# NEMAS KA LITHUM

#### LITHIUM HYDROXIDE

**POWERING THE FUTURE** 

# How to profit from the booming lithium markets



TSX-V NMX and OTCQX – NMKEF Constituent of the S&P/TSX Venture Select April 19, 2016

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 feasibility study as of May 13, 2014 and published on April 4, 2016 the results of an updated feasibility study to be filed on SEDAR on or before May 16, 2016. All technical information should be reviewed according to this feasibility study.



- 1. Nemaska Lithium has a World Class Lithium Asset: Whabouchi Spodumene Mine
  - 2<sup>nd</sup> richest and largest deposit in the world with 27.3 MT Proven and Probable Reserves for an initial 26 years mine life potential to increase, average grade 1.53% Li2O
  - Federal and Provincial permits granted, ready to build
- 2. Proprietary process to make preferred high-purity lithium compound for batteries lithium hydroxide
- **3.** Cost Leader in the lithium industry production costs are lower than peers per Feasibility Study, due to low cost mining, unique chemical process and affordable hydroelectricity
- **4.** Cleanest Lithium Production Process State of the art mining processes and green hydroelectricity make the cleanest lithium compounds globally
- 5. Experienced Management and In-House Technical Teams mining production experience and chemical process experience
- 6. Lithium demand forecasted to outstrip supply



# NEMAS KA LITHUM

LITHIUM HYDROXIDE

**POWERING THE FUTURE** 



### Lithium Supply, Demand and Price Forecast

# **Lithium Demand Expected to Outstrip Supply**

100,000t of new lithium carbonate equivalent (LCE) needed by 2021

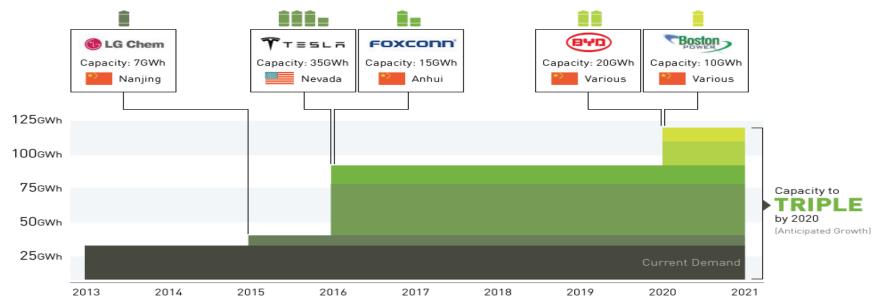


# **Megafactories Pushing on Demand for Lithium**

Chart of the Week

#### THE LITHIUM-ION BATTERY MEGAFACTORIES ARE COMING

Production capacity of lithium-ion batteries is anticipated to more than triple by 2020



\*Benchmark estimates, not all data disclosed by companies \*\*Instant planned capacity stated for graphical purposes, slower ramp up expected

Data by:



visualcapitalist.com

• Total new capacity of 87 GWh should require an additional 70,000t to 100,000t of LCE by 2021, this supply currently does not exist.



### Lithium Hydroxide and Carbonate Prices Expected to Increase

Price forecast trend for battery-grade lithium hydroxide and lithium carbonate (US\$/t CIF)

	Hydroxide	Carbonate		
2015	8,640	5,575		
2016	9,473	6,292		
2017	9,892	6,854		
2018	10,210	7,410		
2019	10,750	7,750		
2020	11,115	8,115		
2021	11,495	8,495		
2022	11,895	8,895		
2023	12,315	9,315		
2024	12,750	9,750		
2025	13,210	10,210		
Source: Roskill (February 2016)				



### **Lithium Production is Limited**

# major producers of lithium globally



# **New Production From Existing Brines Limited**

### • Chile

- Producers SQM & Albemarle
- Chilean govt. recently authorized Albemarle to increase production capacity
- Partial lift of the moratorium on issuance of new permits announced
- Possibly 2 new <u>exploration</u> permits to be issued to Codelco

### Argentina

- Producers FMC & Orocobre
- Orocobre still in commissioning phase. Should reach capacity by end of 2016





