

Zeeshan Syed of Avalon Advanced Materials Discusses Plans for Lithium Processing in Canada

written by InvestorNews | March 29, 2023

In this InvestorIntel interview during PDAC 2023, Tracy Weslosky talks with Zeeshan Syed, President of [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF) discussing Avalon's latest news and progress, particularly in regards to lithium.

Zeeshan says he is most excited about Avalon's Separation Rapids Lithium Project to take advantage of the market's current strong interest in lithium. He discusses the 2018 drilling campaign at the Separation Rapids Project that discovered almost 10 million tonnes of lithium. He mentions there is a new drilling program underway at the Project and that Avalon should soon have an update out on that for investors. He states: *"We are quite optimistic on the results there."*

Zeeshan also discusses their strategic partnership with battery giant LG Energy Solutions ("LGES") and [Avalon's plans for a lithium processing facility in Canada](#) to supply LGES, as well as the strategic importance of these Projects for Canada. He referenced his discussion today with Canada Innovation and Science Minister Francois-Philippe Champagne.

To access the full InvestorIntel interview, [click here](#).

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About Avalon Advanced Materials Inc.

Avalon Advanced Materials Inc. is a Canadian mineral development company specializing in sustainably-produced materials for clean technology. The Company now has four advanced-stage projects, providing investors with exposure to lithium, tin, and indium, as well as rare earth elements, tantalum, cesium and zirconium. Avalon is currently focusing on developing its Separation Rapids Lithium Project near Kenora, Ontario while continuing to advance other projects, including its 100%-owned Lilypad Cesium-Tantalum-Lithium Project located near Fort Hope, Ontario. Social responsibility and environmental stewardship are corporate cornerstones.

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Avalon Advanced Materials advances forward towards becoming a lithium producer

written by Tracy Weslosky | March 29, 2023

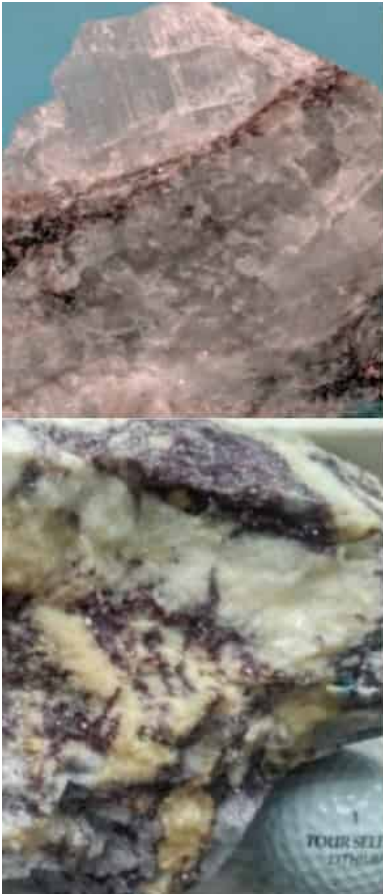
As I was having my morning coffee today I came across some quite incredible news. The world's largest lithium miner Albemarle stated that they expect there will be a massive shortage of lithium this decade. The report stated that "[global lithium demand should hit 3.7 million tonnes by 2030.](#)" Given that the total lithium market was only at about 370,000 tonnes pa in 2020 that would mean a 10x increase in demand this decade. Albemarle

expects [an 800,000 tonne lithium deficit by 2030](#) with lithium prices staying high. Albemarle CEO Norris [stated](#): “Incentivizing industry to fill this gap requires strong long-term pricing”.

This got me thinking about who will be the next lithium miners to help meet this huge demand for lithium. Perhaps it will be [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF) (“Avalon”).

Avalon 100% owns the advanced stage [Separation Rapids Lithium Project](#) in Ontario, Canada as well as the [Lilypad Cesium-Tantalum-Lithium Project](#) also in Ontario.

Separation Rapids predominant lithium ore is petalite which contains 4.5% Li_2O and is extremely pure. Petalite ore is already successfully [being mined in Zimbabwe](#) to supply the lithium ceramics industry. Avalon [state](#) on their website that they have “developed a process flowsheet to make lithium hydroxide from its petalite. The potential for production of high-grade lithium hydroxide (99.9%) was demonstrated through laboratory test work performed in 2015 and defined in a Preliminary Economic Assessment filed in 2016.”



