

Standard Lithium Provides Update on Its Operational Direct Lithium Extraction and Carbonate Crystallization Plants

VANCOUVER, British Columbia, July 15, 2020 (GLOBE NEWSWIRE) -- **Standard Lithium Ltd.** ("Standard Lithium" or the "Company") (TSXV: SLL) (OTCQX: STLHF) (FRA: S5L) an innovative technology and lithium development company, is pleased to provide updates regarding its two operational pilot plant projects. Firstly, the Company's pre-commercial Direct Lithium Extraction (DLE) Demonstration Plant at LANXESS' South Plant facility in southern Arkansas has been operating successfully since late May, and has been producing concentrated lithium chloride product, as per its design. This first-of-its-kind pre-commercial plant, which uses Standard Lithium's proprietary LiSTR DLE technology, has been operating on a 24/7 basis using tail-brine feed from the existing LANXESS facility. The plant has been undergoing a series of optimisation exercises to improve performance and reliability of the various unit operations and improve the quality of the final lithium solution. Additional work is also being completed at the project site to construct the foundations required to house the integrated SiFT Pilot Plant (see below) at the Arkansas Project Site, when international border restrictions allow. Photos of some operations within the plant are shown below in Figures 1 & 2.

Secondly, the Company's industrial-scale lithium carbonate SiFT crystallization pilot plant is beginning initial lithium carbonate crystallization work. The commissioning phase of the plant has been successfully completed; all hot and cold hydraulic and filtering systems have operated successfully; real-time laser microscopy and crystal photoanalytical tools have been installed, and control systems have been tested. The plant will begin initial crystallization work this week using a lithium chloride solution that was produced last year by the Company's Mini-Pilot DLE Plant, that operated continuously at the SGS testing facility in Ontario (note, this lithium chloride solution was produced from Arkansas brine). Once the lithium chloride product from the operational DLE plant in Arkansas is optimised, it will be shipped in bulk to Richmond, BC for final conversion in the SiFT plant. Transport of bulk volumes of polished lithium chloride product will continue to be shipped from Arkansas to BC, until such time that border restrictions are lifted, and it is possible to move the SiFT plant and Standard Lithium staff from BC to Arkansas.

Dr. Andy Robinson, President and COO of Standard Lithium commented "*Standard Lithium continues to execute on our key project milestones; we have successfully started and operated the industrial scale DLE plant in Arkansas, and now we are starting up our next-generation lithium carbonate crystallisation plant. These achievements are a testament to the hard work and dedication of our talented technical team and our project partners. We continue to make significant strides towards commercial execution, and our large-scale pilot plants provide the necessary proof-of-concept.*"

Figure 1: Standard Lithium's analytical chemist performs real-time tests on process samples

in the dedicated laboratory attached to the pre-commercial DLE Demonstration Plant in El Dorado, Arkansas, USA: <https://www.globenewswire.com/NewsRoom/AttachmentNg/abc7bcba-5b2e-4eff-b968-aa7e24b30c23>

Figure 2: Standard Lithium and Saltworks chemical engineers running through system commissioning procedures at the SiFT battery-quality lithium carbonate Pilot Plant, in Richmond, BC, Canada: <https://www.globenewswire.com/NewsRoom/AttachmentNg/d9d88612-8002-4a97-b5ad-aab647952410>

About Standard Lithium Ltd.

Standard Lithium (TSXV: SLL) is an innovative technology and lithium development company. 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. The Company has commissioned its first of a kind industrial scale Direct Lithium Extraction Demonstration Plant at LANXESS' South Plant facility in southern Arkansas. The Demonstration Plant utilises the Company's proprietary LiSTR technology to selectively extract lithium from LANXESS' tailbrine. The Demonstration Plant is being used for proof of concept and commercial feasibility studies. The scaleable, environmentally friendly process eliminates the use of evaporation ponds, reduces processing time from months to hours and greatly increases the effective recovery of lithium. 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 Exchange under the trading symbol "SLL"; quoted on the OTC - Nasdaq Intl Designation under the symbol "STLHF"; and on the Frankfurt Stock Exchange under the symbol "S5L". Please visit the Company's website at www.standardlithium.com

On behalf of the Board of Standard Lithium Ltd.

Robert Mintak, CEO & Director

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Source: Standard Lithium