



## 2021 President's Message

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While 2021 was another slow year in terms of project activities due to the ongoing COVID-19 pandemic lockdown, it was another busy year for the Avalon team with the steadily growing interest in establishing new critical minerals supply chains in Canada. Interest in lithium battery materials has been particularly strong with the Federal and Ontario governments offering support to companies that can participate in establishing both the manufacturing capacity for electric vehicles and the supply chains for the many critical materials needed in this new sector of the economy. The key for aspiring new lithium producers like Avalon to get started has been in finding end-users of lithium battery materials that will provide a specific product off-take commitment to justify the capital expenditures required to build the refining capacity. We now have several expressions of interest and expect to finalize a development plan in early 2022.

The plan for producing the battery materials continues to be to establish a refinery in Thunder Bay, to take advantage of its location as a transportation hub and the availability of industrial lands on the Lake Superior waterfront providing good access to international markets in Europe and the Eastern US. We still see Thunder Bay as an ideal location for such a facility because of its proximity to many other undeveloped lithium resources in northwestern Ontario that can become future suppliers of lithium mineral concentrates once in operation. The plan is still for the refinery to be a separate business in partnership with another interested party, which we now see as ideally being a strategic partner motivated by having access to the supply rather than another aspiring mine developer.

While the lithium battery materials market continues to get the most attention, Avalon's **Separation Rapids Lithium Project** continues to attract significant interest from international glass-ceramic manufacturers looking to secure a supply of the rare high purity lithium mineral petalite, which continues to be in high demand and short supply. The key next step is to provide potential customers with trial quantities of the product that meets their required specifications. While we collected a bulk sample for this purpose in 2021, we were unable to secure access to an appropriately-equipped processing facility. However, we are now working on acquiring our own demonstration-scale Dense Media Separation ("DMS") plant to efficiently produce petalite product samples from the bulk sample for the customers that have expressed interest. We expect to have it up and running by this summer.

Our model continues to be to get started with sales of petalite concentrates for glass-ceramic markets while preparing to serve the battery market, once the Thunder Bay refinery gets established. The DMS process works most efficiently when the feed is a coarse grained petalite ore. This inspired us to begin doing more work on several other petalite pegmatites that occur on the northwest part of the Separation Rapids property, including one we call Snowbank that contains very coarse grained petalite. A brief mapping program conducted in the summer of 2021 confirmed this potential and the next step is an initial diamond drilling program to assess the

potential size and geometry of the resource. An access trail has been prepared and we plan to begin drilling this winter once the necessary permit has been received.

Avalon also carried out a mapping and sampling program in 2021 on its 100%-owned **Lilypad Cesium-Tantalum-Lithium Project** near Fort Hope, Ontario, in the traditional territory of the Eabametoong First Nation (“EFN”). Several more cesium mineralized pegmatite dykes were identified on the property including a significant extension to the previously drilled Pollucite Dyke indicating considerable potential to expand the preliminary resource delineated in 2001 which contained roughly 340,000 tonnes grading over 2% cesium oxide. With cesium still in very short supply, a follow-up drilling program is tentatively planned for 2022. With former EFN Chief Harvey Yesno having recently joined Avalon’s Board of Directors, we look forward to working closely with the Eabametoong First Nation toward future collaboration on the development of this project.

The other significant activity in 2021 was our ongoing efforts to inspire more interest in looking at historic mine wastes on closed mine sites as opportunities to recover many critical minerals from the wastes. It is now being seen as an opportunity to create the “circular economy” in the mining industry, an idea we have been promoting for many years that is finally getting attention in the government circles. I have been a frequent speaker on this subject and continue to emphasize that the potential can be realized through the application of innovative new extraction technologies to efficiently recover rare earths and other critical minerals from historic mine wastes and economically remediate the long-term environmental liability. We see lots of possibilities here, but the challenge has been to secure access to and/or ownership of such sites when they are encumbered by long term environmental liabilities which are perceived as major risk factors. But we are making progress now!

Avalon’s **East Kemptville Tin-Indium and Lithium Project** in Nova Scotia and the **Cargill Phosphate Rare Earths and Scandium Project** near Kapuskasing, Ontario are both examples of past-producing mine sites where we have identified considerable potential for recovery of critical minerals from historic mine wastes while remediating the long-term environmental liability. In both cases, we are now getting more support from the Provincial Governments toward finding a solution to secure access to both of these sites and I remain optimistic that we will finally be able to activate both of these projects in 2022.

Avalon remains committed to establishing a diversified clean technology materials business, built on strong environmental, social and governance (ESG) performance, which was confirmed in early 2021 when we secured our first ESG risk-rating, following the audit by Sustainalytics. We continue to be a leader in applying ESG principles in the mineral development sector which is now getting greater recognition from the growing ESG investment community.

I also want to acknowledge the important role our former Vice-President, Exploration, Bill Mercer had in providing the leadership on inspiring our focus on health and safety in our operations and implementation of the principles of environmental and social responsibility some 15 years ago! Bill recently announced his retirement although he will continue to help us out where needed on a consulting basis. Lastly, I want to again extend my sincere appreciation to Avalon’s long-time

loyal shareholders for your continued support and patience. I am very confident that your patience will soon be rewarded!

Sincerely,



Donald S. Bubar  
President and Chief Executive Officer

January 21, 2022

## CORPORATE INFORMATION

Please refer to Avalon's website at [www.AvalonAdvancedMaterials.com](http://www.AvalonAdvancedMaterials.com) for further company information.

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