Lithium Minerals at Separation Rapids: a rare type of LCT pegmatite

- › There are two main lithium ore minerals in the Separation Rapids LCT pegmatite: **petalite** & **lepidolite**
- › Petalite is the predominant lithium mineral, with lepidolite occurring in distinct subzones comprising 20% of the resource
- › **Petalite** ($\text{Li Al Si}_4\text{O}_{10}$) contains 4.5% Li_2O with no impurities
- › **Lepidolite** ($\text{K}(\text{Li},\text{Al},\text{Rb})_2(\text{Al},\text{Si})_4\text{O}_{10}(\text{F},\text{OH})_2$) is a lithium mica containing other elements including **cesium**
- › They can each be concentrated to make saleable products:
 - Petalite can be used both as an industrial mineral for high strength glass and as a high purity feed to make battery grade lithium hydroxide or carbonate
 - Lepidolite concentrates are being used increasingly for production of battery grade lithium carbonate
- › **Tantalum** minerals are also recoverable along with **Rubidium**-rich K-feldspars as an industrial mineral by-product

Source: [Avalon company presentation](#)

Avalon continues to be somewhat under the radar despite having [an MOU to supply LG Energy Solution Inc. \("LGES"\)](#) and plans to build a lithium hydroxide refinery in Thunder Bay, Ontario, Canada.

LGES is one of the leading global manufacturers of lithium-ion batteries for electric vehicles, mobility, IT, and energy storage systems.

Avalon's agreement with LGES is to supply battery-grade lithium hydroxide starting in 2025. That suggests that LGES has good confidence in Avalon's potential to make it to production. The MOU would see Avalon commit, for five years initially, to provide LGES with at least 50% of its planned initial lithium hydroxide production from its Thunder Bay JV refinery (planned 20,000tpa capacity), with the potential to increase production

as demand grows.

The Thunder Bay lithium refinery would be designed to accept lithium concentrate material from both Avalon's Separation Rapids Project and other new projects in the region. In a January 10, 2023 regulatory filing Avalon [stated](#):

"Essar failed to confirm their interest in finalizing an agreement with Avalon and the Company is now pursuing agreements with other potential investing partners including LG Energy Solution ("LGES").....This agreement with LGES (when it gets finalized) will involve providing initial financial and development support for building a lithium refinery in Thunder Bay, Ontario that will be designed to accept lithium minerals concentrates, not only from Avalon's Separation Rapids Lithium Project north of Kenora, ON, but also from other aspiring new producers from the many lithium pegmatite resources that occur in northwestern Ontario. It will operate as a separate private business, called Avalon Lithium Inc., a newly established Avalon subsidiary in which LGES would potentially become a co- owner, when they finalize a formal agreement."

Avalon also has [an off-take agreement](#) with a major non-Chinese international glass ceramic manufacturer to supply petalite concentrate from Separation Rapids for the glass-ceramics market.

The next steps for Avalon include a winter drilling campaign ([deeper drilling](#) at Separation Rapids main lithium pegmatite resource known as the Big Whopper), completing Feasibility Study-level cost estimates, project engineering and pilot plant work to optimize lithium battery materials process flowsheet & costs for the refinery and confirm the location for the refinery on a vacant industrial site in Thunder Bay. Also to complete environmental assessments and project permitting. Beyond that

Avalon plan to begin small scale commercial operations with sales of petalite and mineral by-products while the new battery materials refinery is constructed [ready for production in 2025/26](#), all going well.

Avalon Advanced Materials ticks many boxes for investors. Great lithium assets in Ontario Canada, supportive local, state and Federal governments, and a preliminary agreement to work with a multi-billion dollar company such LGES to establish a lithium supply chain in Canada. All at a time when it appears lithium will have a great decade. Execution risks to achieve lithium production remain high, but should de-risk with each successful step along the way. What's not to like with Avalon Advanced Materials on a market cap of [C\\$68 million](#).

InvestorIntel plans to have some interviews in 2023 with CEO Don Bubar to get an update on how the Company's plans are progressing.

