



ASX ANNOUNCEMENT



18 JUNE 2018

VALUE-ADDING TEST PROGRAM TO PRODUCE LITHIUM CARBONATE AND HYDROXIDE FROM AUTHIER SPODUMENE CONCENTRATES

Sayona Mining Limited (ASX: SYA) ("Sayona" or the "Company") is pleased to report the commencement of a testing program to produce lithium carbonate and lithium hydroxide from the Authier pilot plant lithium concentrate.

The Company recently completed a pilot plant program which processed five tonnes of Authier drill core into over 400 kilograms of spodumene concentrate. The program demonstrated that a 6% Li₂O concentrate could be produced at a metallurgical recovery of 79% (see ASX release, Completion of the Authier Pilot Program, 22 May 2018).

The downstream testing program will be performed by SGS Canada Inc. at Lakefield, Ontario. SGS have extensive experience and expertise in downstream testing and have performed programs for a number of Canadian lithium projects. The program will be comprised of two phases including the initial production of aqueous lithium sulphate followed by purification to lithium carbonate and lithium hydroxide.

Data produced from the testing program will be incorporated into a downstream Pre-Feasibility Study and samples produced will be used for potential customers.

The Company has previously demonstrated the successful conversion of Authier concentrate into extractable beta spodumene (a form of spodumene amenable to further processing). Flotation concentrate samples were transformed from alpha to beta spodumene in a decrepitation kiln. The lithium was extracted to form lithium sulphate through sulphuric acid roasting followed by water leaching. The previous results demonstrated that up to 96.8% of the lithium was extractable from Authier spodumene concentrates (see ASX release, Successful Thermal Conversion of Authier Concentrates, 3 July 2017).

The results compare favourably with benchmark data generated from other hard-rock spodumene projects in Canada with similar testing conditions (i.e., decrepitation temperature and time). The results provided confidence that battery grade lithium carbonate can be produced from Authier lithium concentrate.

Dan O'Neill, Managing Director, commented " *The new testing program heralds an exciting new phase of value adding at the Authier project. In the short term, the Company is committed to developing a low capital expenditure concentrate sales operation and capitalising on the projected high price environment for concentrates near term. The cash flows could then be applied to funding the equity required to construct the downstream processing plant. This would unlock the inherent value in the project at a time when lithium carbonate/hydroxide prices are trading near at all time price highs based on the strong demand growth for lithium-ion batteries*".

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Rationale for Value Adding Authier Concentrates

The Company believes that there is significant economic rationale for value-adding the Authier concentrates in Quebec to enhance the project value, and improve the long-term competitive position of the project. In August 2017, a Concept Study prepared by engineering consultants, Wave International ("Wave"), demonstrated the potential technical and economic viability of constructing a lithium carbonate and/or hydroxide facility in Quebec – see Table 1.

Table 1 - Authier Downstream Processing Financial Highlights[^]
(Approximate Values Derived from the Scoping Study)

Description	Unit	Lithium Carbonate	Lithium Hydroxide
Annual Production Capacity	Tonnes	13,000	14,000
Ave Cash operating Costs*	C\$ per tonne	6,331	6,032
Ave Cash Operating Costs*	US\$ per tonne	4,812	4,585
Price forecast	US\$ per tonne	10,200	12,000
Initial Capital#	C\$ million	223	240
Total Capital#	C\$ million	284	301
Pre-tax NPV @ 9%DR	C\$ million	426	794
Pre-Tax IRR	%	31	44
Exchange rate	CAD\$:US\$		0.76
* Cash Operating Costs includes mining, processing, administration, royalties, transport, and downstream processing			
# Capital expenditure includes all mine, concentrator and downstream process plant			
[^] See ASX release, Downstream Concept Study, 30 August 2017 for the full details of the study			

Quebec is uniquely positioned with a number of significant commercial and market advantages, including:

- High quality infrastructure including roads, rail, and port access;
- Globally competitive, low-cost gas and electricity prices. Electricity is sourced from renewable energy;
- Skilled, competitive cost labor force;
- Sulphuric acid availability from a copper smelter at Rouyn Noranda, 80 kilometres west of the Authier project site;
- Tax incentives for value-adding the concentrates within Quebec;
- Supportive government that invests directly into mineral development projects (e.g., Nemaska and North American Lithium); and
- Located in close proximity to the US markets including, the Tesla Giga factory in Nevada, and other planned Giga factories in the United States.

For more information, please contact:

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Sayona Mining Limited is an Australian-based, ASX-listed (SYA) company focused on sourcing and developing the raw materials required to construct lithium-ion batteries for use in the rapidly growing new and green technology sectors. Sayona's primary objective is developing the Authier lithium project in Quebec, Canada. Authier is an advanced, development project, construction forecast to commence in early 2019 and first concentrate production in early 2020.

Please visit us as at www.sayonamining.com.au

Reference to Previous ASX Releases

This presentation refers to the following previous ASX releases:

- Completion of the Authier Pilot Program, 22 May 2018
- Downstream Concept Study, 30 August 2017

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and all material assumptions and technical parameters continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.