# **New Production From Existing Hard Rock Unlikely**

# Australia/China

- Producer Talison and Chinese Transformers
- Talison jointly owned by
  Tianqi Lithium (51%) and
  Albemarle (49%)
- Tianqi currently at maximum transformation capacity
- Mine output capacity increase unlikely for a few years





### **Lithium New Comers to Meet New Demand**

Lithium projects permitted globally today

Lithium Americas/ SQM (Argentina) 17,000 t LCE

Neometal/ Ganfeng (Australia) 20,000 t LCE

Nemaska

Lithium

(Canada)

28,000 t LCE



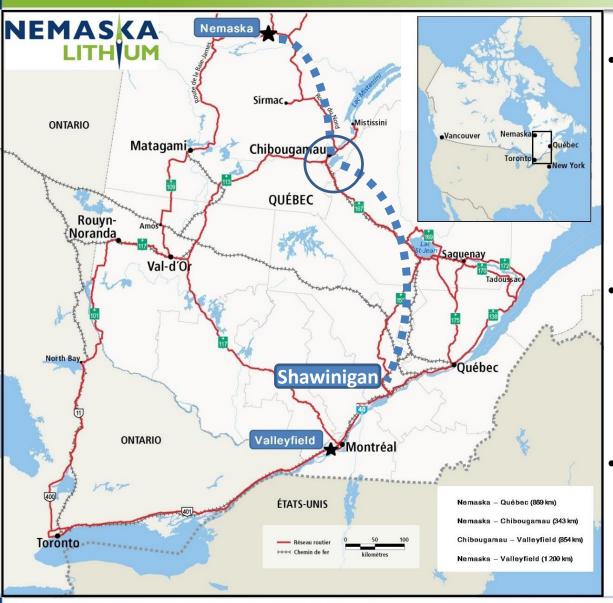
# NEMAS KA LITH UM

LITHIUM HYDROXIDE

**POWERING THE FUTURE** 

Project Infrastructure, Reserves & Resources and Proprietary Process

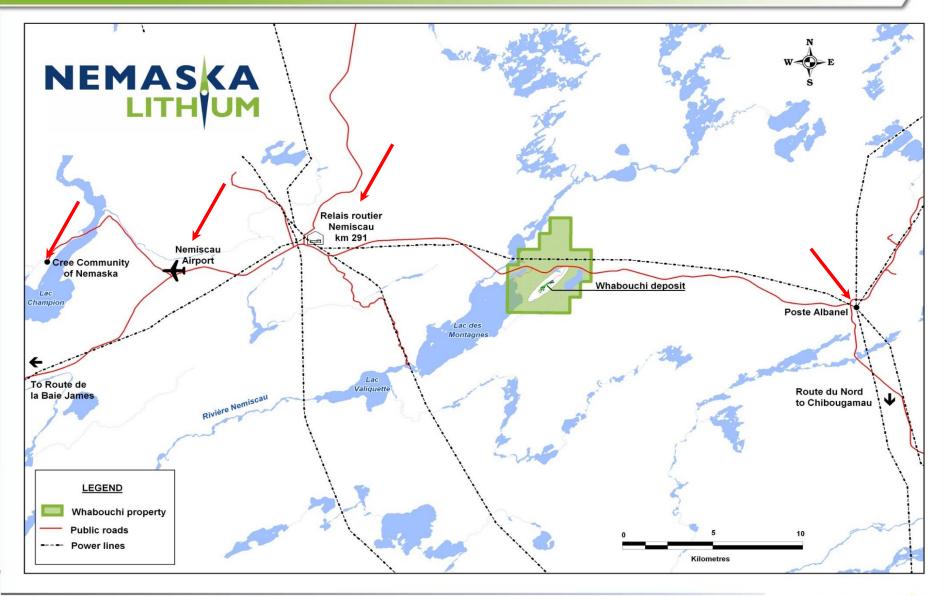
# **Quebec, Very Good Location and Jurisdiction**



- Mine and concentrator located in **Eeyou Istchee James Bay region**, 300km North of Chibougamau
  - 1.1MT/y ore
  - 213kt/y 6% Li<sub>2</sub>O concentrate
  - 185 employees
  - Transport by road and rail (CN) Chibougamau
    - 18-24 rail cars/3days
    - 6 trucks/day
    - 15 employees
- Hydromet Plant in Shawinigan
  - 28kt/y LiOH-H2O
  - 3.25kt/y Li<sub>2</sub>Co<sub>3</sub>
  - 110 employees