Don Bubar of Avalon Advanced Materials on delivering lithium for batteries and advanced ceramics

written by InvestorNews | March 29, 2023

In this Critical Minerals Institute interview, host Jack Lifton talks to [Avalon Advanced Materials Inc.](#)'s (TSX: AVL | OTCQB: AVLNF) President, CEO and Director Don Bubar about establishing

a North American lithium supply chain and Avalon's new [off-take agreement](#) with a major international glass-ceramics manufacturer for petalite concentrates.

In the interview, which can also be viewed in full on the InvestorIntel YouTube channel ([click here to access InvestorChannel.com](#)), Don talks about the competitive advantages of building Avalon's lithium refinery in Thunder Bay, Ontario. In addition to having recently signed an MOU with LG Energy Solution to supply battery-grade lithium hydroxide starting in 2025, Don tells Jack: "The main reason for establishing it there was also to basically open the door to other producers of lithium mineral concentrates from the many, many lithium pegmatites that occur throughout Northwestern Ontario..." In addition to lithium, Don says that Avalon provides exposure to multiple other minerals like rare earths, tantalum, and cesium.

Don also talks about a recently announced multi-year agreement for Avalon to supply a non-Chinese international glass ceramic manufacturer with petalite concentrates. "High strength glass ceramic products of various types," Don tells Jack, "that's a market you don't hear a whole lot about for lithium. It is growing now too through further innovation in other types of high strength glass products and ceramic products."

To access the full Critical Minerals Institute interview, [click here](#)

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Don Bubar of Avalon Advanced Materials on signing key new agreements and the high demand for lithium

written by InvestorNews | March 29, 2023

In this InvestorIntel interview, host Tracy Weslosky talks to [Avalon Advanced Materials Inc.](#)'s (TSX: AVL | OTCQB: AVLNF) President, CEO and Director Don Bubar about the growing world demand for lithium for high strength glass ceramics, and its recent announcement that it has secured a firm commitment to purchase petalite concentrates produced at the company's Separation Rapids Lithium Project in Ontario, Canada.

In the interview, which can also be viewed in full on the InvestorIntel YouTube channel ([click here to access](#)

InvestorChannel.com), Don tells Tracy that most people are aware of the growing importance of lithium in EV battery technology, but “one of the main uses from the past has always been in high strength glass ceramic products... It’s actually the mineral that Corning used to invent CorningWare cookware, which was one of the first examples of high strength glass ceramic product.” He goes on to say that there is increasing demand and innovative uses for other types of high strength glass ceramic products that require the high purity lithium aluminum silicate mineral petalite produced by Avalon. Don also discusses the new multi-year off-take agreement recently announced by Avalon for the delivery of petalite to a major non-Chinese international glass ceramic manufacturer.

Don also talks about Avalon being one of the three companies to sign a non-binding memorandum of understanding with LG Energy Solution to supply them with a battery-grade lithium hydroxide starting in 2025. The MOU was signed during the visit of South Korea’s President, Yoon Suk Yeol, to Canada in September. Under the terms of the MOU, Avalon would commit for an initial period of five years to provide LGES with at least 50% of its planned initial lithium hydroxide production. Don adds: “We’ve been getting the message out on our vision for creating the lithium battery materials refinery in Thunder Bay, and that would be an ideal location to serve the needs of companies that are now going to set up manufacturing facilities in Southern Ontario.”

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Avalon Advanced Materials Don Bubar on the Acceleration of the Separation Rapids Lithium Project

written by InvestorNews | March 29, 2023

In this InvestorIntel interview with host Tracy Weslosky, [Avalon Advanced Materials Inc.](https://www.sedar.com)'s (TSX: AVL | OTCQB: AVLNF) President, CEO and Director Don Bubar talks about their lithium extraction technology and about securing a [\\$3M convertible security funding](#) to accelerate Separation Rapids Lithium Project.

In the interview, which can also be viewed in full on the InvestorIntel YouTube channel ([click here to access InvestorChannel.com](https://www.investorintel.com)), Don starts, "We've been in this space for

25 years...while 25 years ago was a bit early for battery materials, we knew it would have a day and that day has finally come.” Don also provides an update on reactivating Avalon’s East Kemptville Tin Project which “was the only ever primary tin producer in North American history.” Emphasizing how tin has emerged as a very important technology metal due to its growing usage in many technology applications, Don talks about Avalon creating a new supply.

