AABC Europe 2017, Mainz

ADVANTAGES OF THE NEMASKA ELECTROMEMBRANE PROCESS FOR THE PRODUCTION OF HIGH PURITY LITHIUM HYDROXIDE

Jean-Francois Magnan – Technical Manager

TSX - NMX and OTCQX – NMKEF

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Forward-looking Statements

During the course of this presentation, Nemaska Lithium Inc. will make a number of statements with regard to the Company’s projects, business strategy and plan, which could be construed as forward-looking.

Such forward-looking statements are subject to risks and uncertainties that could cause results to be materially different than expectations. It is uncertain if further work will in fact lead to production of a mineral resource and of lithium compounds.

Nemaska has filed on SEDAR a NI-43-101 compliant revised updated feasibility study published dated June 8, 2016. All technical information should be reviewed according to this feasibility study.
Lithium New Comers to Meet New Demand

4 Lithium projects permitted globally today

Nemaska Lithium (Canada) 28,000 t LCE

Galaxy Resources (Australia) 17,000 t LCE

Lithium Americas/ SQM (Argentina) 25,000 t LCE

Neometal/ Ganfeng (Australia) 20,000 t LCE
Quebec, Very Good Location and Jurisdiction

- Mine and concentrator located in Eeyou Istchee James Bay region, 300km North of Chibougamau
  - 1.1MT/y ore
  - 213kt/y 6% Li$_2$O concentrate
  - 171 employees
- Transport by road and rail (CN) Chibougamau (555km to Shawinigan)
  - 18 rail cars/3days
- Hydromet Plant in Shawinigan as per Feasibility Study (855km away from mine)
  - 27.6kt/y LiOH.H$_2$O
  - 3.26kt/y Li$_2$Co$_3$
  - 86 employees

Positioned to Become a Fully-Integrated Lithium Producer
Complete Infrastructure at Mine Site
**Grade is KING + Low levels of Impurities**

<table>
<thead>
<tr>
<th>Category</th>
<th>Tonnage (Mt)*</th>
<th>Li₂O (%)</th>
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<tbody>
<tr>
<td><strong>Open pit</strong></td>
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<tr>
<td>Proven</td>
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<td>Probable</td>
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<tr>
<td><strong>Proven and probable</strong></td>
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<td>1.53</td>
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<tr>
<td><strong>Underground</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proven</td>
<td>1.6</td>
<td>1.27</td>
</tr>
<tr>
<td>Probable</td>
<td>5.7</td>
<td>1.29</td>
</tr>
<tr>
<td><strong>Proven and probable</strong></td>
<td>7.3</td>
<td>1.28</td>
</tr>
</tbody>
</table>
Hydromet Plants Existing Buildings in Shawinigan, Quebec

Phase 1 Plant (Commissioning in progress)

Commercial Plant (Anticipated commissioning Q2 2018)

Hydroelectric Power Plant

Artist rendition to modify existing site and buildings
The two key advantages of Nemaska Lithium

- **Mining advantages**: Nemaska Lithium has a **World Class Lithium Asset: Whabouchi Spodumene Mine**
  - 2nd richest and largest deposit in the world - 27.3 MT Proven and Probable Reserves for an initial 26 years mine life - potential to increase
  - Homogenous ore with average grade 1.53% Li₂O. Very low stripping ratio 2:1 and very wide dykes allows low dilution (<10%). Low micas ore, low sodium and potassium concentrate.
  - 6.0% Li₂O grade concentrate mainly produced by gravimetric technique, i.e. dense media separation (DMS)

- **Transformation advantages**: Proprietary electromembrane process to directly produce preferred high-purity lithium compound for batteries – lithium hydroxide monohydrate
  - Cleanest Lithium Production Process
Mining advantages

- High average grade: $1.53\% \text{Li}_2\text{O}$ (coarse spodumene crystals)
- Very low stripping ratio (very narrow open pit design)
- Low dilution (wide spodumene pegmatite dykes)

The geological characteristics and the process allows the production of high grade spodumene concentrate with high recovery and low cost by using mainly gravimetric concentration technique (DMS)
Nemaska Lithium has developed an electromembrane process to directly produce lithium hydroxide using low cost hydroelectric power.

This electromembrane process converts lithium sulfate extracted from spodumene concentrate into lithium hydroxide and sulfuric acid. In comparison with the conventional process which produces lithium carbonate using soda ash and produces salt cake as by-product.

