issuer profile, as well as the Company's website at www.lithiumionic.com within 45 calendar days.

The Preliminary Economic Assessment is considered preliminary in nature and includes Inferred Mineral Resources that are considered too speculative, geologically, to have the economic considerations applied that would enable classification as Mineral Reserves. There is no certainty that the conclusions within the PEA will be realized. The PEA is based on the material assumptions outlined in this document. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the PEA can be achieved.

No mineral reserves have been estimated for the Project. Mineral

Resources are not Mineral Reserves and do not have demonstrated economic viability.

About Lithium Ionic Corp.

Lithium Ionic is a Canadian mining company exploring and developing its lithium properties in Brazil. Its flagship Itinga and Salinas projects cover 14,182 hectares in the northeastern part of Minas Gerais state, a mining-friendly jurisdiction that is quickly emerging as a world-class hard-rock lithium district. The Itinga Project is situated in the same region as CBL's Cachoeira lithium mine, which has produced lithium for +30 years, as well as Sigma Lithium Corp.'s Grota do Cirilo project, which hosts the largest hard-rock lithium deposit in the Americas.

Qualified Persons

The Technical information in this news release has been reviewed and approved by Independent Qualified Persons as defined in NI 43-101, Carlos José Evangelista Silva (MAIG Membership Number 7868) for the MRE, and Guilherme Gomides Ferreira (MAIG Membership Number: 7586) for the PEA, both from GE21.

Investor and Media Inquiries:

+1 647.316.2500
info@lithiumionic.com

Cautionary Note Regarding Forward-Looking Statements

This press release contains statements that constitute "forward-statements." Such forward looking statements involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance or achievements, or developments to differ materially from the anticipated results, performance or achievements expressed or implied by such

forward-looking statements. Although the Company believes, in light of the experience of its officers and directors, current conditions and expected future developments and other factors that have been considered appropriate that the expectations reflected in this forward-looking information are reasonable, undue reliance should not be placed on them because the Company can give no assurance that they will prove to be correct. When used in this press release, the words "estimate", "project", "belief", "anticipate", "intend", "expect", "plan", "predict", "may" or "should" and the negative of these words or such variations thereon or comparable terminology are intended to identify forward-looking statements and information. The forward-looking statements and information in this press release include information relating to the prospectivity of the Project, the economic viability of the Project, the mineralization and development of the Project, the Company's exploration program and other mining projects and prospects thereof, the Company's ability to complete a feasibility study, the Company's ability to complete an environmental impact assessment and obtain the requisite permitting and approvals and the Company's future plans. Such statements and information reflect the current view of the Company. Risks and uncertainties that may cause actual results to differ materially from those contemplated in those forward-looking statements and information. By their nature, forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements, or other future events, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. The forward-looking information contained in this news release represents the expectations of the Company as of the date of this news release and, accordingly, is subject to change after such date. Readers should not place undue importance on forward-looking information

and should not rely upon this information as of any other date. The Company undertakes no obligation to update these forward-looking statements in the event that management's beliefs, estimates or opinions, or other factors, should change.

Neither the TSXV nor its Regulation Services Provider (as that term is defined in the policies of the TSXV) accepts responsibility for the adequacy or accuracy of this press release.