Standard Lithium Announces Maiden Inferred Resource of 3,086,000 Tonnes LCE at Southern Arkansas Project

written by Raj Shah | November 14, 2018

November 14, 2018 (Source) – **Standard Lithium Ltd.** ("Standard Lithium" or the "Company") (TSXV: SLL) (OTCQX: STLHF) (FRA: S5L), is pleased to report a maiden lithium resource statement for its 150,000 acre Project in the south-central region of Arkansas, USA (the "Property"; see Company news release 9th May 2018). The maiden resource report, detailed in Table 1 below, includes 3,086,000 metric tonnes of lithium carbonate equivalent (LCE) at the Inferred Resource category (see notes [4] and [5] below).

Table 1 – South Arkansas Lithium Brine Project Inferred Resource Statement

Parameter	South Unit	Central Unit	West Unit	**Total**
Aquifer Volume (km^3)	5.83	8.29	16.31	30.43
Brine Volume (km^3)	0.689	0.995	1.84	3.52
Average Li concentration Milligrams per litre (mg/L)	165 mg/L			
Average Porosity	11.8%	12.0%	11.2%	11.6%

Total Li resource (as metal) metric tonnes (see notes [4] & [5] below)	114,000	164,000	303,000	580,000
Total LCE resource (metric tonnes) (see notes [4] & [5] below)	605,000	873,000	1,610,000	**3,086,000**

Notes:

[1] Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the mineral resource will be converted into a mineral reserve.

[2] Numbers may not add up due to rounding.

[3] The resource estimate was completed and reported using a cut-off of 50 mg/L lithium.

[4] The resource estimate was developed and classified in accordance with guidelines established by the Canadian Institute of Mining and Metallurgy. The associated Technical Report was completed in accordance with the Canadian Securities Administration's National Instrument 43-101 and all associated documents and amendments. As per these guidelines, the resource was estimated in terms of metallic (or elemental) lithium.

[5] In order to describe the resource in terms of 'industry standard' lithium carbonate equivalent, a conversion factor of 5.323 was used to convert elemental lithium to LCE.

The lithium brine Inferred Resource, as reported, is contained within the Reynolds Member of the Smackover Formation, a Late Jurassic oolitic limestone aquifer that underlies the entire Property. This brine resource is in current commercial production for the purpose of recovering bromine from the brine. The bulk of the numerical data used to model the resource were gathered from a network of existing production and disposal

wells distributed across the Property. Abundant data demonstrate that the Reynolds Member is present across the entirety of the Property, and that it is not affected by faulting.

The resource is defined across a total footprint of approximately 150,000 acres, or 775 km^2, which is comprised of over 10,000 separate brine leases. The total lease area is separated into three specific areas, or 'Units', that each function as standalone brine production, processing and reinjection operations. The commercial extraction of bromine from brines sourced from the Reynolds Member aquifer commenced in the late 1950's and is currently ongoing. The depth, shape, thickness and lateral extent of the Reynolds Member was mapped out using data from 699 wells that penetrated the top of the aquifer; 198 wells that penetrated the base of the aquifer; and 620 km of proprietary 2D seismic data. Thirty-one of the wells had full downhole geophysical logs, including detailed density and/or porosity data throughout the Reynolds Member. Detailed porosity and permeability data were gathered from core-plug samples taken from 17 active brine supply and reinjection wells distributed across the Property. In total, data from 2,329 core plugs, as well as 14,314 measurements from downhole geophysical logs were used to define the effective porosity distribution throughout the Reynolds Member aquifer.

Current representative *in-situ* brine geochemistry was assessed by taking samples, on two separate occasions, from 24 (of the 26 total) brine production wells across the Property. Lithium concentrations in brine at the wellheads ranged from 53 mg/L to a maximum recorded concentration of 292 mg/L. Spatial variations in lithium concentration across the Property were observed, but a conservative average *in-situ* concentration of 165 mg/L was used for resource calculation. Brine at the wellheads typically had a density of approximately 1.17 g/cm^3, and a temperature of

65 °C.

Samples were also taken at the three separate bromine extraction plants (one at each of the 'Units'); at the point where the brine streams from the brine production wells are amalgamated prior to bromine extraction ("feed brine"), and at the point where the bromine-free brine is ready to be reinjected back into the Smackover Formation ("tailbrine"). These data show that, during the period of sampling, the highest 'blended' lithium concentration was found at the South Plant (which processes brine pumped from the South Unit), with a measured feed brine containing between 191-200 mg/L Li. The South Plant is the location chosen for Standard Lithium's Pilot Plant (see previous news release dated 12th September 2018). Sample quality assurance and quality control was maintained throughout by use of blanks, duplicates, standard 'spikes', and by using an accredited laboratory, with a long history of analysing very high salinity lithium brines.

Brine production at the Property is ongoing, and based on publicly available data for the period January 2013 to December 2017, an average volume of approximately 126 million barrels of brine per year (20 million m^3 per year), were pumped, processed for bromine and reinjected across the Property. This corresponds to an average amalgamated flow rate of approximately 636 litres/second, or 10,076 gallons per minute. To put these figures into context, the total brine resource beneath the Property is calculated to be 3.52 cubic kilometres, whereas the average annual pumping rate is approximately 0.02 cubic kilometres, meaning that only 0.57% (approx.) on average of the resource is processed (for bromine) per annum.

"*Our development strategy has been data-driven from the outset; our disciplined approach has been validated by this robust*

mineral resource estimate that is fully in-line with the due diligence we conducted" said Dr. Andy Robinson, President and COO of Standard Lithium.

