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Lithium One Update on Sal de Vida Brine Project: NI 43-101 Technical Report, Ongoing Drilling and High Lithium and Potassium over more than 120 km²

Lithium One Inc (the "Company") (TSX-V: LI), is pleased to provide an update on the Company's activities on the Sal de Vida Lithium Brine Project at Salar del Hombre Muerto, Argentina. The Company has received its first NI 43-101 Technical Report on the Sal de Vida Project. Well drilling and systematic surface sampling programs are ongoing; the fourth well on the project is currently underway and 80 samples of near surface brine have been analyzed. To date surface sampling has been completed over approximately one third of the Company's land holdings. Analytical results bring the cumulative average values over more than **120 km²** of near-surface brine to **760 mg/L (644 ppm) lithium, 8,559 mg/L (0.725 %) potassium, and a magnesium to lithium ratio of 1.65.**

Lithium One President and CEO Patrick Highsmith commented, "*The latest results from Sal de Vida continue to impress us with the scale and consistency of the lithium and potassium enriched brines. We have now outlined more than 120 km² of high lithium and potassium with low magnesium content. As appropriate permits are obtained, we will extend the sample grid onto the newly acquired lands. The first drill holes have encountered brine in sand and salt aquifers. We look forward to analytical results from the drilling in the coming weeks.*"

NI 43-101 Technical Report

The report was prepared in accordance with the guidelines of National Instrument 43-101 by independent consultants and qualified persons, John Houston and Jeff Jaacks. In addition to the property ownership, land ownership, physiography, and regional geology, the report reviews the technical aspects and potential of the project. There is a detailed discussion of the chemistry and evolution of the brine along with maps and diagrams explaining the interplay of the chemical and physical variables that define the lithium and potassium rich brines of the Sal de Vida Project. The report concludes that the Sal de Vida brines "appear to have many of the important characteristics of a potentially economic brine for lithium and potash production". The authors make a number of recommendations for future work, including well drilling, core drilling and pump tests – all of which are planned for the remainder of 2010. The Technical Report will be filed on SEDAR in the very near future.

Surface Brine Sampling

The table below summarizes the cumulative results to date from approximately 80 near-surface brine samples covering more than 120 km² of Salar del Hombre Muerto. These results include brines collected from systematic trench sampling on 1.5 to 4 km sample spacing as well as due diligence auger drill samples on nominal 1 km spacing. The results continue to closely resemble the brine chemistry reported by FMC Corporation at the neighbouring Fenix Lithium Brine operation on Salar del Hombre Muerto[†].

Table 1. Brine assay results for samples from depths of 2 - 5 metres. Number of samples = 80

	Lithium (mg/L)	Potassium (mg/L)	Magnesium (mg/L)	Mg:Li
Mean Value	760 (644 ppm)	8,559 (0.725 %)	1,209	1.65
Max Value	1,253	14,670	2,193	
Min Value	375	2,963	403	

[†] Economics of Lithium 11th Edition, Roskill Information Services (2009)

Please refer to the Lithium One website (www.lithium1.com) where additional discussion of these results, plan maps of the data and photos from the field will shortly be posted.

Well Drilling Program

One rotary drill rig continues to advance the drill program. Three holes have been drilled to date, and the fourth is currently at 60 metres depth. All of the holes have penetrated near-surface, saturated, sandy aquifers; and holes one and four encountered halite (table salt) from approximately 35 metres depth. These are the first known drill intercepts of halite on the eastern side of Hombre Muerto; the neighbouring Fenix mine produces much of its lithium brine from thick deposits of halite.

Field testing of the samples from drilling so far has confirmed brines with densities at or above 1.15 gms/cm³. All samples are being sent to Alex Stewart Assayers in Mendoza. Lithium One continues to employ a rigorous protocol for sample collection and quality control as designed by the Company's qualified persons. See Company news release dated 14 January, 2010 for a complete discussion of quality control procedures and reporting units.

The objective of the drill program is to provide information about the reservoir characteristics and brine chemistry at depth on the east side of Salar del Hombre Muerto. In addition to brine and cuttings sampling, the Company will also conduct down-hole logging, including natural gamma, neutron, density, and sonic methods. The drilling, sampling, geological logging, and down-hole testing will conform with procedures developed by the Company's hydrogeological consultants.

The initial drill program at Sal de Vida will consist of at least 6 rotary drill holes targeting depths between 50 and 200 metres, sited using the results of the pit sampling program and the gravity survey.

Review by Qualified Person

The contents of this press release have been reviewed and approved by Mr. John Houston. Mr. Houston is a Chartered Geologist as conferred by the Geological Society of London and a qualified person as defined by National Instrument 43-101. He is an independent consultant to the Company, holding no shares or options.

About Lithium One:

Lithium One Inc. is an explorer and developer of mineral properties with a specific focus on lithium. The Company has two major lithium projects: the brownfields Sal de Vida lithium brine project in Argentina and the James Bay bulk tonnage spodumene project in Quebec. The Company continues to advance both projects toward resource definition, expecting NI 43-101 compliant resource estimates by the 2nd quarter of 2010. Lithium One believes that lithium demand will grow as its value as a preferred battery material is fully realized. The Company's strategy is to draw upon its quality team and employ best-practice to develop its portfolio of top-tier lithium assets.

ON BEHALF OF THE BOARD OF DIRECTORS,

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