

# Avalon to Build a Lithium Processing Facility as Ontario Adopts an Unprecedented Industrial Policy to Become the Global Leader in the Critical Material Supply Chain

First, it was China, then the USA, Australia, and now Canada; developing a critical minerals strategy to support the green revolution this decade.

Last week the Ontario Government announced that the: **“Province’s First-Ever Critical Minerals Strategy Positions Ontario as Global Leader. Strategy will unleash Ontario’s mineral potential and support a made-in-Ontario electric vehicle supply chain.....**The Critical Minerals Strategy is a five year roadmap to: better connect the mines in the north with the manufacturing sector in the south, in particular to Ontario-based electric vehicle (EV) and battery manufacturing; tap into new and growing markets, including electric vehicles, batteries, telecommunications and national defense; and secure Ontario’s place in the global supply chain for decades to come.”

*(Note: Bold emphasis by the author.)*

As part of the announcement, the Province is investing \$24 million over three years toward Ontario’s Junior Exploration Program. Industry insiders have told InvestorIntel they expect this is just the beginning and expect “funding to support development of the mid-stream processing capacity will be a

much bigger number”.

For investors now is the time to start looking at promising critical minerals companies with projects in Ontario, Canada. Today’s company fits the bill perfectly with multiple critical mineral projects in Ontario.

Avalon Advanced Materials Inc. (TSX: AVL | OTCQB: AVLNF) (Avalon) has three projects in Ontario, Canada, and five in total throughout Canada. The projects have exposure to lithium, tin, rubidium and indium; as well as rare earth elements, tantalum, cesium and zirconium. Avalon’s most advanced project is the Separation Rapids Lithium Project near Kenora in Ontario. Avalon is working on a plan for a JV to build a lithium-ion battery materials refinery in Thunder Bay, Ontario.

### **Avalon’s Projects summary**

- **Separation Rapids Lithium Project (Ontario) (100% owned)**  
– 2018 PEA completed.
- **Lilypad Cesium-Tantalum- Lithium Project (Ontario) (100% owned)** – Exploration stage.
- **Warren Township Feldspar Project (Ontario) (100% owned renewable lease)** – PFS completed.
- **Nechalacho Rare Earth Elements Property (Northwest Territories) (100% owned lower zone)** – Feasibility Study stage (ownership is below a depth of 150 metres including the Basal Zone deposit).
- **East Kemptville Tin-Indium Project (Nova Scotia) (100% owned)** – PEA stage.

Given the past 15 months 11x surge in the price of lithium (and huge demand forecasts this decade), Avalon has decided to focus on developing its Separation Rapids Lithium Project, while continuing to advance other projects, including re-activating its Lilypad Cesium-Tantalum-Lithium Project. Both Avalon’s lithium projects are in Ontario, Canada.

## **REF: An update on Avalon's progress to develop their Ontario lithium projects**

### **Separation Rapids Lithium Project**

At Avalon's Separation Rapids Lithium Project the Company is working on acquiring a demonstration scale dense media separation (DMS) plant to begin processing the 5,000t bulk sample collected earlier in 2022. Next Avalon will begin producing the lithium bearing mineral, petalite, concentrate product samples for glass ceramic end-users that have expressed interest and for further battery materials testwork.

At the Snowbank petalite pegmatite discovery made in 2018, Avalon's latest results were successful to extend the known strike length by 50% to 127 metres and confirmed the widespread presence of coarse grained petalite mineralization. Avalon is now planning to proceed with a winter diamond drilling program to begin to delineate the size potential of the new Snowbank discovery as well as testing several other lithium pegmatites in the same area. Preparation of the necessary access trails is underway and work toward securing the necessary drilling permits is progressing.

The current 2017 M& I Resource estimate of the Project is 8.2MT at 1.37%  $\text{Li}_2\text{O}$  and 0.36%  $\text{Rb}_2\text{O}$  plus Inferred 1.2MT at 1.33%  $\text{Li}_2\text{O}$  and 0.361%  $\text{Rb}_2\text{O}$ .

