

# Nemaska Lithium Whabouchi Feasibility Study Shows NPV of \$924M and IRR of 25.2%

May 13, 2014 (Source: Marketwired) – Nemaska Lithium Inc. («Nemaska» or the «Corporation») (TSX VENTURE:NMX) (OTCQX:NMKEF) announces the results of a positive Feasibility Study on the Whabouchi Mine and Concentrator to be located in the lower James Bay Region of Quebec and the Hydromet Plant to be located in Salaberry-de-Valleyfield, Quebec.

The Feasibility Study encompasses a combined open pit and underground mine plan and was prepared by Met-Chem Canada Inc. (Met-Chem) with contributions from Michel Bilodeau, Eng., M. Sc. (App.), Ph.D. for the cash flow model. Additional technical elements of the study have been authored by Mr. Warren Wolfs of Noram Engineering & Construction Ltd., Dr Peter G. Symons, Manager R&D of Electrosynthesis Company Inc., Mr. Gary Pearse, M.Sc., P. Eng. of Equapolar Research and Simon Thibault, M.Sc. bio. of the Roche Group. A Mineral Reserve has been declared by Met-Chem based on an updated Mineral Resource estimate completed by Jean-Philippe Paiement, M.Sc. P.Geo., of SGS Canada Inc. – Geostat (“SGS Geostat”) on January 28, 2014 of the Mineral Resource estimate prepared by André Laferrière, M.Sc. P.Geo., of SGS Geostat with an effective date of June 6, 2011. Nemaska will host a conference call on the Feasibility Study on Wednesday, May 14, 2014 at 10 am Eastern Standard Time. Conference call details are found at the end of this press release.

The Feasibility Study positively compares to the Preliminary Economic Assessment filed on Sedar on November 16, 2012 on a number of fronts:

### Feasibility Study Highlights

(All calculations assume a 6% Li<sub>2</sub>O spodumene concentrate)

(All figures are quoted in Canadian Dollars (C\$), unless otherwise specified)

	<b>Feasibility Study</b>	<b>PEA (November 16, 2012)</b>
<b>Expected Mine Life</b>	26 years	18 years
<b>Life of Mine Revenue</b>	\$6.9 Billion (average of \$267M/yr for 26 yr)	\$4.1 Billion (average of \$228M/yr for 18 yr)
<b>Pre-Tax Net Cash Flow</b>	\$3.4 Billion (average of \$151M/yr before initial CAPEX)	\$1.8 Billion (average of \$123M/yr before initial CAPEX)
<b>Pre-Tax NPV 8% Discount (base case)</b>	\$924 Million	\$567 Million
<b>Pre-Tax Internal Rate of Return (IRR)</b>	25.2%	23.3%
<b>Total Initial Capital Costs</b>	\$448 Million in CAPEX \$52 Million in Contingency \$21 Million in Working Capital	\$389 Million in CAPEX \$50 Million in Contingency \$15 Million in Working Capital
<b>Pay Back of Capital Costs</b>	3.7 years	3.8 years
<b>Selling Price Lithium Hydroxide</b>	US \$8,000/t FOB Valleyfield	US \$8,000/t FOB Valleyfield
<b>Selling Price Lithium Carbonate</b>	US \$5,000/t FOB Valleyfield	US \$6,500/t FOB Valleyfield

