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Standard Lithium Advances South West Arkansas Project: Definitive Feasibility Study and Front-End Engineering Design Firm Chosen

VANCOUVER, British Columbia, Jan. 24, 2024 (GLOBE NEWSWIRE) -- **Standard Lithium Ltd.** ("Standard Lithium" or the "Company") (TSXV:SLI) (NYSE American:SLI) (FRA:S5L), a leading near-commercial lithium development company, today announced the selection of Ausenco Engineering Canada ULC ("Ausenco") to complete the Definitive Feasibility Study ("DFS") and Front-End Engineering and Design ("FEED") services for the South West Arkansas ("SWA") Project.

"We are focused on progressing our project portfolio," said Andy Robinson, President and Chief Operating Officer of Standard Lithium. "Despite recent headwinds in the global lithium macroeconomic environment, our projects remain very attractive. Based on our Preliminary Feasibility Study ('PFS') results, the SWA Project is expected to sit at the lower end of the cost curve in comparison to other lithium projects. The selection of Ausenco for the SWA Project's DFS and FEED was a critical next step for us to advance the Project and maintain development and construction timelines. Their practical experience in lithium brine projects, combined with our proven expertise of DLE in the Smackover, is expected to drive a successful Feasibility and FEED process, and we are pleased to work with a world-class engineering firm to guide the design of the SWA Project to deliver the next generation of lithium production in America."

The SWA Project is expected to be one of the world's first commercial scale DLE projects located in the Smackover Formation in the heartland of America in southwest Arkansas. The recently completed PFS for the SWA Project demonstrated robust economics and the potential to produce up to 35,000 tonnes per annum ("tpa") of battery-quality lithium hydroxide over a 20-year operating life. SWA includes some of the highest reported lithium brine concentrations in North America with a maximum lithium grade of 597 mg/L and an average of 437 mg/L.

Ausenco is a global company focused on delivering innovative, value-added engineering studies, project delivery, asset operations and maintenance solutions to the mining and metals, oil and gas and industrial sectors. Standard Lithium selected Ausenco as the preferred DFS and FEED contractor based on the results of a competitive process and taking into consideration Ausenco's extensive, global lithium brine project experience. The combination of Ausenco's experience with lithium brines and Standard Lithium's knowledge of extracting lithium from Smackover brines will enable the development of a robust flowsheet for the SWA Project.

The scope for the FEED includes design and development of technical solutions for the

proposed 30,000 plus tpa lithium hydroxide plant and related infrastructure for the extraction facility in addition to a comprehensive DFS report suitable for NI 43-101 reporting. The FEED is also expected to inform the template for Standard Lithium's future development plans for additional Smackover assets including in East Texas.

Qualified Person

Steve Ross, P.Geol., a qualified person as defined by National Instrument 43-101, and Vice President Resource Development for the Company, has reviewed and approved the relevant scientific and technical information in this news release.

About Standard Lithium Ltd.

Standard Lithium is a leading near-commercial lithium development company focused on the sustainable development of a portfolio of lithium-brine bearing properties in the United States. The Company prioritizes brine projects characterized by high-grade resources, robust infrastructure, skilled labor, and streamlined permitting. The Company aims to achieve sustainable, commercial-scale lithium production via the application of a scalable and fully-integrated Direct Lithium Extraction ("DLE") and purification process. The Company's signature projects, the Phase 1A Project and the South West Arkansas Project, are located on the Smackover Formation in southern Arkansas, a region with a longstanding and established brine processing industry. The Company has also identified a number of highly prospective lithium brine project areas in the Smackover Formation in East Texas and began an extensive brine leasing program in the key project areas. In addition, the Company has an interest in certain mineral leases located in the Mojave Desert in San Bernardino County, California.

Standard Lithium trades on both the TSX Venture Exchange and the NYSE American under the symbol "SLI"; and on the Frankfurt Stock Exchange under the symbol "S5L". Please visit the Company's website at www.standardlithium.com.

Twitter: @standardlithium

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