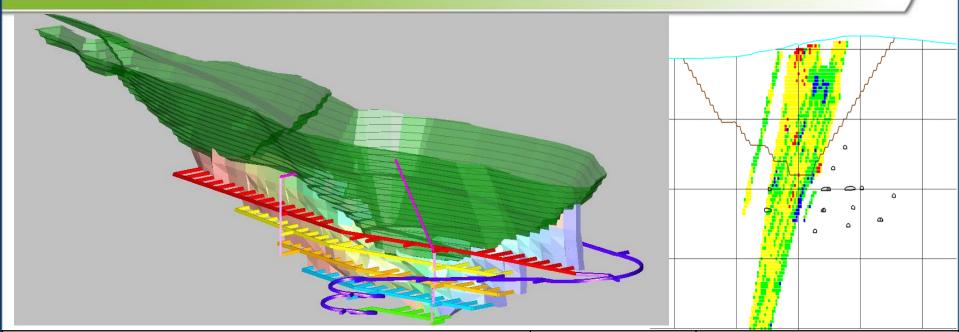


# **Excellent Infrastructure at Mine Site**





### Grade is KING + Low levels of Mica, Sodium and Potassium



Reserves			Resources		
Category	Tonnage (Mt)*	Li <sub>2</sub> O (%)	Category	Tonnage (Mt)*	Li <sub>2</sub> O (%)
	Open	Open pit			
Proven	11.7	1.58	Measured	12.998	1.60
Probable	8.3	1.46	Indicated	14.993	1.54
Proven and probable	20.0	1.53	M + I	27.991	1.57
	Underground		Inferred	4.686	1.51
Proven	1.6	1.27			
Probable	5.7	1.29			
Proven and probable	7.3	1.28			
			-		



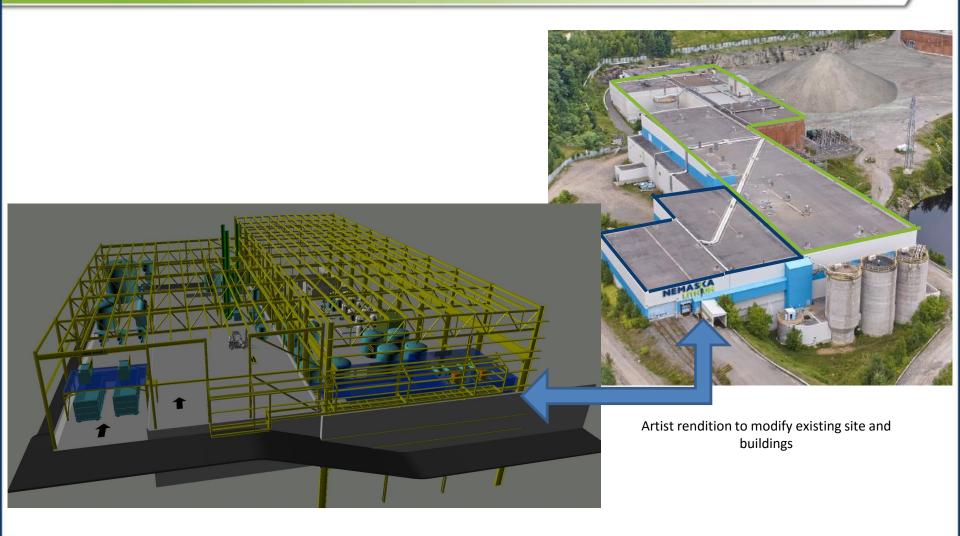
### Hydromet Plants existing buildings in Shawinigan, Quebec