Resource Estimation Methodology

The resource estimate was completed by Independent qualified person (QP) Mr. Roy Eccles M.Sc. P.Geol. of APEX Geoscience Ltd., assisted by other Independent QP's; Mr. Warren Black M.Sc. P.Geo. of APEX Geoscience Ltd. (resource modelling), Mr. Kevin Hill B.Sc. P.Geo. Hill Geophysical Consulting (geology), Dr. Ron Molnar Ph.D. P.Eng. of METNETH$_2$O Inc. (processing), and Mr. Kaush Rakhit M.Sc. P.Geol. of Canadian Discovery Ltd (hydrogeology). The resource estimate of the lithium brine at the Lanxess Property is classified as an "Inferred" Mineral Resource, and was developed and classified in accordance with guidelines established by the Canadian Institute of Mining and Metallurgy. The associated Technical Report was completed in accordance with the Canadian Securities Administration's National Instrument 43-101 and all associated documents and amendments.

Owing to the abundance of data available to the QPs responsible for resource assessment, it was decided to use a more robust 3D block modelling approach using the MICROMINE v18.0 software to model the porosity distribution across the Property. The data available to the authors of the Inferred Resource report included:

- 3,412 wells that had been drilled in the general Property area, including 1,004 wells that were deep enough (>2,135 m deep) to intercept the Smackover Formation/Reynolds Member;
- 699 wells with electric logs within the Property that went into the top of the Smackover, and 198 wells that had electric logs that fully penetrated the base of the Reynolds Member of the Smackover Formation (the brine

resource, as estimated for this Property is only considered for the geologically and hydrogeologically distinct Reynolds Member);

- 36 wells that had density and/or porosity logs for the Reynolds Member;
- 620 km of proprietary 2D seismic data;
- 62 current brine assays representative of in-situ brine composition;
- 1,935 historical Smackover Formation core samples that yielded an average effective porosity of 14.3%;
- Historical permeability data that varied from <0.01 to >5,000 millidarcies (mD) with an average of 338 mD;
- 2,329 proprietary core plug samples from supply and reinjection wells across the Property, which yielded an average permeability of 202 mD and effective porosity of 11.2%; and,
- 14,314 total porosity values from the Reynolds Member based on publicly available logs, with an average porosity of 11.3%.

The block model for the Reynolds Member across the 775 km^2 extent of the Property was compiled using blocks measuring 183 m × 183 m across, and a thickness of 0.61 m. The model resulted in a total volume of Reynolds Member aquifer beneath the Property of 30.43 km^3, with an average global block model porosity of 11.6%. Using average *in-situ* brine grade beneath the Property of 165 mg/L yielded a lithium resource of approximately 580,000 tonnes of lithium (reported as elemental lithium), or just over 3 million tonnes LCE, assuming that all effective porosity is filled with brine. This block model approach is felt by the primary author to be a rigorous and conservative approach, and produces a robust and defensible Inferred Resource estimate. A Technical Report describing this resource estimation, and prepared under the NI43-101 guidelines, will be filed on

Standard Lithium's SEDAR page with 45 days of this release.

"*The release of this first resource report is a significant milestone for the Company and shows that the South Arkansas Project is one of the most interesting emerging lithium brine projects globally*" commented Robert Mintak, Standard Lithium CEO. "*The combination of robust data sampled from existing brine production wells, with a large land package of 150,000 acres and associated infrastructure, makes our South Arkansas Project a compelling opportunity. A second resource report on 30,000 acres of separate brine leases in Southwest Arkansas will follow this report before the end of the year.*"

Quality Assurance

The resource evaluation report was completed by the Independent Qualified Persons as described above, with Roy Eccles P. Geol. as the lead author. Raymond Spanjers, Registered Professional Geologist (SME No. 3041730), is a qualified person as defined by NI 43-101, and has supervised the preparation of the scientific and technical information that forms the basis for this news release. Mr. Spanjers is not independent of the Company as he is an officer in his role as Vice President, Exploration and Development.

About Standard Lithium Ltd.

The Company's flagship Project is located in southern Arkansas, where it is engaged in the testing and proving of the commercial viability of lithium extraction from over 150,000 acres of permitted brine operations utilising the Company's proprietary selective extraction technology. The Company is also pursuing the resource development of over 30,000 acres of separate brine leases located in southwestern Arkansas and approximately 45,000 acres of mineral leases located in the Mojave Desert in San Bernardino County, California.

Standard Lithium is listed on the TSX Venture Exchange under the trading symbol “SLL”; quoted on the OTC – Nasdaq Intl Designation under the symbol “STLHF”; and on the Frankfurt Stock Exchange under the symbol “S5L”. Please visit the Company’s website at www.standardlithium.com.

On behalf of the Board,

Standard Lithium Ltd.
Robert Mintak, CEO & Director

Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release. This news release may contain certain “Forward-Looking Statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities laws. When used in this news release, the words “anticipate”, “believe”, “estimate”, “expect”, “target, “plan”, “forecast”, “may”, “schedule” and other similar words or expressions identify forward-looking statements or information. These forward-looking statements or information may relate to future prices of commodities, accuracy of mineral or resource exploration activity, reserves or resources, regulatory or government requirements or approvals, the reliability of third party information, continued access to mineral properties or infrastructure, fluctuations in the market for lithium and its derivatives, changes in exploration costs and government regulation in Canada and the United States, and other factors or information. Such statements represent the Company’s current views with respect to future events and are necessarily based upon a number of assumptions and estimates that, while considered reasonable by the Company, are inherently subject to significant business, economic, competitive, political and social risks, contingencies and uncertainties. Many factors,

both known and unknown, could cause results, performance or achievements to be materially different from the results, performance or achievements that are or may be expressed or implied by such forward-looking statements. The Company does not intend, and does not assume any obligation, to update these forward-looking statements or information to reflect changes in assumptions or changes in circumstances or any other events affections such statements and information other than as required by applicable laws, rules and regulations.