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The Dean's List – Part 1: What rare earths company will benefit from Canada's commitment to critical minerals?

written by InvestorNews | March 29, 2023

Part 1: Avalon Advanced Materials Inc.

Since the start of the very unnecessary war in Ukraine both federal and provincial governments in Canada have made numerous announcements with respect to critical materials, supply chain, EV battery manufacturing, and a whole host of other related subjects. The province of Ontario made a big splash in March, first announcing its [strategy for 'critical minerals'](#) worth C\$3.5 billion to Ontario's economy followed shortly by a [C\\$4.9 billion electric vehicle battery plant](#) in Windsor, Ontario. Then in April, the Federal Government got in on the action with [Budget 2022, proposing up to C\\$3.8 billion in support](#) over eight years to implement [Canada's first Critical Minerals Strategy](#).

All these initiatives could have material impacts on several companies in the mining sector in Canada. Against this backdrop, we will begin a series of articles looking at the companies that could benefit from this government support to help position Canada to lead the way in supplying materials for clean technology, healthcare, aerospace, and computing, that will continue to be in high demand for years to come.

We'll start the series by looking at an Ontario based mining

company providing investors with exposure to lithium, rare earths, cesium, tantalum, feldspars, tin and indium. [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF) is a Canadian mineral development company specializing in sustainably produced materials for clean technology. Avalon is currently focusing on developing its [Separation Rapids Lithium Project](#) near Kenora, Ontario while continuing to advance other projects, including its 100%-owned [Lilypad Cesium-Tantalum Lithium Project](#) located near Fort Hope, Ontario. Additionally, Avalon is evaluating opportunities to apply an innovative, new extraction technology to recover rare earths and other metals from acid mine drainage at closed mine sites and remediate the environmental liability.

Unlike typical articles about companies where we focus on what a company is up to and where the next catalyst may come from, this series is going to look at how a company may be able to tap into some of the cash governments are pledging to the industry or benefits that may accrue due to policy changes. Accordingly, let's review a few of the highlights from the various announcements.

Both Ontario and the Federal Budget announcements included funding to improve the regulatory framework, which has the potential to backfire in my opinion, but if successful this should be a benefit to any and all mining companies in Canada. However, the Ontario announcement goes one step further to include the development of a regulatory framework for recovery of minerals from mine tailings and waste with an amendment to the Mining Act. Avalon has been looking at several such opportunities including [East Kemptville Tin-Indium](#) and the Cargill past-producing phosphate mine site in Ontario with concentrations of rare earths, scandium and zirconium in the tailings. Unfortunately, East Kemptville is in Nova Scotia so it falls outside of Ontario's jurisdiction, but if Avalon can advance their process, I'm sure there is ample opportunities to

apply the technology to many of Ontario's past producing mines.

Another pillar in the Ontario strategy was the encouragement of domestic processing and creating resilient local supply chains. The announcement of the Stellantis and LG Energy Solution JV marking Canada's first lithium-ion electric vehicle (EV) battery manufacturing plant went a long way toward supporting this initiative. And what goes into lithium-ion batteries? Lithium of course, and Avalon is well positioned with [two lithium projects located in Ontario](#). That strikes me as being in the right place at the right time with the right commodity. We'll see how this plays out over the next few years as the plant is scheduled to begin production in early 2025.

Another catch-all for all junior miners in Canada was the Federal Budget announcement of the introduction of a new 30% [Critical Mineral Exploration Tax Credit](#) for specified mineral exploration expenses incurred in Canada and renounced to flow-through share investors. The tax credit would apply to eligible materials including nickel, lithium, cobalt, graphite, copper, rare earth elements, vanadium, tellurium, gallium, scandium, titanium, magnesium, zinc, platinum group metals, and uranium. This should help any explorer in the sector looking to fund upcoming drilling programs by providing another avenue of raising capital.

As long as governments don't get in the way of their good intentions, we could be on the verge of a golden era for critical mineral explorers, miners and processors in Canada. Correspondingly, over the next several weeks we'll continue to look at companies like Avalon that find themselves well-positioned to take advantage of this renewed focus by the Canadian Government on the security of supply, to exploit Canada's abundance of valuable critical minerals.