Artist rendition to modify existing site and buildings

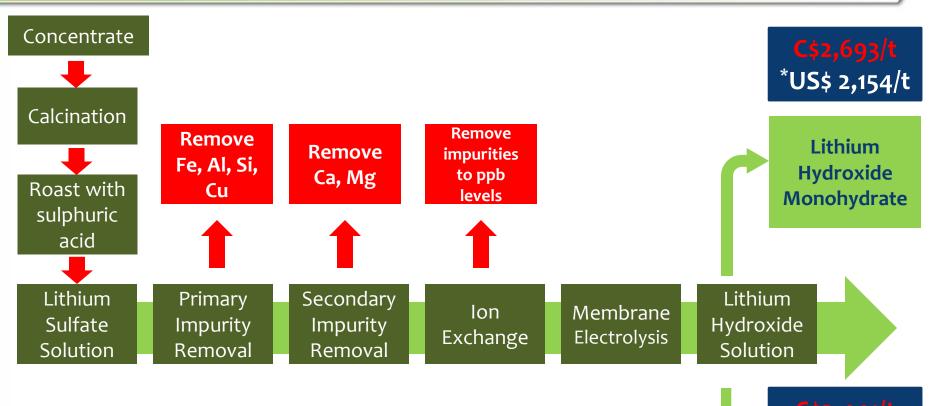


# Phase 1 Plant - Layout





# **Nemaska Added Value : Produce Directly LiOH • H2O**



- Proprietary process to produce directly LiOH•H<sub>2</sub>O :
  - without using soda ash  $(Na_2CO_3)$  or caustic soda (NaOH)
  - without producing any salt cake by-product (Na<sub>2</sub>SO<sub>4</sub>)
  - producing lithium carbonate using CO<sub>2</sub>
  - CDN Patent Notice of Allowance Received

