TSX-V: LI

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Lithium One Reports Initial DRILL RESULTS for its James Bay Lithium Project and Expands Drill Program to 11,000m

Lithium One Inc. (the "Company") (TSX-V: LI) is pleased to announce the first results from its Phase 2 diamond drill program at the James Bay Lithium Project in Quebec. Highlights of the results from the first 17 holes include: **10.50m of 2.38% Li_2O** and **22.50m of 1.51% Li_2O.** All drill holes have intersected significant pegmatite, **with 16 of the 17 drill holes returning intersections with grades between 1.10 and 2.38% Li_2O over significant widths, and many intersections lying within 50 metres of the surface.** Pegmatite intercepts greater than five metres are summarized in Table 1 below.

Table 1. Phase 2 Drilling Results to August 10th, 2009
(Intercepts > 5 metres)

Hole #	From	To	Width (m)	Li_2O (%)
JBL09-01	14.15	24.42	10.27	1.59
"	37.10	46.95	9.85	1.68
"	54.32	62.98	8.66	1.75
JBL09-02	26.05	35.92	9.87	1.72
JBL09-03	12.45	17.65	5.20	1.72
"	37.25	42.42	5.17	1.70
JBL09-05	21.08	28.22	7.14	1.40
"	47.87	54.42	6.55	1.75
JBL09-06	13.55	25.55	12.00	1.33
"	47.43	57.50	10.07	1.65
JBL09-07	19.12	24.35	5.23	1.82
"	35.00	45.58	10.58	1.57
"	47.64	53.32	5.68	1.61
"	103.75	108.95	5.20	1.57
JBL09-08	40.47	50.74	10.27	1.47
"	108.65	116.05	7.40	1.65
JBL09-09	27.70	37.90	10.20	1.40
JBL09-10	19.35	33.85	14.50	1.55
"	60.90	66.53	5.63	1.48
"	73.10	79.77	6.67	1.59
JBL09-11	22.20	30.92	8.72	1.70

"	50.20	72.70	22.50	1.51
"	139.80	146.00	6.20	1.24
JBL09-12	25.07	30.84	5.77	1.57
"	37.86	43.95	6.09	1.34
"	58.76	79.70	20.94	1.43
"	148.37	153.75	5.38	1.19
JBL09-13	119.50	130.00	10.50	2.38
"	163.43	170.10	6.67	1.47
JBL09-14	105.34	113.70	8.36	1.83
"	135.87	146.90	11.03	1.54
JBL09-15	9.40	16.71	7.31	1.28
"	89.29	95.16	5.87	1.23
"	98.25	104.45	6.20	1.03
"	129.50	138.14	8.64	1.63
JBL09-16	8.33	20.98	12.65	1.73
"	110.8	119.3	8.50	1.48
"	91.8	97.55	5.75	1.20
JBL09-17	147.09	154.38	7.29	1.10

This phase of the program will test at least nine of the 15 known pegmatite dyke swarms. The results reported are from Pegmatite Swarm #7. These dykes are typically long (>200m) and from surface mapping appear to be thinner than those to the west. Results confirm excellent continuity amongst the five most significant dykes found in the group. Ninety intercepts of spodumene-bearing pegmatites (>2m) have been encountered. Based on the confirmation of the thickness and grade of the pegmatites so far and in order to test high priority targets, management has added a second drill rig and expanded the program to 11,000 metres of drilling.

Lithium One President and CEO, Patrick Highsmith, commented, "*We are very pleased with these results. Even the narrower eastern pegmatite dykes are demonstrating strong continuity and grade. Furthermore, the dykes are nicely stacked to yield a high volume of pegmatite per vertical metre. We are confident that results will get even better from here as we move to the west where the dykes appear thicker at surface."* Speaking of the Company's plans for the program, Highsmith continued, *"These results should build nicely towards a resource estimate during the winter. We continue to be very confident of the potential of the James Bay Project. It is a strong foundation for our project portfolio.*"

About the James Bay Lithium Project

The 1,700 hectares James Bay Lithium Project is located directly on a paved highway, Route de la Baie James, and within two kilometres of a power transmission line. The lithium at the James Bay Lithium Project is hosted in the mineral spodumene (chemical formula: $LiAlSi_2O_6$), which in its pure form contains 8.02% Li_2O. The property hosts a swarm of pegmatite dykes over a corridor stretching almost five kilometres. Surface mapping of outcrops reveal 15 different pegmatite swarms, each consisting of up to seven dykes, ranging in width from two to more than 30 metres. Geological investigations to date reveal that these pegmatite dykes are almost always spodumene-bearing. The crystals are quite coarse, usually more than 5 cm in length and sometimes exceeding 1 metre.

Drill holes are collared at as close to 50m spacing as field conditions allow, an interval judged necessary to optimize a resource calculation expected later in the program. All holes have been drilled inclined at an azimuth of 110° (S 70 ° E) as the dykes dip NW between 52 ° and 55°, so these intercepts are believed to be close to true width. However, true widths of these intercepts may be equal or in some cases less than reported here pending additional geological work. More detailed tables of drill results, maps, cross-sections and photos of the James Bay Lithium Project will be posted to the Company's website: www.lithium1.com.

Quality Control

The Company logs, collects, and cuts the drill core on site. Drill core samples are sealed and shipped to TJCM (Table Jamésienne de Concertation Minière) in Chibougamau for sample preparation. The prepared samples are then sent by courier to COREM in Québec City for Li_2O assay by multi-acid digestion and AA finish. COREM is a government-industry consortium of applied research for the treatment and processing of mineral substances, with a track record in lithium analysis and ore beneficiation. Certain of their laboratories are certified ISO 9001:2000 by BNQ and the analytical laboratory is certified ISO 17025:2005 for certain procedures. The laboratory employs quality control systems throughout that are compliant with ISO 9001 and ISO 17025 standards. The company is employing a rigorous quality assurance and quality control program, including the insertion of analytical control samples and field duplicates, as well as the tracking of replicate analyses and check assays from an independent laboratory.

The work program is under the supervision of Mr. A. James McCann, the Company's consulting exploration manager for Quebec. Mr. McCann is a licensed Professional Geologist in Quebec and a qualified person as defined by National Instrument 43-101. He has reviewed and approved the contents of this press release.

About Lithium

Lithium is a light, highly reactive metal with use in a variety of industrial applications including ceramics, lubricants and pharmaceuticals. The fastest growing market for lithium is as lithium carbonate for use in batteries, including those in cell phones, computers and new generations of electric and hybrid vehicles. Lithium from spodumene is in silicate form and following mining and production of a concentrate, requires processing to be converted to lithium carbonate. Technology for the conversion of spodumene ore to lithium carbonate has been in use for over 20 years.

About Lithium One:

Lithium One Inc. is a well-financed explorer and developer of mineral properties with a specific focus on lithium. Lithium One believes that lithium demand will grow as its value and efficacy in "green energy" applications is fully realized. The Company's strategy is to build a portfolio of high quality lithium assets. The James Bay Lithium Project is the Company's first significant lithium asset.

ON BEHALF OF THE BOARD OF DIRECTORS,

Patrick Highsmith, M.Sc.
President and Chief Executive Officer

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