Market applauds Avalon Advanced Materials' lithium battery materials refinery news

written by InvestorNews | March 29, 2023

Governments around the world are starting to figure out what China realized 20 (or more) years ago, if you want to be at the leading edge of a technology you need to secure and support the resources that facilitate it. Unfortunately, it took a global pandemic followed by a war on European soil to disrupt supply chains and impact resource availability, for developed nations to begin to figure this out. But perhaps the light switch has been turned on and the politicians of the world have finally recognized that simply saying something repeatedly doesn't necessarily make it happen. I will spare readers from another rant from me, even though it's like shooting fish in a barrel, but let's just hope that rumblings out of Ottawa, with respect to the next Canadian budget are accurate. It's anticipated that Canada's federal budget will include [an investment of at least \\$2 billion](#) for a strategy to accelerate the production and processing of critical minerals needed for the electric vehicle battery supply chain. Specifically, the investment would be focused on critical minerals including nickel, lithium, cobalt and magnesium.

What a novel concept. I wonder how they managed to come up with such a creative idea? (I really need to find an emoticon or something that expresses when I am being sarcastic).

Nevertheless, it's progress so we should all be happy that an encouraging step is being made by politicians. This progress follows on the heels of another supportive announcement, this time from the provincial government of Ontario, where they defined their own first-ever [Critical Minerals Strategy](#). Premier Doug Ford is quoted as saying "The Critical Minerals Strategy is our government's blueprint to connect industries, resources and workers in our province's north to the future of manufacturing in the south as we build up home-grown supply chains."

The timing of these announcements couldn't dovetail any better with news from [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF) on Monday that it has signed a binding [letter of intent](#) to establish Ontario's first regional lithium battery materials refinery in Thunder Bay, Ontario. I can state with confidence that their timing was excellent because the market rewarded Avalon shareholders handsomely, rallying the stock by 48% on the day. So let's have a little closer look at why investors got so excited about this particular press release.



Avalon is a Canadian mineral development company specializing in sustainably-produced materials for clean technology. The Company now has four advanced stage projects, providing investors with exposure to lithium, tin and indium, as well as rare earth elements, tantalum, cesium and zirconium. Avalon is currently focusing on developing its [Separation Rapids Lithium Project](#) near Kenora, Ontario while continuing to advance other projects, including its 100%-owned [Lilypad Cesium-Tantalum-Lithium Project](#) located near Fort Hope, Ontario. Social responsibility and environmental stewardship are corporate cornerstones as witnessed by the fact that the Company recently reported its [tenth](#) (yes, they have been doing this for 10 years) annual comprehensive [sustainability report](#). In a nutshell, Avalon

Advanced Materials is an ESG focused company at the forefront of sustainable best practices in cleantech mineral development. Find me a box that doesn't tick.

Timing of all this coming together is somewhat fortuitous for the Company, given they weren't waiting around for any government support. They recognized a long time ago what their roadmap to success would include. Simply finding critical materials wasn't going to be enough, Avalon identified that to control their destiny, they had to control their destiny. To get production started another key step is to have a centrally located lithium refinery that could purchase concentrates produced locally to make the battery material products. Avalon had a much bigger vision whereby a lithium refiner would be designed to accept lithium minerals concentrates, not only from Avalon's Separation Rapids Lithium Project, but also from other aspiring new producers from the many lithium pegmatite resources that occur in northwestern Ontario. Monday's announcement states this refinery will operate as a separate private business, called Avalon Lithium Inc., a newly established Avalon subsidiary.

Avalon's do-it-yourself (sustainably and responsibly) mantra has resulted in fantastic timing as both Provincial and Federal governments have only just realized what needs to be done at the same time as Avalon is actually doing it. Combine that with an exemplary ESG track record and you have yourself a pretty exciting investment opportunity. Even after the recent run-up, Avalon's market cap is sitting at roughly C\$77.5 million. Is that a fair price for a company doing the right things, in the right way, at the right time?

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

written by InvestorNews | March 29, 2023

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% Li₂O and 0.36% Rb₂O](#) plus Inferred 1.2MT at 1.33% Li₂O and 0.361% Rb₂O.



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% Cs₂O, 1.07% Li₂O and 0.03% Ta₂O₅](#), 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% Cs₂O and 0.037% Ta₂O₅ 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



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.