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



\*US\$ 2,753/t

Lithium

Carbonate

# NEMAS KA LITHUM

LITHIUM HYDROXIDE

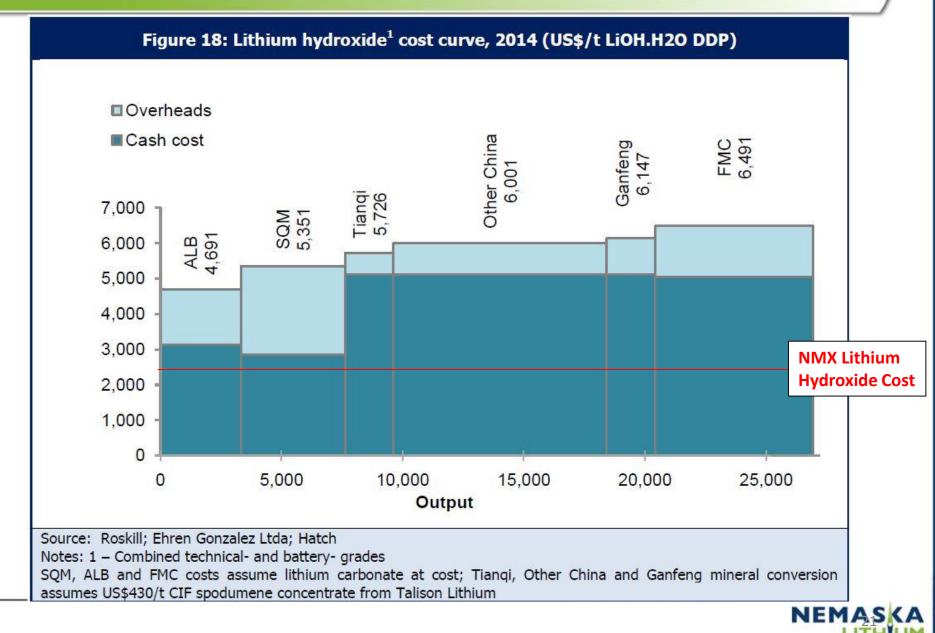
**POWERING THE FUTURE** 

### Feasibility Study Highlights, Sensitivity Analysis, Financing Options – Plan Nord

# **2016 Feasibility Study Highlights**

Expected Mine Life and pay back period	26 years with 2.4 year pay back period			
Life of Mine Revenue	\$9.2 Billion (US\$7.4 B) (average of <b>\$354M/yr for 26 yrs</b> )			
	Pre-Tax	After tax		
Undiscounted Cash Flow	\$6.2 Billion (US\$4.9 B)	\$3.9 Billion (US\$3.1 B)		
	(average of \$260M/yr before initial CAPEX)			
NPV	\$1.9 B (US\$1.5B) 8% Discount	\$1.2 B (US\$928M) 8% Discount		
Internal Rate of Return (IRR)	37.7%	30.3%		
Total Initial Capital Costs	C\$549M (US\$439M) in CAPEX including contingency			
Average Cost Per Tonne Spodumene Concentrate	C\$181/t (US\$145/t) FOB Whabouchi Mine C\$231/t <b>(US\$185/t)</b> CIF Shawinigan			
Average Cost Per Tonne Lithium Hydroxide	C\$2,693/t (US\$2,154/t) FOB Shawinigan Lowest cost producer			
Average Cost Per Tonne Lithium Carbonate	C\$3,441/t (\$US2,753/t) FOB Shawinigan Lowest cost producer @ 99.99%			
Yearly average production	≈213,000 tonnes of concentrate (6%) Mine site			
	≈27,500 tonnes of lithium hydroxide Hydromet plant in Shawinigan			
	≈ <b>3,245 tonnes of lithium carbonate</b> Hydromet plant in Shawinigan			
Exchange Rate \$C to \$US	1:0.8			
Sales Prices FOB Shawinigan Lithium Hydroxide US\$9,500/t, Lithium Carbonate US\$7,000/t				
(All calculations assume a 6% Li <sub>2</sub> O spodumene concentrate) (All figures are quoted in \$CDN, unless otherwise specified)				

# **Nemaska Lithium – LiOH Lowest Cost Producer**



# **Supportive Quebec Government**

 Investor in Nemaska since its inception through various exploration and development funds



- **"Plan Nord" program** to support the development of resources in Northern Quebec (North of 49<sup>th</sup> parallel)
- Special fund of \$1B to take direct equity positions (up to 20%) in companies or projects
- Nemaska project qualifies



# NEMAS KA LITHUM

LITHIUM HYDROXIDE

**POWERING THE FUTURE** 



### Business Plan and Market Penetration Strategy

# **Nemaska Lithium Business Plan**

- Achieve Market Penetration While Building Commercial Plant
  - Build and operate a Phase 1 Production Plant to:
    - Engage customers with product in advance of commercial production to qualify the product
    - Total budget of \$38M arranged
      - (\$13M in grant from SDTC, \$3M in grant from Technoclimat, \$10M equity investment from Resources Quebec and MOU with Johnson Matthey Battery Materials (JMBM) for \$12M upfront payment to be repaid with lithium products and services)
    - Sign Commercial Off-Take Agreements
    - MOU with JMBM contemplates off-take agreement from commercial plant

### Start Commercially Producing Lithium Hydroxide and Lithium Carbonate

- Attract a strategic partner to participate in the financing of commercial production
- Begin construction of mine, concentrator and hydromet plant in Q1-2017; and start Commercial production in Q3-2018
- Total budget of CDN \$549M (see 2016 Feasibility study for more details)



# NEMAS KA LITHUM

LITHIUM HYDROXIDE

**POWERING THE FUTURE** 

### Conclusion, Capital Structure, Management and Board of Directors

# **Conclusion – Why Nemaska Lithium**

- 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 2<sup>nd</sup> 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
- Ready to start project financing and construction
- Supportive Quebec Government
- MOU with JMBM a large credible end user, upfront payment for product and future off-take



# **Capital Structure (April 18, 2016)**

Shares outstanding	217,173,915
<b>Options</b> (average exercise price \$0.51)	14,901,725
Warrants (average exercise price \$0.28)	22,221,915
Fully Diluted	254,297,555
Distribution on a fully diluted basis	
Management	<b>≈</b> 14 %
0	•
Tianqi	<b>≈8</b> %



#### Jean-François Magnan, Eng. M.Sc. Technical Manager

Mr. Magnan is a professional engineer with more than 20 years of experience in the metallurgical industry. During his career, he held several positions within the lithium industry including: R&D Advisor, R&D Project Manager, Consultant and Quality Control Metallurgist. He also acted as Project Manager for Phostech Lithium Inc. in 2000 and 2001. Mr. Magnan is the author/inventor of several patents in the lithium rechargeable batteries field. He holds a Master's Degree in Materials Engineering from Laval University.