<b>Average Cost Per Tonne Spodumene Concentrate</b>	\$189/t FOB Whabouchi Mine	\$203/t FOB Whabouchi Mine
<b>Average Cost Per Tonne Lithium Hydroxide</b>	\$3,450/t (US \$ 3,105/t) FOB Valleyfield	\$3,400/t (US \$ 3,400/t) FOB Valleyfield
<b>Average Cost Per Tonne Lithium Carbonate</b>	\$4,190/t (US \$ 3,771/t) FOB Valleyfield	\$3,500/t (US \$ 3,500/t) FOB Valleyfield
<b>Life of Mine Production</b>	5.5 million tonnes spodumene concentrate converted into Approx. 728,000 tonnes battery grade lithium hydroxide and Approx. 85,000 tonnes of battery grade lithium carbonate. (average per year of Approx. 213,000 tonnes of concentrate to produce Approx. 28,000 tonnes of lithium hydroxide and Approx. 3,250 tonnes of lithium carbonate)	3.8 million tonnes spodumene concentrate converted into Approx. 366,000 tonnes battery grade lithium hydroxide and Approx. 177,000 tonnes of battery grade lithium carbonate. (average per year of Approx. 213,000 tonnes of concentrate to produce Approx. 20,700 tonnes of lithium hydroxide and Approx. 10,000 tonnes of lithium carbonate)
<b>Exchange Rate \$C to \$US</b>	1 : 0.9	1 : 1

“We are very pleased with the significant improvements in the NPV and IRR for this project,” commented Guy Bourassa,

President and CEO of Nemaska Lithium. "We extended the mine life by 8 years while keeping the CAPEX on the project to within 15% of the figures reported in 2012 when one takes exchange rate changes and inflation into consideration. We were able to achieve this while significantly reducing the overall footprint of the project and reducing the environmental impact of the mine site."

### ***Mineral Resources and Mineral Reserves***

The Mineral Resources were estimated by Jean-Philippe Paiement, M.Sc. P.Geo., of SGS Geostat with an effective date of January 22, 2014, updating the past Mineral Resource estimate prepared by André Laferrière, M.Sc. P.Geo., of SGS Geostat with an effective date of June 6, 2011. The Mineral Resources were estimated based on the following geological and resources block modeling parameters which are based on the Memorandum received from SGS Geostat, dated January 22, 2014:

- Mineral resources were evaluated from the diamond drill holes and channels analytical results completed by Nemaska since 2009. Historical drill holes and channels were not used for the current mineral resources estimate. A total of 479 drill holes/channels and 9,358 assays were used for the mineral resources model.
- The mineral resources 3-D modeling of mineralized pegmatite dyke was conducted using a minimal modeling grade of 0.50%  $\text{Li}_2\text{O}$  over a 2m horizontal thickness.
- The interpolation was conducted using composited assays of 2m in length. The Mineral Resources were modeled and estimated using Genesis© software.
- Block Model Interpolation was done using Ordinary Kriging. The block model was defined by a block size of 5m long by 3m wide by 5m thick and covers a strike length of 1,315 m to a maximal depth of 520 m below surface.
- The In-pit Mineral Resources were limited inside an

optimized pit shell. The interpolated blocks of the model located below the optimised pit shell are not included in the updated Mineral Resources. The In-pit Mineral Resources reach 320 m below surface (maximum depth of optimised pit).

- The cut-off grade of the reported Mineral Resources is 0.43% Li<sub>2</sub>O.

<b>In-Pit Mineral Resources – Whabouchi Project</b>		
<b>Resource Category</b>	<b>Tonnage (t)*</b>	<b>Li<sub>2</sub>O Grade (%)</b>
Measured	12,998,000	1.60
Indicated	14,993,000	1.54
<b>Measured + Indicated</b>	<b>27,991,000</b>	<b>1.57</b>
Inferred	4,686,000	1.51

\*Note: The mineral resources estimate has been calculated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definitions Standards for mineral resources in concordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects. Mineral resources which are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are exclusive of the Measured and Indicated resources.

Bulk density of 2.70 t/m<sup>3</sup> is used. Effective date January 22, 2014. \* Rounded to the nearest thousand.

The Mineral Reserve estimate was prepared by Met-Chem, using the updated Mineral Resource block model. The Mineral Reserves are included in the Measured and Indicated Mineral Resources that have been identified as being economically extractable and which incorporate mining losses and the addition of waste dilution.