Can Avalon Advanced Materials ride the lithium tidal wave?

written by InvestorNews | March 29, 2023

Lithium miners have been the best performing sector of almost every sector of the stock market over the past year. This has been due to a 'tidal wave' of new lithium demand as electric vehicle (EV) sales dramatically increased over the past year. For example global electric car market share more than doubled from [4.2% in calendar year 2020](#) to [8.7% in the month of June 2021](#). This has led to a surge in lithium demand and subsequently lithium prices in 2021.

Lithium prices (1 year chart) have risen rapidly due to a

massive demand increase from booming EV sales



Source: [Trading Economics](#)

One under the radar lithium junior is [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF) (“Avalon”). Avalon has six projects, providing investors with exposure to lithium, tin and indium, as well as rare earth elements, tantalum, cesium and zirconium. Avalon is currently focusing on developing their Separation Rapids Lithium Project near Kenora, Ontario, while looking at several new project opportunities, one being a lithium hydroxide (and other materials) refinery in Thunder Bay, Ontario, Canada. They are also working to advance their Lilypad Cesium-Tantalum Project, in Ontario, Canada.

Separation Rapids Lithium Project (100% owned; Ontario, Canada) + possible lithium battery materials refinery (Thunder Bay, Canada)

Avalon completed a [PEA](#) of their 100% owned Separation Rapids Lithium Project in 2018, resulting in a pre-tax NPV8% of [\\$156 million](#), post tax IRR of 22.7%, CapEx C\$77.7 million with a 20 year mine life.

Then in March 2021, Avalon [announced](#) a Letter of Intent (“LOI”) with Fort William First Nation (“FWFN”) to collaborate on the development of a lithium battery materials refinery located on industrial lands owned by FWFN in Thunder Bay, Ontario. As stated in the announcement: “This facility would be designed to accept lithium mineral concentrates from Avalon’s Separation Rapids Lithium Project (70 km north of Kenora) and Rock Tech’s Georgia Lake Lithium Project (145 km northeast of Thunder Bay), as well as potentially other emerging, new lithium mining operations in northern Ontario, to produce lithium hydroxide and

other lithium battery materials.”

Then in May 2021, Avalon [reported](#) that their recent process testwork using dense media separation (“DMS”) technology had proven to be successful at producing a high-quality petalite lithium mineral concentrate (4.0% – 4.2% Li₂O) from their Separation Rapids Lithium Project. The concentrate is suitable for the needs of specialty glass-ceramic end-users. As a result, Avalon is now looking at acquiring their own DMS equipment so they can more quickly meet the needs of the many end-users that have expressed interest over the years in their petalite product samples. Avalon will also resume exploration work this summer on the western part of the Separation Rapids property to further work towards growing their resource.

Avalon Advanced Materials Separation Rapids Lithium Project – PFS & PEA completed



Source: [Company presentation](#)

[Announced](#) in July 2021, Avalon is now in active discussion to potentially progress their lithium materials refinery in Thunder Bay. The release [stated](#): “On the lithium battery materials market development work, Avalon continues to engage with potential customers looking for new supply sources and are in active conversation with one group in Europe. With a firm commitment on off-take, Avalon can then proceed with its plans for establishing a lithium refinery in Thunder Bay.”

Lilypad Cesium-Tantalum Project (100% owned; Ontario, Canada)

Avalon’s Lilypad Property, located 150 km northeast of Pickle Lake, Ontario, is an exploration stage project with cesium-tantalum-lithium mineralization. It has some potential to be a

secondary lithium supply source for Avalon, however, cesium and tantalum are the key products for now.

In July 2021 news, Avalon [stated](#): “Following the closing of the recent flow-through financing, an exploration work program was initiated in June on its 100% owned Lilypad Cesium-Tantalum Project involving re-establishing a field camp and new grid on the property **in preparation for detailed mapping and geochemical sampling to commence later this month**. Additional cesium mineralized rock was collected from the Pollucite Dyke for continued process research on techniques to efficiently concentrate the rare cesium mineral pollucite, which continues to be in high demand. **Drilling is planned for later this year.**”

Avalon Advanced Materials project pipeline



Source: [Company presentation](#)

Closing remarks

As evidenced by a recent record lithium spodumene spot market price achieved this past week of [US\\$1,250/t](#) (around 3x the contract prices from 12 months ago), there is now a new realization that lithium supply is critically low. This means it is a great time to be a lithium miner and it generally acts to boost the sentiment of the sector thereby helping lithium juniors raise capital and hopefully reach production.

