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Standard Lithium's East Texas Drilling Program Delivers New Highest Confirmed Grade Lithium Brine in North America

Results Include Lithium Concentrations of 663 mg/L; Company Continues to Expand and De-Risk East Texas Smackover Assets

EL DORADO, Ark., Oct. 10, 2023 (GLOBE NEWSWIRE) -- **Standard Lithium Ltd.** ("Standard Lithium" or the "Company") (TSXV:SLI) (NYSE American:SLI) (FRA:S5L), a leading near-commercial lithium company, today announced it has drilled and sampled, to the best of its knowledge, a new highest confirmed lithium grade brine in North America, with a grade of 663 mg/L lithium. The results reflect lithium sample analyses from a newly drilled well from the Company's significant expansion work in the East Texas Smackover region.

Dr. Andy Robinson, President and COO of Standard Lithium commented, *"We continue to be very excited by the quality and scale of the lithium brine assets we're adding in East Texas. The lithium sample analysis from a newly-drilled well delivered, to the best of our knowledge, a new highest-grade lithium brine concentration in North America and confirmed that we are securing the highest-grade lithium brine resource outside of Chile and Argentina. We continue to expand our footprint in the East Texas Smackover and de-risk the opportunity with additional drilling, sampling and definition work."*

"East Texas is a significant addition to our two more advanced projects in Arkansas, the Phase 1A and South West Arkansas Projects," added Dr. Robinson. *"We expect our East Texas landholdings to form a substantially larger and higher-grade lithium brine project for future production. Standard Lithium will continue to progress its portfolio of projects to help meet U.S. demand for lithium over the next decade."*

Strategic Importance

The Smackover Formation represents North America's premier lithium brine asset, with grades comparable to certain resources in South America. As detailed in [the Company's Definitive Feasibility Study](#), results for the Phase 1A project in El Dorado, Arkansas, target production of 5,400 tonnes per annum (tpa) of battery quality lithium carbonate over a 25-year operating life, with an average lithium grade of 217 mg/L. [The Preliminary Feasibility Study](#) for the Company's South West Arkansas Project outlines plans for at least 30,000 tpa of battery quality lithium hydroxide over a 20-year operating life, with an average reported lithium grade of 437 mg/L.

Lithium grades in the Company's projects indicate an increasing trend moving westward from Phase 1A to the South West Arkansas Project and finally, into East Texas. In Standard Lithium's experience, higher lithium grades in brine are directly correlated with lower capital and operating expenses per tonne of lithium produced, thereby enhancing the economic

viability of potential projects.

Analysis and Testing Details

The Standard Lithium team, comprised of technically diverse Smackover specialists and a robust team of land professionals, has been working in the Smackover Formation in East Texas for over 3.5 years. The Company shared initial sample analysis from expansion work completed in the latter half of 2022 and early 2023 ([see news release dated 28th March 2023](#)).

The data provided in this news release are from a newly-drilled well completed in the East Texas Smackover (ETX New Well #2). Brine samples collected from ETX New Well #2 are provided in Table 1 below. These samples were analyzed, performed and reported by Western Environmental Testing Laboratories of Sparks, Nevada, a third-party, accredited testing facility. Additional representative lithium brine analyses from other lithium brine projects in North America are provided for context.

Table 1: ETX New Well #2 Lithium Brine Analyses in Standard Lithium East Texas Project Area

East Texas Sampling Location Name [1]	Lithium concentration (mg/L)	Average Lithium concentration (mg/L) [2]
ETX New Well #2 - Upper Smackover Zone Sample A	663	638
ETX New Well #2 - Upper Smackover Zone Sample B	613	
Reported Lithium Analyses from Other North American Brine Projects		
California Salton Sea Geothermal Brine [3]		204
Alberta Oilfield Brine [4]		75
Paradox Basin, Utah [5]		123
Clayton Valley, Nevada [6]		123

Notes:

[1] Smackover Formation descriptors (Upper, Middle, and Lower) are a local project area naming convention

[2] For East Texas wells, average of all samples taken from the wellbore, including duplicates where applicable to provide a representative brine sample

[3] Average brine sample from Salton Sea, Table 1, Warren 2021. *Techno-Economic Analysis of Lithium Extraction from Geothermal Brines*. Golden, CO: National Renewable Energy Laboratory. NREL/TP-5700-79178

[4] Average brine analysis from Table 7, E3 Lithium 43-101 Technical Report: Lithium Resource Estimate, Bashaw District Project, central Alberta, Report date: August 23, 2022, Effective date: July 11, 2022

[5] Indicated Resource Concentration, Anson Resources, Paradox Lithium Project, Total JORC Mineral Resource estimation, DFS, September 2022

[6] Average Clayton Valley lithium brine composition, Table 14-3, Pure Energy Minerals, Preliminary Economic Assessment (Rev. 1) of the Clayton Valley Lithium Project Esmeralda County, Nevada, March 23, 2018



Figure 1: ETX New Well #2 in East Texas.

Quality Assurance

Steve Ross, P.Geol., a Qualified Person as defined by NI 43-101, has reviewed and approved the relevant scientific and technical information that forms the basis for this news release. Mr. Ross is a consultant to the Company.

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 the highest-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 and purification process. The Company's flagship projects, the Phase 1A Project and the South West Arkansas Project, are located on the Smackover Formation in southern Arkansas near the Louisiana state line, a region with a long-standing 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

LinkedIn: <https://www.linkedin.com/company/standard-lithium/>

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A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/e90a55c6-946e-4815-a8a9-827915b5eb43>

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Source: Standard Lithium

Figure 1



ETX New Well #2 in East Texas.