<b>Mineral Reserves – Whabouchi Project</b>		
<b>Reserve Category</b>	<b>Tonnage (Mt)</b>	<b>Li<sub>2</sub>O Grade (%)</b>

<b>Open Pit</b>		
Proven	11.7	1.58
Probable	8.3	1.46
<b>Proven and probable</b>	<b>20.0</b>	<b>1.53</b>
<b>Underground</b>		
Proven	1.6	1.27
Probable	5.7	1.29
<b>Proven and probable</b>	<b>7.3</b>	<b>1.28</b>

Reserves categories are compliant with Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definitions Standards for mineral resources in concordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects. The cut-off grade for the open pit Mineral Reserves  $\text{Li}_2\text{O} \geq 0.43\%$  and the cut-off grade for the underground Mineral Reserves is  $\text{Li}_2\text{O} \geq 0.80\%$ . The effective date of the Mineral Reserves estimate is May 13, 2014. \* Rounded to the nearest thousand.

### ***Mine and Hydromet Plant Plan***

The Feasibility Study outlines a combined open pit and underground mine. The open pit mine Proven and Probable Reserves are 20 million tonnes at 1.53%  $\text{Li}_2\text{O}$ . The underground mine Proven and Probable Reserves are 7.3 million tonnes at 1.28%  $\text{Li}_2\text{O}$ .

During the first 20 years, production will be derived from an open-pit developed to a maximum depth of 190 meters and with an average strip ratio of 2.2 to 1. The open pit will be mined using a standard fleet of off-road mining trucks and hydraulic excavators at a rate of 2,740 tonnes of ore per day.

During the last 6 years, production will be derived from an underground operation at 3,342 tonnes per day and accessed via a ramp within the open pit. The underground development will reach an average depth of 90 metres below the pit bottom. The

selected underground mining method is longhole stoping with the crown pillar below the pit recovered at the end of the mine life.

A formal production decision is expected to be made following, among other things, the receipt of Certificates of Authorization from the relevant Québec and Federal Government regulatory authorities. The project development schedule assumes that the General Certificate of Authorization for the project will be granted on or before March 31, 2015 and that concurrently the Project financing will have been completed. On site, power requirements at the mine are expected to average 5 MW during operations and will be provided by a 25 kV power line connecting Whabouchi to the nearby Poste Albanel hydro-electric power station.

The hydromet plant will be located in Salaberry-de-Valleyfield, QC Perron Industrial and Port Park. This site has been selected for its excellent infrastructure. The Park is serviced by two railway systems for both Canada and the USA, a major port and a pool of skilled workers from the Montreal area. The hydromet plant will be state of the art and will use Nemaska's proprietary process to convert the spodumene concentrate into the purest lithium hydroxide on the market. Proximity to the Hydro-Quebec network, as the plant will use close to 50 MW once in full operation, and access to the natural gas network were also deciding factors.

Bourassa continued, "It is important to review the results of this Feasibility Study on a number of levels. First, the cost of our spodumene concentrate FOB mine site of \$189/t compares very favorably to our competitors globally. Second, the physical characteristics of the Whabouchi ore body are homogenous, having low sodium, low potassium and low mica content. These impurities are known to cause issues and add costs during the production of spodumene concentrate and high-purity battery grade lithium carbonate or hydroxide. This is NOT a problem for Nemaska."