#### Gary Pearse, Senior Consultant

Professional engineer with more than 40 years of experience, largely as a rare metals and industrial minerals consultant. During his career, he managed scoping studies, pre-feasibility and feasibility studies, authored numerous technical papers and managed or consulted on significant pegmatite projects.

#### Bertin Ouellet, Process Chemical Engineer

Mr. Ouellet is a professional chemical engineer, who graduated from Sherbrooke University, with more than 30 years of experience in various manufacturing industries, mainly the industrial chemical sector: production of sodium chlorate, phosphorus, phosphoric acid and phosphate salts, chlorine, sodium hydroxide, hydrochloric acid, electrolytic magnesium and magnesium alloys. His previous roles include process engineer, health, safety and environmental manager, and senior process safety engineer. He has been a HAZOP leader since 1985 with over 200 safety reviews performed.

#### Nicolas Laroche, Electrochemical Engineer

Mr. Laroche is specialized in Electrochemical Engineering and Technologies from masters studies at both Université de Sherbrooke and McGill University. Since joining Nemaska Lithium in January 2014 as a process optimization engineer, he has played an active role in the Company's pursuit of patents covering its innovative technologies, of which he is a co-inventor.



#### Guy Bourassa, President and CEO, Board of Directors

Mr. Bourassa is President and CEO since Nemaska's inception in 2008. He brings more than 30 years of experience in the mining industry to this role. Among other things he was instrumental in identifying and negotiating the acquisition of the Whabouchi lithium property and securing over \$35 million through financings in the capital markets to develop this project. Through his leadership, the Company brought an historical lithium showing to a world class deposit and has developed new innovative processes of producing high purity lithium hydroxide and lithium carbonate, which should allow Nemaska to become a world leader in these lithium compound markets. Mr. Bourassa is a recognized leader in the lithium industry having spoken at several international lithium and mining conferences and events. Mr. Bourassa holds a law degree from Université Laval.

#### Michel Baril, Chairman of the Board and President of the Audit Committee

Mechanical engineer, with over 30 years of experience in management. Mr. Baril was an executive with Bombardier Inc. Presently he acts as director of numerous public and private companies.

#### Steve Nadeau, Chief Financial Officer

Mr. Nadeau is a CPA,CGA and is the Chief Financial Officer of Nemaska since its inception in 2008. He brings more than 20 years of experiences and knowhow in management, accounting and finance. Prior to joining Nemaska, Mr. Nadeau held several senior financial positions for companies which were either extracting or manufacturing products related to the granite industry, electronics and automotive field. Mr. Nadeau was also Chief Financial Officer of Monarques Gold Corporation from March 2011 to December 2015.



#### François Biron, Director

Mr. François Biron is a senior professional mining engineer with 40 years of experience in the mining industry. His extensive experience in mining operations has been developed through acting in several senior site-based positions with well-known international mining companies, and recently he has acquired experience in the executive management of a Canadian industrial minerals company. Mr. Biron has an entrepreneurial vision oriented towards business development and a perspective of industry growth with respect to the environment. He participate in the management of major open pit mines with the best operating standards to achieve goals and corporate objectives. Mr. Biron elaborate recently a new mining project in introducing the social acceptability concept and public consultations in the local communities where the project will be implement, based on the latest automation mining technologies and to improve the mining process.

#### Paul-Henri Couture, Director

Mr. Paul-Henri Couture has over 35 years of experience as a financial management and investment professional. He has held senior positions at the Caisse de dépôt and placement du Québec and at Sentient Asset Management Canada. During his tenure at the Caisse, Mr. Couture led a team responsible for a \$3 billion investment portfolio with a focus on financial institutions and natural resources sectors. While at the Caisse, Mr. Couture also launched two innovative mining funds: Groupe Sodémex Inc. and MinQuest Capital. He built and developed a \$3-billion portfolio in turnarounds and corporate restructurings. Mr. Couture is President of Minvest Capital, a business providing management and investing consulting services.

#### Gordon Gao, Director

Mr. Gordon Gao is Vice President of TQC Equipment Inc. (TQCE), the Canadian subsidiary of Chengdu Tianqi Industry Group Co., Ltd.. Before joining TQCE in 2009, he worked as an international business manager of Chengdu Enwei Group Co., Ltd. from 2002, which is specialized in medicine and health products. Mr. Gordon Gao holds a Bachelor degree of Economics of East China Normal University, Shanghai, China (2000).



