



ASX ANNOUNCEMENT

SAYONA
MINING LIMITED

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AUTHIER LITHIUM PFS UPDATE WORK PROGRAMS NEARING COMPLETION

- **Updated PFS work programs nearing completion**
- **Floatation testing targeting higher concentrate grades and recoveries underway**
- **Geotechnical review completed. Favourable outcomes for pit wall slopes**
- **Hydrogeology drilling completed and biological survey underway**

Sayona Mining Limited (ASX: SYA) ("Sayona" or the "Company") is pleased to announce that the work programs planned for the Updated Pre-Feasibility Study ("UPFS") are progressing well. The results will be incorporated into the PFS Update to be completed during September. The aim of the Updated PFS, includes:

- Testing modifications to the process flowsheet to improve the metallurgical parameters;
- Undertake a value engineering review of the PFS concentrator design to identify which opportunities will be implemented into the upcoming Definitive Feasibility Study;
- Incorporating the new JORC Resource announced in May 2017. In addition, the Company will incorporate a planned resource from Authier North in the new optimised mine plan;
- Incorporating new geotechnical data into the mine optimisations and improve the overall economics of the project; and
- Assess the current spodumene concentrate supply and demand environment, and long-term pricing for the Authier financial model.

Finalisation of the UPFS including the new process flowsheet is aimed at unlocking value in the Authier project and forming the foundations for the commencement of the Definitive Feasibility Study, and pilot scale metallurgical testing programs.

The Company believes Authier is one of the most advanced new hard-rock spodumene development projects in the world. The strategy is to move into production quickly by constructing a relatively low capital expenditure operation and capitalising on the projected high price environment for spodumene concentrates over the next five to ten years. Cash flows from concentrate sales could then potentially be applied to funding the equity required to construct the downstream processing plant or an expansion of the concentrate operations.

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Metallurgical Optimisation and Final Process Flow Sheet Design

Further metallurgical test work is being completed aimed at improving processing recoveries and concentrate grades, and targeting lower operating costs. The program is being managed by DRA/Metchem and the test work completed at SGS Lakefield.

The new metallurgical testing program was delayed whilst the Company prepared a new representative sample from drill core. A concept stage testing program was undertaken on three concentrate samples using high intensity magnetic separation, and achieved a concentrate grade of 5.98% Li₂O. Ongoing testing is assessing the impact of different grind sizes, flotation reagents and retention times. The work is expected to be completed at the end of this week and then the new data incorporated into the Updated PFS.

Geotechnical Review

The Company's geotechnical model forms the foundation of its pit wall slope designs and will incorporate logging data from its geological, structural, rock mass and hydrogeological models. Work to date has included detailing geological logging of drill core including, geology major structures and structural fabric, and rock mass testing. The hydrogeological parameters will be incorporated into the planned DFS. The data logged to date and the rock mass integrity indicates the open-cut hanging wall may be steeper than the 45 degrees presented in the February 2017 Pre-Feasibility Study, thereby reducing waste removal.

Hydrogeological Survey

The hydrogeology program drilling is now completed and permeability tests and water sampling will be performed early in September. The information will be used to assess the current quality of the groundwater and to make the assessment of the projects impact on the ground water quality in the area.

In addition, the data will be used to plan the pumping activities for the mine, and to provide information for the geotechnical engineering and geo-mechanics of the project. The program will improve the understanding of the project groundwater environment and is expected to mitigate the environmental risks attributable to the operation.

Environmental Survey Update

A detailed environmental study was completed for Authier in 2013 by Dessau. The study reviewed available information across a number of disciplines, including geology and soils, hydrogeology, hydrology, air quality and noise, flora and fauna, socio-economic setting and archaeology. Following recent discussions with the environmental authorities, it was recommended that the biological environment species inventory and baseline surface water quality programs be updated given the lengthy period of time since the last survey.

An update of the environmental study commenced in June to gather relevant information about the fauna and the flora with the aim of mitigating the environment risks attributable to the operation which could be considered low. The program, coordinated by SNC-Lavalin, will continue over the next five months and will focus on the following items:

- Vegetation inventory, including wetlands and species with special status;
- Inventory of fish and fish habitat;
- Inventories of wildlife species with special status; and

- Assessment of surface water quality.

Stakeholder Engagement

At the social level, a stakeholder survey has been completed and a communication strategy to present the project to the local community and First Nations has been developed.

In the coming weeks, the community relations program will begin to be implemented. The preliminary program will address governmental consultation obligations and make sure environmental, social and economic issues to be raised by stakeholders are integrated into the project development. A list of potential constraints to the mining development, both from an objective perspective and based on the consultant's experience in the area will be prepared. Finally, a working sequence will also be developed in order to start building relationships with relevant stakeholders and rights holders (municipalities, municipality, Abitibiwinni First Nation, neighbours, and land users).

Mining Lease Application Process

In addition, the outline of the mining lease was approved by the Ministère de l'Énergie et des Ressources Naturelles ("MERN"). Work programs required to approve the mining lease include, completion of Definitive Feasibility Study, a formal location survey and environmental certification which are both in progress.

Downstream Processing Concept Report

In parallel to the UPFS, the Company has commissioned an evaluation of the technical and economic viability of building a lithium carbonate and/or hydroxide production conversion facility in Quebec to enhance the Authier project value, and improve the long-term competitive position of the project. The study will assess the alternative processing options, process flow sheet selection, operating and capital cost estimates, financial analysis, and recommendations for the next phase of development. The report, being prepared by Wave International, is nearing completion.

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Sayona Mining Limited is an Australian, 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.

The Company's primary focus is the development of the advanced stage Authier lithium project in Quebec, Canada. Authier mineralisation is hosted in a spodumene-bearing pegmatite intrusion with more than 22,000 metres of drilling in 139 holes.

The Authier JORC (2012) compliant Ore Reserve and Mineral Resource estimates are tabulated below at a 0.45% Li₂O cut-off grade.

Authier JORC Ore Reserve Estimate (0.45% Li₂O cut-off grade)			
Category	Tonnes (Mt)	Grades (%Li₂O)	Contained Li₂O
Proven Reserve	4.9	0.97%	47,821
Probable Reserve	5.3	1.06%	55,904
Total Reserves	10.2	1.02%	103,725
Note: The Ore Reserve is based on the February 2017 Mineral Resource estimate and February 2017 Feasibility Study			

Authier JORC Mineral Resources Estimate (0.45% Li₂O cut-off grade)			
Category	Tonnes (Mt)	Grades (% Li₂O)	Contained Li₂O
Measured	5.62	1.01%	56,762
Indicated	9.57	1.03%	98,571
Inferred	2.21	0.99%	21,879
Total Resources	17.4	1.02%	177,212

Authier is amenable to simple open-cut mining and processing methods, and is situated in close proximity to development infrastructure. The Company is currently completing an updated Pre-feasibility Study, due for completion in 3Q0217, prior to the commencement of a Definitive Feasibility Study which is planned to be completed in early 2018.

In addition, the Company controls a portfolio of lithium and graphite exploration projects in Western Australia.

Reference to Previous ASX Releases

This document refers to the following previous ASX releases:

- "Expanded Authier JORC Resource", 14 June 2017
- Authier maiden JORC Ore Reserve estimate, 17 February 2017
- Authier Pre-Feasibility Study" 17 February 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.