<b>Whabouchi Feasibility Study Results and Key Assumptions</b>		
<b>Mining Parameters</b>		
	Tonnes Processed (Mt)	27.3
	Waste Rock & Overburden (Mt)	44.3
	InSitu Grade (% Li <sub>2</sub> O)	1.51
	Diluted Grade (%)	1.46
	Mine Life (LOM) (years)	26
<b>Mining Cost Parameters</b>	Pre-Production Cap-ex (\$M)	\$16.2
	Hydroelectricity Price (\$/kW)	\$0.051 – (H-Q, Tariff L)
	LOM OPEX (\$/t concentrate)	\$82.85
<b>Concentrator Cost Parameters</b>	CAPEX (\$M)	\$174.4
	OPEX (\$/t concentrate)	\$62.44
	G&A OPEX (\$/t concentrate)	\$37.89
	Shipping Cost (\$/t concentrate)	\$50.00
<b>Hydromet Plant Cost parameters</b>	CAPEX (\$M)	\$309.1
	OPEX (\$/t concentrate)	\$278.73
<b>Overall Sustaining Capital</b>	LOM CAPEX (\$M)	\$140.2
<b>Revenue Parameters (real terms)</b>	Gross Revenue (\$M)	
	Lithium Hydroxide (LiOH-H <sub>2</sub> O)	\$6,473.6
	Lithium Carbonate (Li <sub>2</sub> CO <sub>3</sub> )	\$470.1
	Cash Operating Margin (\$M)	\$4,053.2



<b>Lithium compounds Parameters</b>	Product (US \$ Sale price / t)	
	Lithium Hydroxide (LiOH-H <sub>2</sub> O)	US \$8,000
	Lithium Carbonate (Li <sub>2</sub> CO <sub>3</sub> )	US \$5,000
	Exchange rate	1 C\$=0.9US\$
<b>Schedule Parameters</b>	Effective Date for NPV Calculation	May 2014
	Construction Mobilization	July 1, 2015
	Plant Commissioning Starts	November 1, 2016
	Commercial Production Declared	March 31, 2017
<b>Valuation Parameters</b>	Pre-Tax NPV 8% (\$M)	<b>\$924.2</b>
	Pre-Tax IRR	<b>25.2%</b>
	After-Tax NPV 8% (\$M)	<b>\$580.8</b>
	After-Tax IRR	<b>21.0%</b>

“Our lithium hydroxide cost of \$3,450/t (US \$3,105/t) is competitive with any supplier of lithium hydroxide today and in the foreseeable future,” Mr. Bourassa stated. “Our new flow sheet has been designed to optimize the production of lithium hydroxide, while also producing a high purity lithium carbonate (99.99%) as a by-product at an average cost of \$4,190/t (US \$3,771/t). Nemaska’s market penetration and growth strategy is to become an important supplier of lithium hydroxide by offering the highest quality product at competitive prices, while maintaining healthy margins. In tandem, Nemaska plans to grow its target market through converting lithium carbonate users to lithium hydroxide by offering a superior product (lithium hydroxide).”

### **Market Analysis**

“The lithium battery market is driven largely by demand from the transportation sector, precipitated by air quality and climate change issues,” commented Mr. Bourassa. “The U.S. White House recently issued the third U.S. National Climate Assessment update which said evidence of human-made climate change “continues to strengthen” and that “Americans are noticing changes all around them.”

The third U.S. National Climate Change Report went on to say that “planning for adaptation (to address and prepare for impacts) and mitigation (to reduce future climate change, for example by cutting emissions) is becoming more widespread, but current implementation efforts are insufficient to avoid increasingly negative social, environmental, and economic consequences.”

Mr. Bourassa continued, “The report from the Obama Administration supports our vision of wide spread deployment and adoption of electric vehicles and the lithium-ion batteries that power them.” Mr. Bourassa went on to say, “To answer that demand, Tesla Motors recently announced its decision to build a lithium-ion battery Gigafactory. This was a major boost to the lithium-ion battery market and positively impacted the entire downstream supply chain. Like Tesla, Nemaska is on the cutting edge of its industry with ambitious plans to provide the highest purity lithium hydroxide at the lowest cost. Just as Tesla is changing the standard for electric vehicles Nemaska is changing the standard for lithium-ion batteries.”

