



STANDARD LITHIUM REACHES MAJOR OPERATIONAL MILESTONES AT ARKANSAS DEMONSTRATION PLANT

- Processed 1 million barrels of brine, pumped in real-time from the Smackover Formation
- Completed 15,000 cycles of DLE using the same process to be implemented at the South West Arkansas Project
- 6 years and 340,000 man hours of operation without a safety incident

April 22, 2026 – Vancouver, British Columbia – Standard Lithium Ltd. (“Standard Lithium” or the “Company”) (TSXV: SLI) (NYSE.A: SLI), a leading near-commercial lithium company, is pleased to announce the achievement of several meaningful operational milestones at its large-scale Demonstration Plant (the “demo plant” or “facility”) in El Dorado, Arkansas. The demo plant contains a fully operational brine-to-lithium carbonate flowsheet, and at its core is a commercial-scale direct lithium extraction (“DLE”) unit supplied by Aquatech.

Since its initial commissioning in 2020, the facility has now reached three significant milestones:

- Standard Lithium has processed 1 million barrels (42 million gallons, or 160 million litres) of real brine, pumped in real-time from the Smackover Formation;
- The core DLE technology to be used at the South West Arkansas Project (the “SWA Project”) (with initial capacity of 22,500 tonnes of annual battery-quality lithium carbonate) has now successfully completed over 15,000 cycles, demonstrating the fundamental performance targets of 95%+ lithium recovery and 99%+ rejection of key contaminants; and
- The experienced team of operators, technicians, laboratory specialists and engineers have completed roughly 340,000 man hours during the six years of operation, and have done so with zero incidents, underscoring Standard Lithium’s strong commitment to operational safety and best practices.

“These achievements at our demo plant, which is the first of its kind and remains the only continuously operating facility in the Smackover Formation that processes real-brine in real-time to achieve high levels of lithium recovery, high levels of contaminant rejection and makes battery-

quality lithium carbonate, reflect years of technical advancement and disciplined execution by our team in Arkansas,” said Dr. Andy Robinson, President and Chief Operating Officer of Standard Lithium. “Processing and analyzing such large volumes of live lithium brine provides a unique and robust data set that supports the scalability and de-risking of our selected process technology. It also strengthens our first mover advantage in the Smackover Formation, having the only shovel-ready project in the area preparing to take a Final Investment Decision. Just as importantly, we have achieved these exceptional results while maintaining an exemplary safety record, which speaks to the quality and experience of our operations and our people.”

The demo plant will continue to serve as a critical platform for process flowsheet optimization, operational data collection, engineering design input and employee training to de-risk commissioning of the SWA Project. Additionally, insights gained from long-term operations will further support future project development and strengthen the Company’s approach to sustainable lithium production in the United States.



Figure 1: Operators at control panel in front of commercial-scale (8' x 4') DLE column at Standard Lithium's Demonstration Plant near El Dorado, Arkansas.

About Standard Lithium Ltd.

Standard Lithium is a leading near-commercial lithium development company focused on the sustainable development of a portfolio of large, high-grade lithium-brine properties in the United States. The Company prioritizes projects characterized by high-grade resources, robust infrastructure, skilled labor, and streamlined permitting. Standard Lithium aims to achieve sustainable, commercial-scale lithium production via the application of a scalable and fully integrated DLE and purification process. The Company's flagship projects are located in the Smackover Formation, a world-class lithium brine asset, focused in Arkansas and Texas. In partnership with global energy leader Equinor, Standard Lithium is advancing the SWA Project, a greenfield project located in southern Arkansas, and actively advancing a promising lithium brine resource position in East Texas.

Standard Lithium trades on both the TSX Venture Exchange ("TSXV") and the NYSE American under the symbol "SLI". Please visit the Company's website at www.standardlithium.com for more information.

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