

Sayona Mining Ltd.: Excellent Results from Further Metallurgical Testwork at Authier

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Brisbane - [Sayona Mining Ltd.](#) (ASX:SYA) (OTCMKTS:DMNXF) ("Sayona" or the "Company") is pleased to report the results from the second phase metallurgical testing program for the Authier lithium project. The results will be incorporated into the Update Pre-Feasibility Study ("UPFS").

- Recoveries over 80% and concentrate grades greater than 6% Li₂O achieved
- Results to be incorporated in economic evaluation for Updated Pre-Feasibility Study
- Testing demonstrates benefit of removing waste dilution from the concentrator feed
- Dilution management plan to be incorporated into Updated Pre-Feasibility study

Highlights

The new results demonstrate the ability to produce concentrates grading higher than 6% Li₂O and at recoveries over 80% - see Table 1 in the link below. This compares to the February 2017 Pre-Feasibility Study assumptions of 5.75% Li₂O and 80% for concentrate grades and recoveries, respectively.

The objective of the metallurgical testing was to improve the process recoveries and concentrate grades, and reduce processing operating costs.

The new testing included variations in feed grade, grind sizes, flotation residence times, modifications in reagent dosages, adjustments to the magnetic intensity, and assessing the impact of waste dilution on the results - see Table 2 in the link below for full results. The new metallurgical testing program was undertaken with a new representative sample of the Authier deposit from drill core. The new sample represents both the expected feed grade and representative mineralogy of the deposit over the life-of-mine.

The new results will be incorporated into the UPFS. In conjunction with the new JORC Mineral Resource and results of the geotechnical program, the Company expects to significantly enhance the value and return outcomes for the Authier project. The Company will then commence the Definitive Feasibility Study, and pilot scale metallurgical testing programs.

Phase 2 Metallurgical Testing Program Overview

Following the completion of the 2017 Feasibility Study, the Company commissioned engineering consultants, DRA/Met-Chem, to review the test work and flow sheet proposed for the Authier project. Following the review, DRA/Met-Chem recommended a new testing program and compilation of a representative sample that didn't incorporate any wall-rock waste dilution like the Phase 1 metallurgical testing program for the PFS.

The objective of the Phase 2 metallurgical testing was to improve the overall recovery and grade of the project through optimisation of the flotation process, and reduce processing costs. The testing program was managed by DRA/Met-Chem and the test work was completed at SGS Lakefield.

The new metallurgical testing program was undertaken with a new representative sample of the Authier deposit from diamond drill core. The new sample represents the average grade and representative mineralogy of the deposit over the life-of-mine. The sample was collected from four diamond drill cores and totaled approximately 50 kilograms.

Pre-Feasibility Study Updates

The new results demonstrate the ability to produce concentrates grading significantly higher than 6% Li₂O and at recoveries over 80%. This compares to the February 2017 Pre-Feasibility Study assumptions of 5.75% Li₂O and 80% for concentrate grades and recoveries, respectively. The results and how they are expected to impact the UPFS flowsheet design and operating costs, include:

- Using higher intensity magnetic separation - 12 Gauss intensity versus PFS design of 5 Gauss to improve

the removal of iron bearing silicates from the concentrate stream;

- Optimized number of flotation stages and residence times to reduce losses during the mica flotation stage and improve grade/recovery during the spodumene (the lithium mineral) flotation;
- Coarser ball mill grinding size - results in reduced lithium losses to slimes removal, lower grinding costs and improved handling characteristics for the final concentrate product; and
- New concentrate grade of 6% Li₂O and potentially improved recoveries for the financial model.

The results demonstrate that practical management of dilution in the mine and processing plant will be paramount to achieving the new metallurgical outcomes. The Company is completing a dilution study as part of the UPFS, and will develop plans for managing dilution through grade control drilling, blasting patterns and mining techniques.

The Company will further complete a number of new testing programs for the planned Definitive Feasibility Study. The new pilot metallurgical program will be completed by mining phase. Over the project life, the mining sequence will incorporate four key development phases. A sample plan to test each phase will be implemented to develop long-term schedules of the orebodies metallurgical characteristics. During years 1 to 5 in the mining sequence, the orebody exhibits much higher than life-of-mine average grades and spodumene crystal sizes. This is expected to deliver the better metallurgical recoveries and concentrate grades, and will have a positive impact on any discounted cash-flow analysis.

Results Summary

The following tests were undertaken to assessing metallurgical performance of low, high and representative grade samples at various grind sizes, and with and without dilution. Samples F1 to F4 were undertaken to assess metallurgical performance of low and high grade samples at various grind sizes. The results demonstrate that higher grade samples demonstrate superior metallurgical performance. Samples F5 to F8 tested the representative sample at various grind sizes with and without dilution.

To view tables, please visit:
<http://abnnewswire.net/lnk/QU39D843>

About Sayona Mining Ltd:

[Sayona Mining Ltd.](#) (ASX:SYA) (OTCMKTS:DMNXF) is a 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. Please visit us as at www.sayonamining.com.au

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