

March 13, 2024



Standard Lithium Installs Commercial DLE Column at Demonstration Plant

Further Derisks DLE Process With Testing Planned Using Full-Scale Commercial Equipment Over the Next 6 Months

EL DORADO, Ark., March 13, 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, is pleased to announce that it has successfully installed a commercial-scale Direct Lithium Extraction ("DLE") column at its Demonstration Plant near El Dorado, Arkansas. The column is a LiPRO™ Lithium Selective Sorption ("LSS") unit, supplied by Koch Technology Solutions, LLC ("KTS").

The column has been installed and integrated with the Company's existing Demonstration Plant to test and derisk the design for commercial applications of the LiPRO™ LSS technology. It is the same size and design as those that the Company intends to use (in multiple trains) in its commercial applications for the Phase 1A and South West Arkansas projects (as described in the Company's recent [Definitive Feasibility Study](#) for the Phase 1A project and [Preliminary Feasibility Study](#) for the South West Arkansas project).

The commercial-scale LiPRO™ LSS column is currently being filled with Koch Engineered Solutions proprietary lithium-selective sorption with commissioning expected later this month. Extensive performance testing of the commercial-scale DLE technology will be performed over the following months under the supervision of Standard Lithium and KTS technical specialists.

Standard Lithium's Director, President & COO, Dr. Andy Robinson commented, *"this is an important derisking milestone for Standard Lithium and our partners. Our team has been successfully running the LiPRO™ LSS technology since October 2022, and we have already successfully completed scale-ups of the DLE equipment at the Demonstration Plant; this is our final stage of derisking the technology. The data gathered from this commercial-scale unit will provide crucial validation and derisking information for our ongoing project finance processes, as well as FEED and DFS studies for the South West Arkansas Project (see news release [dated 24 January 2024](#)). We're very grateful for our partners Koch Technology Solutions and LANXESS who have helped to make this final derisking step possible."*

Standard Lithium's Demonstration Plant is the only large-scale, continuously operating DLE plant in North America. Initially commissioned in May 2020, the Plant has processed over 16.4 million gallons (62 million litres) of Smackover brine.

"The long-term operation of our Demo Plant has been crucial in replicating and understanding the real-world dynamic conditions of continuous commercial-scale operations," said Dr. Robinson. *"With our partner Koch Technology Solutions, we have been able to tailor and optimise the multi-step flowsheet that will allow the Plant to be scaled for*

commercial production. The knowledge we have on-hand from over four years of operations, combined with an optimised flowsheet and now a commercial-scale DLE column, puts us in a strong position as we continue to advance our projects.”

Recent technical highlights of the Demo Plant and the existing LiPRO™ LSS (DLE) column are provided below.

Key Findings:

- **Lithium Recovery Efficiency:** As a recent weekly snapshot demonstrates (early March 2024), the LiPRO™ LSS (DLE) process achieved an average weekly lithium recovery of 95.9% from the continuous incoming brine flow.
- **Element Rejection Rate:** During the same period, the DLE process rejected, on average, over 99.3% of the key contaminants sodium, calcium, magnesium and potassium from the brine (i.e. less than 0.7% of those contaminants made it through the DLE into the first lithium chloride solution); and over 94.2% of boron was rejected.
- **Operational Cycles:** The LiPRO™ LSS (DLE) process has completed over 8,585 operational cycles.
- **The LiPRO™ LSS column** has been operating with negligible degradation or loss of the sorbent media, and brine pre-treatment has been optimized to allow for foulant-free operation of the DLE step.
- **Brine Processed:** As of the end of December 2023 (per Arkansas Oil and Gas Commission reporting), the Demo Plant had processed 16,418,408 gallons (62,143,674 litres) of Smackover brine, produced directly from the formation and reinjected continuously back into the same formation.

Dr. Robinson added: *“One of the fundamental findings of the Demonstration Plant is the necessity of long-duration, on-site continuous processing of real brine. Our Demo Plant handles real Smackover brine directly from the resource, whereas in traditional small-scale, short-term off-site batch processes, brine is isolated, transported and often undergoes physical and chemical changes before testing. With the commercial-scale LSS column, we can continuously test real brine from the Smackover at a commercial level.”*

