



ASX ANNOUNCEMENT



23 AUGUST 2016

AUTHIER LITHIUM PROJECT ADVANCED METALLURGICAL TESTING PROGRAM

Highlights

- Metallurgical testing program to demonstrate the suitability of Authier ore to concentration using Dense Media Separation
- Historical metallurgical flotation testing demonstrated metallurgical recoveries up to 88% to produce a 6.09% Li₂O concentrate
- Results to be incorporated into new flow sheet design and Pre-Feasibility Study

Sayona Mining Limited (ASX: SYA) ("Sayona" or the "Company") is pleased to announce the commencement of a metallurgical testing program at the Authier lithium project, Quebec.

Metallurgical testing using 410 kilograms of drill core from a previous diamond drilling will be undertaken at SGS Lakefield in Canada. SGS Lakefield have over 70-years' experience in metallurgical testing and design, and considerable experience in the lithium industry.

Authier has been the subject of several metallurgical test work programs that have successfully demonstrated the ability to produce high grade concentrates using conventional flotation technology. The primary focus of this metallurgical program is to demonstrate whether Authier spodumene ore is amenable to concentration using Dense Media Separation ("DMS") – see Figure 1. DMS is a conventional processing methodology commonly used in the minerals industry.

The advantage of incorporating a DMS circuit within the Authier flowsheet, includes:

- The DMS concentrate can be sold without further processing, shortening the lead time to generate first cash flows;
- A reduction in the size of the grinding and flotation plant, and consequent reduction in capital expenditure;
- Reduced consumption of reagents and power in the flotation and grinding circuits;
- Improved environmental footprint – DMS doesn't use any chemicals; and
- DMS concentrate can have improved handling characteristics especially in cold weather climates.

In addition to the DMS testing program, the metallurgical testing program will include mineralogical analysis using QEMSCAN, further grindability testing, and batch and locked cycle flotation testing. Following completion of the metallurgical testing program, Bumigeme

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Inc will prepare an updated flow sheet, and capital and operating cost estimates for incorporation into a Pre-Feasibility Study.

Authier has been the subject of two metallurgical test work programs in 1999 and 2012. Bumigeme Inc., processing consultants, conducted metallurgical testing on a 40 tonne sample and produced Li_2O concentrate grades between 5.78% and 5.89% at metallurgical recoveries between 67.52% and 70.19%, with an average head assay of 1.14% Li_2O . At an average head grade of 1.35% Li_2O , test work demonstrated a recovery of 75% and a concentrate grade of 5.96% Li_2O .

In 2012, further testing on a 270 kilogram composite sample achieved very attractive results including an 88% metallurgical recovery to a 6.09% Li_2O concentrate. The results were achieved in batch flotation after passing the concentrate through WHIMS and two-stage cleaning without mica pre-flotation. Bumigeme Inc used the results of the program to design a conventional process flowsheet incorporating crush, grind and flotation for the 2013, Authier NI43-101 Preliminary Economic Assessment. The flowsheet contemplated the processing of 2,200 tonnes of ore per day at 85% metallurgical recovery to produce a 6% Li_2O spodumene concentrate.

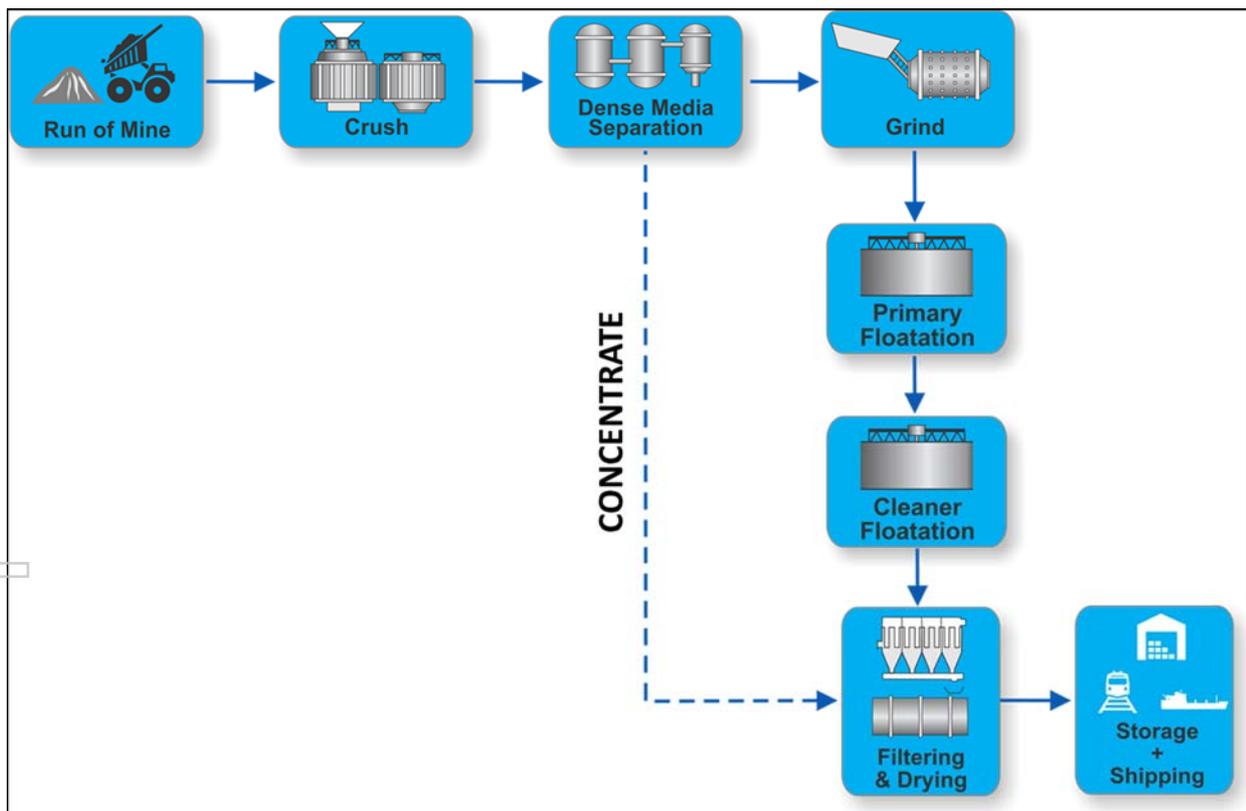


Figure 1: Proposed Authier flow sheet with DMS incorporated

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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.

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