LEXI Announces Successful Results of Level One Assessment for Accelerated Lithium Processing

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And Selection of SuperLig® Choices for MRT-Based Lithium Plant & Clarifies Website Disclosure

TORONTO, Sept. 19, 2018 - Lithium Energi Exploration Inc. (TSXV:LEXI) (“LEXI” or the “Company”) is pleased to announce that, as part of the ongoing engineering work now underway with IBC Advanced Technologies, Inc. (“IBC”), IBC has completed a Level One Assessment (“LOA”) on a sample brine provided by LEXI and is rapidly progressing in conducting successful bench trials for separating and purifying lithium (Li) ions – with a sufficient selectivity factor to produce 99%+ pure Li – utilizing IBC’s proprietary, selective metals separation technology, known as Molecular Recognition Technology (“MRT”). IBC’s work has focused on two of its proprietary SuperLig® resin products for the selective separation and recovery of pure Li. The SuperLig® resins are manufactured exclusively by IBC and are applicable to processing sample brines from the Lithium Triangle. The two SuperLig® resins will allow for effective Li ion extraction from a wide range of brine solutions in which the lithium ions are dissolved. Ultimate selection of the final process conditions using the SuperLig® materials are based on the chemical constituents in the solution and the desired final Li compound to be synthesized for end users.

LEXI’s CEO, Steven Howard, praised IBC’s accomplishments, noting, “The superb chemical engineering team at IBC has spent three decades designing and implementing MRT at commercial scale for a wide variety of other metals, so we expected that validating MRT for lithium selectivity would be a ‘correlated adaptation’, not a start-up science project. This Level One Assessment marks a meaningful milestone in the engineering development for our planned lithium processing plant. The results could not be more timely, since LEXI recently announced its completion of geophysical field studies covering over 36,500 hectares in our northern claim cluster in the Antofalla Salar. Those geophysical results have yielded optimal locations for test wells as soon as circumstances allow. We continue to believe that IBC’s engineering will be completed around the same time that LEXI achieves its first resource estimates.”

IBC’s tasks for the LOA included an evaluation of the brine composition, development of an initial flow sheet, assessment of the preliminary process design and throughput calculations, and determination of the most suitable SuperLig® products and IBC processes for LEXI’s prospective lithium processing plant to extract, separate, recover, refine and purify Li from the evaluated brine. The work involved a thorough review of IBC’s proprietary database of SuperLig® selectivities, the thermodynamic and kinetic properties of IBC’s products and processes, and evaluation of engineering metrics. LEXI provided IBC with a candidate brine representative of actual production brine from one or more salars at or near LEXI’s properties. As the composition of brines may vary across LEXI’s properties, additional comparative work is expected to be undertaken.

From the LOA results, IBC has concluded that the two SuperLig® resins each have the selectivity profiles required, as well as the requisite binding strength and kinetics, to allow for highly efficient Li sequestration from the sample brines provided by LEXI. The LOA portends that these SuperLig® resins will enable Li ion extraction with (1) a Li purity factor of 99+%, (2) a single pass recovery rate of 99+% of the dissolved Li present in the brine, and (3) the minimal usage of weak acid for elution (i.e. releasing the Li ions) into the pregnant eluent at a Li concentration of 10+ grams/liter, allowing for efficient synthesis to produce lithium carbonate or lithium hydroxide. The LOA further validates that suitable flow rates are achievable with relatively low volumes in the wash and elution steps and that energy requirements for operating the system will be chiefly limited to the fluids mixing in tanks, feedstock pumping, wash phases, elution inputs through the columns, and transport to other destinations in the plant, thus yielding very low overall energy requirements. Further substantiated in the LOA, the freezing point depression of the brine should allow for production and processing in severe winter climes with only wash and elution feeds likely requiring some minimal protection to counter sub-zero conditions.

Completion of the LOA has allowed the IBC team to move rapidly into the “Test Work” regime, which is the second of three phases in the testing and engineering services being performed by IBC. The Test Work phase involves lab analysis to validate LOA conclusions. It will enable optimization of brine treatment for Li separation by implementing flow/separation tests, as brine is passed through actual columns containing the chosen SuperLig® resins. Loading and eluting cycles will yield critical kinetic and thermodynamic data, including separation coefficients and process efficiencies. The Test Work phase will also yield detailed flowsheet designs describing each unit operation, its sequential placement relative to other plant operations, its respective inputs and outputs, and the key engineering metrics, including materials of construction, flowrates, temperatures, pressures, and chemical compositions.

IBC’s President, Steven Izatt, stated, “We are excited about the positive conclusions noted in our Level One Assessment, especially following LEXI’s recent announcement of positive geophysical results at the Antofalla Salar. As an integral partner with LEXI, IBC is committed to providing LEXI with a solid technical basis for direct recovery of lithium from brine and production of pure lithium products designed to meet end-user needs using green chemistry and green engineering SuperLig® Molecular Recognition Technology. This successful Level One Assessment is an important milestone that demonstrates achievability of that goal.”

In the final phase of the testing and engineering work, IBC will deliver the basic engineering including process flow and process block drawings, equipment specifications, tank, pump, and column sizes, feed preparation, Process Flow Diagrams (PFDs), Piping and Instrumentation Diagrams (P&IDs), general arrangement block diagrams, sequential step descriptions for all input/output changes, overall plant valve diagram, overall plant valve/pump on-off valve diagrams for each sequence step, and preparation of the operating manual.