#### René Lessard, Director

Mr. Lessard was the Sales Manager of Campagna Motors Inc. from September 2008 to October 2009. From October 2004 to October 2007, he was a sales manager of T-Rex Vehicles Inc. From February 2001 to July 2004, he was the Sales Manager of Distribution GLR inc. in Québec City. From March 1997 to October 2000, he was a sales representative of Ray-Flammes Inc. of Quebec City.

#### Judy Baker, Director

Ms. Baker holds an Honours B. Sc. Geological Engineering in mineral resources exploration and a MBA and has more than 20 years of experience in the mining and mineral exploration sector. She most recently was the Chief Executive Officer, a director and founder of Superior Copper Corporation (previously Cenit Corporation), a copper exploration company. Previously to this, Ms. Baker was instrumental in either restructuring or acquiring projects related to the lithium industry.



# NEMAS KA LITH UM

LITHIUM HYDROXIDE

**POWERING THE FUTURE** 

### Appendix RB Energy Comparison

Main Differences Between Whabouchi Mine and Quebec Lithium Project (according to respective FS)

**Ore Grade** 55% higher at Whabouchi :

Whabouchi **1.46**% Li2O QLI **0.94%** Li2O

**Stripping ratio** 2.5 time lower at Whabouchi:

Whabouchi **2.2/1** QLI **5.5/1** 

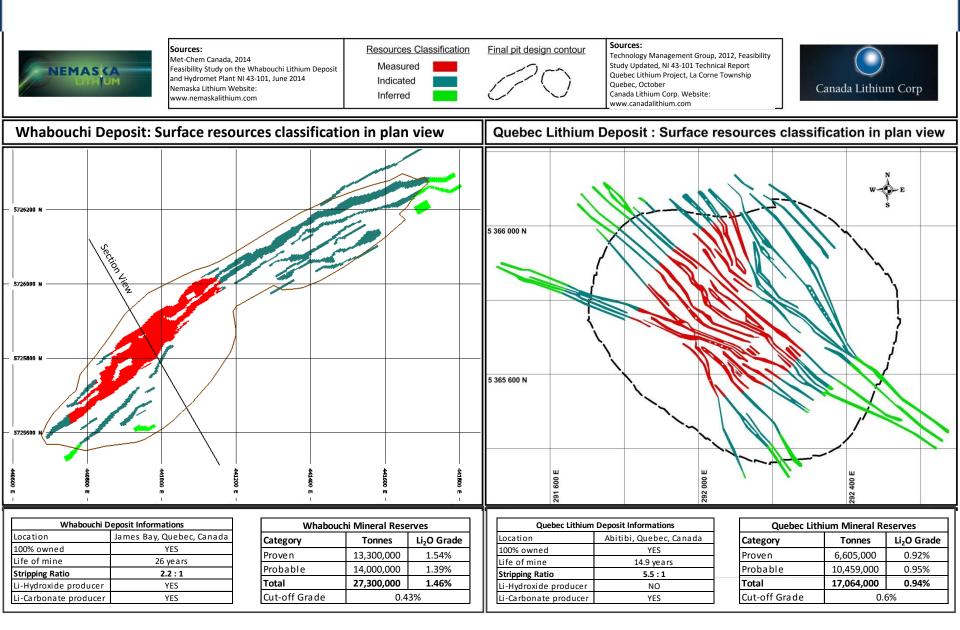
**Dilution** far greater at QLI: QLI has over **50 narrow veins** compared to **one main thick dyke** at Whabouchi making it a lot easier to control grade and dilution to feed the concentrator

Ore mined versus LCE output: NMX to make 40% more LCE final products by mining 30% less ore.

**Concentrate grade**: The required grade of the spodumene concentrate to produce lithium carbonate and hydroxide is 6% Li2O. Whabouchi ore steadily reached that grade. QLI was targeting 5% Li2O.



### Nemaska Lithium and RB Energy (CLQ) Same Scale Comparison



### Nemaska Lithium and RB Energy (CLQ) Same Scale Comparison