Avalon Advanced Materials is not only a junior lithium miner, as they have a total of 6 projects across multiple critical metals and rare earths. Key critical metals Avalon has are lithium, tantalum, cesium and zirconium; all are on [the list of U.S critical materials](#). The Company trades on a market cap of only C\$52 million. One to watch.

Developing critical materials for the green economy in a sustainable way is the Avalon Advanced Materials' highway

written by InvestorNews | March 29, 2023

[Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF) is a new breed of resource company that places environmental stewardship at the top of the list of priorities as opposed to it being an afterthought. The Company has embraced the principles of sustainability as core to its business practice and has made a strong commitment toward implementing corporate social responsibility best practices and recently secured [a top 5% ESG Risk rating](#) amongst its peer companies from Sustainalytics.

Avalon is a Canadian mineral development company that operates primarily in Canada with a focus on the metals and minerals for use in clean energy and new technology including lithium, rare earths, cesium, tin, indium, gallium, germanium, tantalum and zirconium. The Company is in various stages of developing three of its five mineral resource properties with particular emphasis on lithium, cesium and rare earths.

Avalon's most advanced project is the 100% owned Separation Rapids Lithium Project, located in the Paterson Lake Area of Ontario. The Separation Rapids deposit is a potential source of lithium minerals for use in the glass and ceramics industry as well as lithium compounds for the battery industry. The company

completed a Pre-Feasibility Study in 1999 to produce petalite (the predominant lithium mineral at Separation Rapids) for glass-ceramics. A new Preliminary Economic Assessment model was created in 2016 to produce lithium battery materials, which was subsequently updated in 2018 based on new glass-ceramic markets. The simplified business model with initial focus on lithium mineral concentrates for glass and ceramics has an initial CAPEX of C\$77.7 million (475,000 tpa mill capacity) for a 20 year operational life with average annual revenues of C\$90 million and average annual costs of C\$60 million for an NPV pre-tax (8% discount rate) of \$156 million and an IRR (pre-tax) of 27.1%.

Building on the Separation Rapids opportunity, [Avalon recently announced it has entered into a Letter of Intent](#) (LOI) with Fort William First Nation (FWFN) to collaborate on the development of a lithium battery materials refinery located on industrial lands owned by FWFN in Thunder Bay, Ontario. This facility would be designed to accept lithium mineral concentrates from Avalon's Separation Rapids Lithium Project (70 km north of Kenora) and Rock Tech's Georgia Lake Lithium Project (145 km northeast of Thunder Bay), as well as potentially other emerging, new lithium mining operations in northern Ontario, to produce lithium hydroxide and other lithium battery materials.

Another example of what makes Avalon different than most resource companies is the binding [LOI signed in February](#) for four industrial minerals properties and a demonstration-scale processing plant located at Matheson, Ontario to process the tailings from a historic phosphate mining operation at the site. Work done has demonstrated that the tailings contain phosphate levels ranging from 15-20% P_2O_5 and can be sold "as is" for use in various agricultural fertilizer products. Additionally, analytical work done on the tailings indicates the presence of significant concentrations of rare earths, scandium and zirconium, which preliminary tests indicate will be recoverable

through additional processing. The phosphate-rich tailings are already generating revenues and additional processing of the tailings could provide significant potential for future revenue growth. This is a great example of Avalon's core values working in harmony. The company gets access to a closed mine site with potential to recover critical minerals like rare earths from the mine wastes, while remediating the long term environmental liability.

Avalon is a leader among mineral developers in adopting best practices to reduce its environmental footprint, prevent water contamination and engage with local communities. This focus gives Avalon a strategic advantage when it comes to securing grants, funding and partnerships with governments and First Nations, let alone the evolving investment community. Aligning the company with its stakeholders' values reduces risk and creates opportunities like the Fort William First Nation LOI. Just remember, [it's not easy being green](#), but it can be profitable.