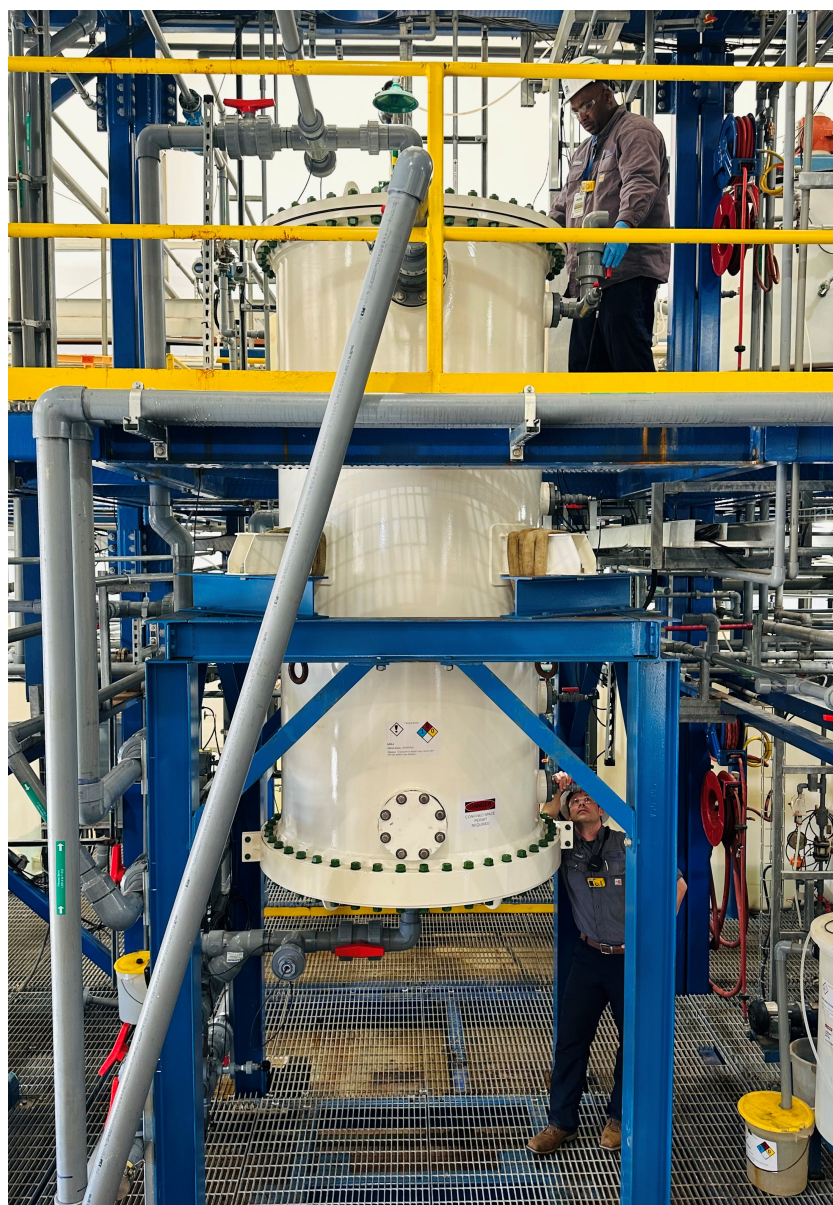


Figure 1 – Commercial-scale DLE column installed at Standard Lithium’s Demonstration Plant near El Dorado, Arkansas.



Figure 2 – Barrels of Koch Engineered Solutions proprietary lithium-selective sorption currently being loaded into the commercial-scale LSS unit ahead of initial commissioning, expected in late March 2024.

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.

Qualified Person

Marek Dworzanowski, EUR ING, CEng, HonFSAIMM, FIMMM, a qualified person as defined by National Instrument 43-101, and a Consulting Metallurgical Engineer who is independent of the Company, has reviewed and approved the relevant scientific and technical information in this news release.

Twitter: @standardlithium

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Photos accompanying this announcement are available at:

<https://www.globenewswire.com/NewsRoom/AttachmentNg/f4d74350-bc9f-4483-82cb-e37835e5ff15>

<https://www.globenewswire.com/NewsRoom/AttachmentNg/2764a1d1-e281-4e25-ac49-d8ca2f5f1e0d>

Investor and Media Inquiries

Allysa Howell
Vice President, Corporate Communications
+1 720 484 1147
a.howell@standardlithium.com



Figure 1



Commercial-scale DLE column installed at Standard Lithium's Demonstration Plant near El Dorado, Arkansas.

Figure 2



Barrels of Koch Engineered Solutions proprietary lithium-selective sorption currently being loaded into the commercial-scale LSS unit ahead of initial commissioning, expected in late March 2024.

Source: Standard Lithium