Smackover Lithium Successfully Completes Derisking of DLE Technology With Final Field-Test at South West Arkansas Project

Field-Pilot DLE Facility Exceeds Key Performance Criteria to Confirm Engineering Design for South West Arkansas Project

Large Volumes of DLE Product Sent to Third Party Vendors for Conversion to Battery-Quality Lithium Carbonate – These Samples Will Be Used in the Qualification Process With Potential Off-Take Partners

LEWISVILLE, Ark., March 11, 2025 -- Smackover Lithium, a Joint Venture ("JV") between Standard Lithium Ltd. ("Standard Lithium" or the "Company") (TSXV:SLI) (NYSE:A:SLI) and Equinor, has achieved one of the last technical milestones in the development of the South West Arkansas ("SWA") project located in Lafayette and Columbia Counties, Arkansas. The JV, in partnership with Koch Technology Solutions ("KTS"), successfully completed the final Direct Lithium Extraction ("DLE") derisking step for the SWA project, a critical step toward commercialization. Over a three-month period, the JV and its partners operated an onsite DLE field-pilot plant, where it surpassed key performance criteria (more details provided below). Additionally, large-volume samples of the concentrated and purified DLE product have been sent to third-party vendors. These vendors will convert the DLE product into battery-quality lithium carbonate while also being assessed as potential equipment suppliers for the commercial project. The resulting samples will play a key role in the qualification process with prospective off-take partners.

Highlights of this final derisking pilot include:

- Lithium recovery far exceeded the design criteria. During sustained operation, the DLE field-pilot plant recovered over 99% of the lithium from brine sourced from the SWA project's International Paper Company ("IPC-1") well, far exceeding the 95% recovery used in the current design (average lithium content of the incoming brine was 427 mg/L);
- Rejections for key contaminants were within acceptable tolerance of (i.e. just above or below) the design criteria;
- The field-pilot plant processed over 2,385 barrels (100,170 gallons) of brine from the IPC-1 well;
- Field-pilot plant completed over 497 DLE cycles;
- These recent data from the field-pilot plant testing supplement the 28,367,185 gallons of brine processed, and the 11,206 cycles of DLE completed at Standard Lithium's Demonstration Plant in El Dorado, Arkansas, operating since 2020;
- The heart of the plant is the same KTS Li-Pro™ Lithium Selective Sorption (Li-Pro LSS) technology, as described in the Company's recent news release (28 October 2024);
- The field-pilot plant has produced approximately 970 gallons (3,672 litres) of concentrated and purified lithium chloride solution (6% LiCl solution);
- The 970 gallons of 6% LiCl solution is currently being sent off-site to three separate potential carbonate equipment vendors; and,
- The three vendors are expected to produce, in total, approximately 27 kg of battery-quality lithium carbonate, anticipated in May 2025.

Standard Lithium's President and COO, Dr. Andy Robinson commented "*This field-pilot is the final step in derisking DLE technology for Smackover brines; we're now ready to commercialize this technology. For 5 years, Standard Lithium has been operating a large-scale Demonstration Plant in Arkansas, and we've processed over 28 million gallons of real, live Smackover brine. This large Demonstration Plant has been invaluable in developing, streamlining and optimising the flowsheet. The field-pilot was the final step to demonstrate that we can reliably process brine from our SWA project, extract lithium in real-time, and convert to a battery-quality lithium carbonate product. Smackover Lithium has now completed the necessary testing of the flowsheet, and can complete the FEED work and feasibility study.*"

Figure 1 – Standard Lithium operators checking performance of the DLE field pilot. The larger blue and white enclosure houses the pre-treatment, filtration and DLE (LSS column) process steps.