The Nemaska process has significant advantages. The quality of the product is higher, the operational cost is lower and the benefits for the environment are huge.
Conventional versus Nemaska electrolytic process

• Both processes extract lithium from hard-rock spodumene using H$_2$SO$_4$ to produce the intermediate compound Li$_2$SO$_4$(aq)

• Conventional process (1954) is a chemical process: Use of Na$_2$CO$_3$ to precipitate Li$_2$CO$_3$ from Li$_2$SO$_4$ aqueous solution;

  \[ \text{Na}_2\text{CO}_3(aq) + \text{Li}_2\text{SO}_4(aq) = \text{Li}_2\text{CO}_3 + \text{Na}_2\text{SO}_4(aq) \]

• Nemaska process is an electrochemical process: Use of hydroelectric power to split Li$_2$SO$_4$ into LiOH and H$_2$SO$_4$ with reaction at the electrodes;

  Cathodic reactions;

  \[ 2\text{H}_2\text{O} + 2\text{e} \rightarrow \text{H}_2 + 2\text{OH}^- \]

  \[ \text{Li}^+ + \text{OH}^- \rightarrow \text{LiOH}_(aq) \]

  Anodic reactions;

  \[ 2\text{H}_2\text{O} \rightarrow \text{O}_2 + 4\text{H}^+ + 4\text{e} \]

  \[ 2\text{H}^+ + \text{SO}_4^{2-} \rightarrow \text{H}_2\text{SO}_4(aq) \]
Membrane electrolysis process principle

Cathodic Process:
\[ 2\text{H}_2\text{O} + 2\text{e}^{-} \rightarrow \text{H}_2 + 2\text{OH}^- \]
\[ \text{Li}^+ + \text{OH}^- \rightarrow \text{LiOH(aq)} \]

Anodic Process:
\[ 2\text{H}_2\text{O} \rightarrow \text{O}_2 + 4\text{H}^+ + 2\text{e}^- \]
\[ 2\text{H}^+ + \text{SO}_4^{2-} \rightarrow \text{H}_2\text{SO}_4 \]
Conventional process for Li$_2$CO$_3$ using Na$_2$CO$_3$
The advantages of the Nemaska LiOH electrosynthesis

The Nemaska Lithium proprietary process:

- directly produce high purity lithium hydroxide solution (LiOH), not technical grade \( \text{Li}_2\text{CO}_3 \) that needs to be repolished.
- does not use soda ash (\( \text{Na}_2\text{CO}_3 \)) or caustic soda (\( \text{NaOH} \))
- does not generate any salt cake by-product (\( \text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O} \))
- produces high purity lithium carbonate by bubbling carbon dioxide (\( \text{CO}_2 \)) into the electrochemically generated lithium hydroxide (LiOH) solution.
- drastically reduces the chemicals consumption. Can reuse the electrochemically generated sulfuric acid.
- drastically reduces the green house gases (GHG) related to the production of lithium raw material for the battery industry!
Nemaska Added Value: Produce Directly LiOH•H₂O

- Proprietary process to produce directly LiOH•H₂O:
  - without using soda ash (Na₂CO₃) or caustic soda (NaOH)
  - without producing any salt cake by-product (Na₂SO₄)
  - producing lithium carbonate using CO₂
  - 4 Patent Notice of Allowance Received

Exchange rate as per Feasibility Study $1.00 CAD = $0.80 US

Concentrate → Calcination → Roast with sulphuric acid → Lithium Sulfate Solution → Primary Impurity Removal → Secondary Impurity Removal → Ion Exchange → Membrane Electrolysis → Lithium Hydroxide Solution

Lithium Hydroxide Monohydrate

C$2,693/t *US$ 2,154/t

C$3,441/t *US$ 2,753/t

Lithium Carbonate
On top of commissioning the Phase 1 Plant and working on project financing.

- Commission modular DMS concentrator
- Process a bulk sample to:
  - feed Phase 1 plant
  - Optimization work on concentrator and calcination
  - Train local workforce
- New resources and reserves update following completion of drilling program
- Detailed engineering and long lead items procurement for commercial production
Mine Site Under Construction

Whabouchi mine site under construction as of November 7, 2016

- Mine
- DMS modular concentrator
- Entrance and construction offices
- Main road to Chibougamau
- Concentrator foundations
Modular DMS concentrator at Whabouchi site
Progress at the Mine Site

• Installation of the modular DMS mill and site preparation at the mine.

• Bulk sample underway

• Year round commercial access roads on the mine site are currently being built.

• Clear-cutting, excavation and blasting/leveling

• Commercial concentrator being built

Bulk Sample

DMS Modular Concentrator

Commercial Concentrator
Progress at the Phase 1 Plant Site

- Electrical lines installed and 5 year natural gas contract signed
- Receiving Phase 1 Plant equipment daily
- Electrolysis cells commissioning in January 2017
- Lithium Hydroxide Samples to Customers in Q1 and Q2 2017
Offtake Agreements

• Signed Offtakes with JMBM and FMC
  – Multi-year contracts for quantities
    • Accounts for ~50% of annual production
  – Combination of fixed and market pricing
  – Investment grade counter parties
Conclusion – Nemaska Lithium is THE Li Project

- Given the forthcoming shortage in lithium hydroxide supply, Nemaska Lithium is **perfectly timed** to enter the chain of supply
- Phase 1 production plant is a sound decision, significantly reduces funds required and de-risk start up of commercial production
- **Permitted 2nd richest and largest lithium hard rock** mine in the world with at least 26 years reserves
- State of the art processes of producing lithium hydroxide and lithium carbonate - **leading advantage over peers**
- **Signed two commercial offtake agreements** for ~50% of end product with credible end users
- Commenced project financing and construction
- Supportive Governments