



Standard Lithium Delivers Highest-Ever North American Lithium Brine Grade 806 mg/L; East Texas Asset Includes Significant Potash and Bromine Concentrations

EL DORADO, Ark., Oct. 25, 2023 -- **Standard Lithium Ltd.** (“Standard Lithium” or the “Company”) (TSXV:SLI) (NYSE American:SLI) (FRA:S5L), a leading near-commercial lithium company, today reported another significant milestone in its ongoing Smackover expansion efforts. As part of its extensive work in East Texas, the Company has drilled and sampled a new highest confirmed lithium grade brine, measuring 806 mg/L. In addition, comprehensive brine analyses from all three of the Company’s new wells in East Texas show highly elevated concentrations of potash (KCl) and bromine, signifying a large potential for these commodities. The drilling work and continued resource evaluation are from areas where the Company has secured the rights to all minerals contained in the brine.

Dr. Andy Robinson, President and COO of Standard Lithium commented, *“This most recent brine sample from our newest well in East Texas confirms the exceptional quality of the lithium brine assets we’re acquiring in East Texas. With a new confirmed lithium analysis of 806 mg/L and an average grade of 644 mg/L in our drilled area, we believe that we have identified a globally significant lithium brine asset. This work has been made possible by our team of Smackover experts who, over the past three years have identified the most prospective, highest quality development areas in East Texas.”*

Dr. Robinson continued, *“We understand that lithium grade is one of the most significant factors when considering the economics of a lithium brine project. We are committed to securing the highest-grade and potentially largest lithium brine resource outside of Argentina and Chile. Additionally, the highly elevated concentrations of potassium and bromine in all three of our new wells support our understanding that Standard Lithium now also controls a project with very large potash and bromine potential. While we continue to assess the potential value of these new discoveries, we believe that they could be accretive for the Company and present significant additional upside.”*

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](#), the Phase 1A project in El Dorado, Arkansas, contemplates average 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.

Average lithium grades in the Company’s projects indicate an increasing trend moving westward from Phase 1A (217 mg/L) to the South West Arkansas Project (437 mg/L) and finally, into East Texas (644 mg/L). 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, as well as more recent drilling data ([see news release dated 10 October 2023](#)).

The data provided in this news release are from three recently drilled and sampled wells in the East Texas Smackover (ETX New Wells #1, #2 & #3). The below samples were analyzed and reported by Western Environmental Testing Laboratories of Sparks, Nevada, a third-party, accredited testing facility.

Table 1: ETX New Wells #1, #2 & #3 Lithium Brine Analyses in Standard Lithium East Texas Project Area

| East Texas Sampling Location Name ^[1] | Lithium | Potassium | Bromine ^[3] |
|--|----------------------|-----------|------------------------|
| | Concentration (mg/L) | | |
| ETX New Well #1 - Upper Smackover Zone Sample A | 634 | 13,200 | 4,200 |
| ETX New Well #1 - Upper Smackover Zone Sample B | 594 | 12,500 | 4,400 |
| ETX New Well #1 - Middle Smackover Zone Sample A | 572 | 11,100 | 4,200 |
| ETX New Well #1 - Middle Smackover Zone Sample B | 583 | 11,300 | 4,300 |
| ETX New Well #1 - Lower Smackover Zone Sample A | 621 | 12,100 | 4,400 |
| ETX New Well #1 - Lower Smackover Zone Sample B | 612 | 11,900 | 4,600 |

| | | | |
|---|------------|---------------|--------------|
| ETX New Well #2 - Upper Smackover Zone Sample A | 663 | 12,000 | 3,800 |
| ETX New Well #2 - Upper Smackover Zone Sample B | 613 | 12,300 | 3,700 |
| ETX New Well #3 - Upper Smackover Zone Sample A | 806 | 16,800 | 4,800 |
| ETX New Well #3 - Upper Smackover Zone Sample B | 739 | 14,900 | 4,800 |
| Average Concentration [2] | 644 | 12,810 | 4,320 |

Notes:

[1] Smackover Formation descriptors (Upper, Middle, and Lower) are a local project area naming convention. East Texas New Well from the March 28, 2023 press release is the same as ETX New Well #1 in Table 1.

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

[3] Analysis reported as bromide

Figure 1: ETX New Well #3 in East Texas



Quality Person

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

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A photo accompanying this announcement is available at

<https://www.globenewswire.com/NewsRoom/AttachmentNg/9da12bb6-e0d8-4845-8f8e-f7e9bc740d2e>

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