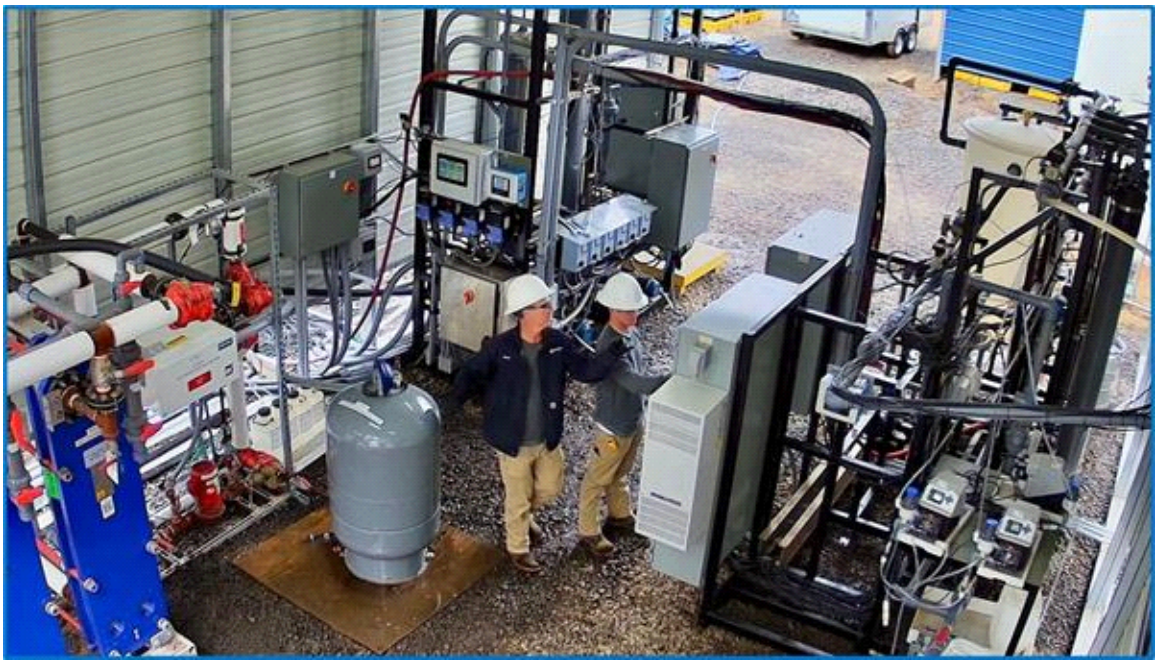

Figure 2 – Standard Lithium operators monitoring performance of the filtration process step.

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.

About Smackover Lithium

Smackover Lithium is a joint venture between Standard Lithium and Equinor. Formed in May 2024, Smackover Lithium is developing two Direct Lithium Extraction (“DLE”) Project Companies in southwest Arkansas and east Texas. Standard Lithium owns 55% interest and Equinor holds the remaining 45% interest in the two project Companies, with Standard Lithium retaining operatorship. For more information on the joint venture, please visit www.smackoverlithium.com.

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 the highest quality 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 Direct Lithium Extraction ("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 South West Arkansas project, a greenfield project located in southern Arkansas, and actively exploring promising lithium brine prospects in East Texas. Additionally, the Company is advancing the Phase 1A project in partnership with LANXESS Corporation, a brownfield development project located in southern Arkansas. Standard Lithium also holds an interest in certain mineral leases 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.

About Equinor

Equinor is an international energy company committed to long-term value creation in a low-carbon future. Equinor's portfolio of projects encompasses oil and gas, renewables and low-carbon solutions, with an ambition of becoming a net-zero energy company by 2050. Headquartered in Norway, Equinor is the leading operator on the Norwegian continental shelf and is present in around 30 countries worldwide. Our partnership with Standard Lithium to mature DLE projects builds on our broad US energy portfolio of oil and gas, offshore wind, low carbon solutions and battery storage projects.

For more information on Equinor in the US, please visit: Equinor in the US - Equinor

About Koch Technology Solutions (KTS)

Koch Technology Solutions is the technology licensing business of Koch Engineered Solutions (KES). KTS creates value for its customers across a growing portfolio of technologies including direct lithium extraction, the polyester value chain, and 1,4-Butananediol plus its derivates. KTS combines its exclusive technologies, expertise, and capabilities with those of other KES companies to provide overall solutions to optimize customer's capital investments and existing manufacturing assets.

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Figures accompanying this announcement are available at:

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