Project Overview

The 100% owned Separation Rapids property is host to a “complex-type” lithium-cesium-tantalum (LCT) pegmatite deposit, unusual in its enrichment in the rare, high purity lithium mineral petalite. Separation Rapids is a potential producer of lithium chemicals for the lithium ion battery market and lithium minerals for glass and ceramics. The property covers a total of 6,000 acres and is situated close to road, rail and power infrastructure approximately 70 km north of Kenora, Ontario, Canada.

PEA Development Model

The current development model results in a small environmental footprint, including low GHG emissions and almost non-existent air emissions.

There are no anticipated environmental impacts of concern, with the mineral deposit and waste rock being non-toxic and non-acid generating and minimal water discharge being anticipated.

PEA (August 2018) highlights include:

- Simplified business model with initial focus on production of lithium mineral concentrates for glass and ceramics
- Production of 71,500 tpa petalite, 11,800 tpa lepidolite
- Initial CAPEX: C$77.7m (475,000 tpa mill capacity)
- Feldspar circuit added in Year 6 (C$13.7m CAPEX)
- 20 year operational life
- Average Annual Revenues: C$90m
- Average Annual Costs: C$60m
- NPV pre-tax (8% discount rate): $156m
- IRR (pre-tax): 27.1%
- IRR (post tax): 22.7%

Avalon’s Sustainable Strategy

Product Design: Working with customers to create the best quality products to serve their needs at attractive prices

Innovative Metallurgy: Designing an efficient process to produce the best quality product at the lowest cost

Staged Development: Start with a demonstration plant to prove process and scale up after products are optimized

Minimizing Environment Impacts: Recycling of reagents and creating markets for by-products

Sustainable Development: Utilize renewable energy and maximize use of the ore body

The PEA is preliminary in nature, includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.
Sustainability at Avalon

At Avalon, sustainability means adopting leading industry standards for the management of health, safety and the environment, and engagement with local communities. In November 2018, Avalon released its seventh Sustainability Report in accordance with GRI Standards: core option and MAC TSM standards. The full report can be downloaded from Avalon’s website.

Lithium Demand

- Shift to electric vehicles (EVs) driven by production quotas, preferred licensing regulations & other government policies
- China planning to dominate the lithium battery supply chain as well as EV production; already accounts for >40% of global lithium demand
- Lithium carbonate prices now exceed $21,000/tonne and are expected to reach $25,000/tonne by 2021 before supply demand balance achieved

Current Activities and Future Plans

The next step in the project’s development is to proceed with a short pilot program to finalize reagent recycling and water treatment processes, after which a comprehensive Feasibility Study will be completed. This work is expected to proceed in 2019, once off-take agreements are concluded and additional financing is in place. Some additional drilling will be undertaken to bring more of the Inferred resources into the Measured and Indicated categories.

Avalon continues to explore for new lithium pegmatites, including a detailed mapping and sampling program on the western extension area.

Please note that the projected timeline is reliant on a positive Feasibility Study as well as offtake commitments, project financing, and timely receipt of all permits and environmental approvals.

Lithium Demand

Factors that could cause the Company’s actual results, performance, achievements, developments or events to differ materially from future events and include, among other things, statements regarding targets, estimates and/or assumptions in respect of future events and include, among other things, statements regarding targets, estimates and/or assumptions in respect of reserves and/or resources, and are based on estimates and assumptions related to future economic, market and other conditions that, while consistent reasonably by the Corporation, are inherently subject to risks and uncertainties, including significant economic, business, political and social uncertainties and contingencies. These estimates and/or assumptions include, but are not limited to, grade of ore, tonnage, and by-product commodity prices, metallurgical recoveries, operating costs, achievement of current timelines for development, strength of the global economy, availability of additional capital, and availability of supplies, equipment and labor. Factors that could cause the Company’s actual results, achievements, developments or events to differ materially from those expressed or implied by forward-looking statements include, among others, but are not limited to, market conditions, the possibility of cost overruns or unanticipated costs and expenses, the impact of proposed optimizations at the Company’s projects, actual results of exploration activities, mineral reserves and mineral resources and metallurgical recoveries, discrepancies between actual and estimated production rates, mining operational and development risks and delays, regulatory restrictions (including environmental), activities by governmental authorities, financial delays, joint venture or strategic alliances risks, or other risks in the mining industry, as well as those risk factors disclosed or referred to in the Company’s annual Management’s Discussion and Analysis and Annual Report filed with the securities regulatory authorities in all provinces and territories of Canada, other than Québec, and available at www.sedar.com. Most of the foregoing factors are beyond Avalon’s ability to control or predict. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those contained in forward-looking statements, there may be other factors that cause actions, events or results not to differ from those anticipated, estimated or intended. There can be no assurance that the plans, intentions or expectations upon which the forward-looking statements contained herein are based will occur. The forward-looking statements contained herein are qualified in their entirety by the cautionary statements. Readers should not place undue reliance on the forward-looking statements, which reflect management’s beliefs, estimates, and views only as of the date hereof. The forward-looking statements contained herein are presented for the purpose of assisting readers in understanding the Corporation’s expected financial and operating performance and the Company’s plans and objectives, and may not be appropriate for other purposes. Avalon does not undertake to update any forward-looking statements that are made conditional, except in accordance with applicable securities law.

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