

Standard Lithium Provides Processing and Pilot Plant Update

VANCOUVER, British Columbia, Sept. 12, 2018 (GLOBE NEWSWIRE) -- **Standard Lithium Ltd.** ("Standard Lithium" or the "Company") (TSXV: SLL) (OTCQX: STLHF) (FRA: S5L), is pleased to provide an update regarding the Company's rapid progress in developing and building a large-scale Pilot Plant for deployment at the Arkansas project site. The Company and its Scientific Advisory Team have been developing, testing and optimising proprietary lithium extraction and crystallisation technologies on Smackover brines for over a year, and are now at the stage where the process flowsheet is sufficiently tested and proven to allow procurement and fabrication to commence on the full-scale Pilot Plant.

A lithium extraction Mini-Pilot Plant has been operated continuously for long durations, and has demonstrated that lithium can be selectively extracted from raw Smackover brine (i.e. with no pre-treatment other than pH adjustment); can be converted into a concentrated and substantially purified (compared to the feed brine) lithium chloride solution; that the lithium-loaded sorbent material can be continuously regenerated and recycled to the extraction stage; and that overall lithium extraction efficiencies of over 90% can be achieved. Completion of this work has allowed design of the large-scale lithium extraction Pilot Plant to be sufficiently completed, such that procurement of long lead-time equipment has commenced. The procurement and fabrication of the lithium extraction Pilot Plant is being performed by Zeton Inc. at their design and fabrication facility in Burlington, Ontario. Once fabrication of the modular Pilot Plant is complete, it will be shipped to the Project site in southern Arkansas for installation, commissioning and operation. Initial site investigation and civil/mechanical engineering design work have commenced at the Project site, and it is expected that all site preparation and brine/utility interconnections will be completed well in advance of deployment of the Pilot Plant modules to the Project site.

In addition, the Company has been performing testwork to selectively crystallise 'battery-grade' lithium carbonate directly from the concentrated lithium chloride solutions produced by the Company's proprietary lithium extraction technology. This testwork has been successful in making high purity lithium carbonate material (>99.5% purity), and as previously announced (see Standard Lithium news release 06th June 2018), the Company and its technology partners are currently fabricating a Pilot scale crystallisation plant. This first Pilot scale plant will be capable of running continuously, and will serve as proof-of-concept that Standard Lithium's proprietary crystallisation technology can be used in place of existing OEM crystallisation technologies. Should initial testing be successful, then a larger Pilot/Demo scale crystalliser will be constructed for deployment at the Project site.

Dr. Andy Robinson, President and COO of Standard Lithium commented, *"Our Scientific Advisory Team and technology partners have been working tirelessly over the past 12 months to develop modern, efficient and scaleable technology solutions appropriate for deployment at our Project site in Arkansas. We're very excited that we're now at the stage where procurement and construction of the full-scale Pilot equipment has commenced, and*

all project activities are aligned towards deploying the full-scale modular Pilot plant in the first part of 2019. Standard Lithium has some significant milestones ahead of us in the next two quarters, and we look forward to sharing more details on our projects and proprietary process technologies as we issue technical reports over the coming months."

Quality Assurance

Dr. Ron Molnar, Professional Metallurgical Engineer (Ontario P.E.# 100111288) and Ross Lewis, Professional Engineer (APEGBC#116613), are qualified persons as defined by NI 43-101, and have reviewed and approved the relevant scientific and technical information that forms the basis for this news release. Dr. Molnar and Mr. Lewis are independent of the Company.

About Standard Lithium Ltd.

The Company's flagship project is located in southern Arkansas, where it is engaged in the testing and proving of the commercial viability of lithium extraction from over 150,000 acres of permitted brine operations utilising the Company's proprietary selective extraction technology. The Company is also pursuing the resource development of over 30,000 acres of separate brine leases located in southwestern Arkansas and approximately 45,000 acres of mineral leases located in the Mojave Desert in San Bernardino County, California.

Standard Lithium is listed on the TSX Venture under the trading symbol "SLL"; quoted on the OTCQX under the symbol "STLHF"; and on the Frankfurt Stock Exchange under the symbol "S5L". Please visit the Company's website at www.standardlithium.com.

For further information, contact Anthony Alvaro at (604) 240 4793

On behalf of the Board,

Standard Lithium Ltd.

Robert Mintak, CEO & Director

Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release. This news release may contain certain "Forward-Looking Statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities laws. When used in this news release, the words "anticipate", "believe", "estimate", "expect", "target", "plan", "forecast", "may", "schedule" and other similar words or expressions identify forward-looking statements or information. These forward-looking statements or information may relate to future prices of commodities, accuracy of mineral or resource exploration activity, reserves or resources, regulatory or government requirements or approvals, the reliability of third party information, continued access to mineral properties or infrastructure, fluctuations in the market for lithium and its derivatives, changes in exploration costs and government regulation in Canada and the United States, and other factors or information. Such statements represent the Company's current views with respect to future events and are necessarily based upon a number of assumptions and estimates that, while considered reasonable by the Company, are inherently subject to significant business, economic, competitive, political and social risks, contingencies and uncertainties. Many factors, both known and unknown, could cause results, performance or achievements to be materially different from the results, performance or achievements that are or may be expressed or implied by such forward-looking

statements. The Company does not intend, and does not assume any obligation, to update these forward-looking statements or information to reflect changes in assumptions or changes in circumstances or any other events affecting such statements and information other than as required by applicable laws, rules and regulations.

Source: Standard Lithium Ltd.