To complete the Feasibility Study, Nemaska commissioned signumBOX Inteligencia de Mercados, an independent market analysis group based in Chile, to produce a Lithium Carbonate and Lithium Hydroxide Market Study. The market study contemplates existing lithium compound suppliers, their planned growth and new suppliers to market as well as anticipated demand forecast into 2025. The study showed that unlike lithium carbonate, the lithium hydroxide market is

expected to tighten as growth in demand, driven largely by batteries, will not be satisfied by the increases in current installed capacity.

The study concludes the situation will be aggravated towards the end of the decade when the growth in demand will be greater than the growth in supply. Newcomers to the market, such as Nemaska, will fill this gap in supply and demand. The study also shows the price of lithium hydroxide will increase from US \$7,100/t in 2013 to US \$8,000/t in 2017 to US \$11,100/t by 2025. By contrast, Lithium carbonate prices will range from US \$5,700/t in 2013 to US \$5,000/t in 2017 to US \$8,400/t by 2025.

Lithium hydroxide is emerging as the chemical compound of choice for the growing lithium-ion battery market due to several factors including: a longer life cycle; better power density (last longer between charges) and enhanced safety features (more tolerant to temperature changes, especially high heat).

### ***Conference Call***

Nemaska will host a conference call on the Feasibility Study on Wednesday, May 14, 2014 at 10 am Eastern Standard Time. To participate in the call, dial 1-877-223-4471 or +1-647-788-4922 internationally. A playback will be made available two hours after completion of the call for 10 days. To access this playback dial 1-800-585-8367 or +1 416-621-4642 with the conference ID code 343 190 37. The conference call will also be available via live webcast for French <http://www.gowebcasting.com/5464> and for English: <http://www.gowebcasting.com/5465>

### ***Qualified Persons***

The complete NI 43-101 Technical Report ("Report") being prepared by Met-Chem Canada Inc. ("Met-Chem") and signed by each Qualified Person will be posted on [www.sedar.com](http://www.sedar.com) within

45 days. It will also be made available on Nemaska's website at <http://nemaskalithium.com>.

The Report will include updated mineral reserve estimates which were prepared respectively for the underground and the open pit by Mr. Daniel Gagnon, Eng. and Mr. Jeffrey Cassoff, Eng. of Met-Chem. Both Mr. Gagnon and Mr. Cassoff are independent Qualified Persons as defined by NI 43-101. The Report will consist of summary results from the Feasibility Study. The Report is being prepared under the direction of Mr. André Boilard, Eng. of Met-Chem and will be reviewed and certified by individuals responsible for their respective portions of the Report. Mr. Boilard and all other individuals providing certifications are Independent Qualified Persons as defined by NI 43-101. Among them are, Mr. Jean-Philippe Paiement, M.Sc. P.Geo., of SGS Geostat, Mr. Warren Wolfs of Noram Engineering & Construction Ltd., Dr Peter G. Symons, Manager R&D of Electrosynthesis Company Inc., Mr. Gary Pearse, M.Sc., P. Eng. of Equapolar Research and Mr. Simon Thibault, M. Sc. Bio. of the Roche Group.

### **About Met-Chem**

Met-Chem is an internationally renowned consulting engineering firm established in 1969 to provide all phases of geology, mining, mineral processing and engineering services throughout the world. From its headquarters in Montreal, Met-Chem offers the mining industry professional expertise that covers scoping, pre-feasibility and feasibility studies, basic and detailed engineering, procurement and construction management, training, start-up, commissioning and operations assistance.

### **About Nemaska**

Nemaska intends to become a lithium hydroxide and lithium carbonate producer based in Quebec and has filed patent applications for its proprietary methods to produce these compounds. In tandem, the Corporation is developing one of the

richest spodumene lithium hard rock deposit in the world, both in volume and grade. Spodumene concentrate produced at Nemaska's Whabouchi mine and from other global sources will be shipped to the Corporation's lithium compounds processing plant to be built in Salaberry-de-Valleyfield, Quebec. This plant will transform spodumene concentrate into high purity lithium hydroxide and lithium carbonate mainly for the growing lithium battery market.

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