MRT has been proven as one of the most advanced and environmentally friendly refining technologies in the world for selectively separating metals at very high purities and single pass recovery rates to meet demanding customer specifications. With IBC’s collaboration, LEXI has conceived an MRT plant that will be “unit-driven” (i.e. engineering will be designed for a scalable, modular plant).

Under this agreement with IBC, LEXI has the exclusive right of first refusal to obtain site license(s) to use MRT for the separation, recovery, refining and purification of lithium from brine prospects in territories comprising approx. 20,000 square kilometers (7,500 square miles) in two areas of Catamarca Province, specifically including all areas in and around the salars of Antofalla and Hombre Muerto.

All process engineering will be coordinated with LEXI’s expectations and requirements regarding field development, including drilling parameters, well spacing, pumping rates, and other characteristics critical to production from the salar basins in which LEXI’s lithium properties are situated. Although some factors are outside the control of IBC or LEXI, the basic engineering is generally expected to be complete in 12 months or less.

The Company also reports that, as a result of a review by the British Columbia Securities Commission, it has made certain changes to information in the Company’s corporate presentation dated April 2018, previously available on our website, that contained forecasts related to its MRT processing facility plans, including projected capital expenditures, anticipated gross revenues, and expected EBITDA from operations, potentially implying certain economics that were not yet supported by technical work made by the Company or IBC. This disclosure was not in compliance with section 2.3 of National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”). As a result, the Company has removed these references from its website, retracts that disclosure and any inferences regarding any economic viability and potential production results in respect of the Company’s plans to utilize MRT for processing lithium.

Our revised presentation is available on our website. The reader is cautioned not to rely on the non-compliant information previously posted on the website or otherwise found in the public domain.

About Lithium Energi Exploration, Inc.

Lithium Energi Exploration Inc. is an exploration company focused on the strategic acquisition, exploration and development of lithium brine assets in Argentina. The Company is headquartered in Toronto, Ontario and has offices in Dallas, Texas and Catamarca, Argentina. The common shares of the Company are listed on the TSX Venture Exchange (TSXV:LEXI) and the Frankfurt Exchange (FR:LO9). The Company’s portfolio of prospective lithium brine concessions in the Argentina Province of Catamarca (heart of the lithium triangle) includes 90,241 hectares in and around the Antofalla Salar and a right of first refusal to acquire up to approximately 145,000 hectares, the majority of which is located in the Antofalla Salar complex, which hosts one of the largest basins in the region, extending 100 - 140 km in length with a surface area of well over 706 km^2 (source: Roskill Information Services). On September 12, 2016, Albemarle Corporation, the world’s largest lithium producer, announced its acquisition of exclusive exploration and acquisition rights to a claim block located in the central section of this salar. In March 2017, Albemarle published its belief that the Antofalla Salar is the third largest lithium deposit in the world. With rights to over 200,000 hectares of prospective lithium properties located just west of FMC’s producing properties and offset north and south of Albemarle’s properties, the Company believes that its claims could potentially host meaningful lithium values. Although there can be no assurance that any of its claims are economically viable or that it can successfully achieve production, the Company believes that its properties could yield great value to its shareholders if developed. Readers are cautioned that (i) mineralization in the subsurface brines contained within the Antofalla Salar basin complex may not necessarily be consistent, (ii) analysis of prospective, lithium-bearing brines underlying the Company’s properties may differ substantially from one claim to another and from claims held by other companies or individuals, whose claims are also located in or near the Antofalla Salar basin complex; and (iii) no Qualified Person (as defined in National Instrument 43-101 - *Standards of Disclosure for Mineral Projects*) engaged by the Company has verified any information announced by Albemarle Corporation and readers should not imply that the Company will obtain similar results in respect of its properties.

For more information about Lithium Energi Exploration Inc., please visit www.lithiumenergi.com or view the Company’s filings at www.SEDAR.com.

Qualified Person

The scientific and technical information contained in this news release has been reviewed and approved by Caitlin Jeffs, P.Geo., a consultant of the Company, and a qualified person as defined by National Instrument 43-101.

ON BEHALF OF THE BOARD OF DIRECTORS

“Chris Hobbs”

Chris Hobbs,
Chief Financial Officer and Director

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These forward-looking statements are based on reasonable assumptions and estimates of management of *the Company at the time such statements were made. Actual future results may differ materially as forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to materially differ from any future results, performance or achievements expressed or implied by such forward-looking statements. Such factors, among other things, include: receipt of all necessary stock exchange and regulatory approvals or consents in respect of any offering; the anticipated pricing of any offering; the absence of material changes with respect to the Company and its businesses; possible variations in mineralization, grade or recovery rates; actual results of exploration activities; conclusions of future economic evaluations; fluctuations in general macroeconomic conditions; fluctuations in securities markets; fluctuations in spot and forward prices of commodities; fluctuations in currency markets (such as the Canadian dollar to United States dollar exchange rate); change in national and local government, legislation, taxation, controls, regulations and political or economic developments; risks and hazards associated with the business of mineral exploration, development and mining (including environmental hazards, industrial accidents, unusual or unexpected formations pressures, cave-ins and flooding); the speculative nature of mineral exploration and development (including the risks of obtaining necessary licenses, permits and approvals from government authorities); and title to properties. Although the forward-looking statements contained in this news release are based upon what management of the Company believes, or believed at the time, to be reasonable assumptions, the Company cannot assure its shareholders that actual results will be consistent with such forward-looking statements, as there may be other factors that cause results not to be as anticipated, estimated or intended.*

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