## Separation Rapids Lithium: Avalon's Most Advanced Project

*A large LCT pegmatite enriched in the rare lithium mineral petalite*



**10 million tonne resource amenable to open pit mining, discovered in 1996**

- › PFS initially completed in 1999 on model to produce petalite for glass-ceramics. New PEA model created in 2016 to produce lithium battery materials. Further updated in 2018 based on new glass-ceramic markets
- › Secure Tenure under Lease: 100% owned plus 6,000 acres of exploration lands
- › Road access, with proximity to clean hydro-power to allow low carbon intensity lithium production with little waste and no significant environmental impacts
- › Strong local community support

*CRITICAL MINERALS FOR A SUSTAINABLE FUTURE*

Source: Avalon Advanced Materials company presentation

### Lilypad Cesium-Tantalum-Lithium Project

In September 2021 Avalon reported results that confirmed the exceptional cesium enrichment in several Lithium-Cesium-Tantalum (LCT) pegmatite dyke occurrences at the Lilypad Project. LCT deposits are more valuable lithium projects due to having valuable by-products of cesium and tantalum. Sub-samples assay results averaged 3.02%  $\text{Cs}_2\text{O}$ , 1.07%  $\text{Li}_2\text{O}$  and 0.03%  $\text{Ta}_2\text{O}_5$ , similar to the average grade of the historic resource. Avalon stated: "The Pollucite Dyke, with a historic resource estimate of 340,000 tons grading 2.294%  $\text{Cs}_2\text{O}$  and 0.037%  $\text{Ta}_2\text{O}_5$  based on 9 holes drilled to a maximum vertical depth of 250 metres and along a strike length of just 140 metres, remains open for expansion to depth and along strike."

*Note: Historical Resources are not yet to be relied upon.*

Given the surge in lithium prices, I would not be surprised to

see Avalon look to discover further lithium on the property. Avalon says that their next steps will be to plan for a diamond drilling program to test all the new targets including the western extension of the Pollucite Dyke.

### **Thunder Bay battery metals refinery**

In 2020, Avalon signed a LOI with Rock Teck Lithium to build a lithium refinery in Thunder Bay. However since then, the plan has evolved with Avalon stating (regarding the Rock Teck JV): "So, while we have not ruled out the possibility of partnering on a plant (in Thunder Bay), it seems less likely now given that we are now going down different paths in terms of scale, process flowsheet and types of products." In a February 2022 update, Avalon stated: "Still planning to establish a new lithium battery materials refinery in Thunder Bay. Lots of interest from international consumers of lithium battery materials and planning a partnership arrangement."

**Avalon is working on a plan to build a JV lithium refinery in Thunder Bay, Ontario; with one or possibly two of their lithium projects as potential feed**

# The Lithium Battery Materials Supply Chains Opportunity in Northwestern Ontario



Thunder Bay is home to Lakehead University with an Earth Sciences Program and plans to increase Critical Minerals & Materials Engineering research

- > NWO is blessed with hundreds of lithium pegmatites of various sizes and mineralogy.
- > To get production started the key next step is to have a centrally located Lithium Refinery that can purchase concentrates produced locally to make the battery material products
- > Thunder Bay is ideally located with excellent transportation infrastructure to serve both provincial and international markets with numerous industrial sites available for locating a new refinery
- > Avalon plans to help establish a refinery in T-Bay as a separate business with partners with flexibility to accept concentrates from any new producer in NWO
- > Ontario government now committed to establishing more EV and battery manufacturing capacity along with the supply chains as part of a new Industrial Strategy for Ontario on advanced manufacturing

Source: Avalon Advanced Materials company presentation

## Closing remarks

Avalon Advanced Minerals trades on a market cap of only C\$52 million which seems extraordinary given they have 5 projects in Canada, several of which are reasonably advanced. Also, the fact that several projects contain very high value minerals such as lithium, tin, rubidium and several rare earths.

Don't miss this opportunity.