Avalon Advanced Materials Inc. is a leader in developing new North American sources of critical minerals for clean technology, such as rare earths and lithium. Avalon is among a small group of emerging companies that are identifying their own strategic resources and process solutions to sustainably produce critical minerals for new technology and to enable full supply chains to be established in North America. This includes extracting critical minerals from historic mine wastes, while remediating long term environmental liabilities.

Avalon’s extensive experience with critical minerals and long-standing commitment to sustainability and social responsibility puts the company in a unique position to utilize its strategic resource inventory to help create more efficient, sustainable critical minerals supply chains and create new economic development opportunities for Indigenous communities in northern Canada.

- Market Cap: C$70 million
- Shares outstanding: 348.4 million
- Fully diluted: 381 million
- Over 20,000 shareholders worldwide: Insiders (15%), Institutional (15%), Retail (70%)

### Materials for Clean Technology

There is ever-growing demand for formerly obscure elements such as rare earths, lithium, tantalum, niobium, cesium, scandium, indium, gallium, germanium, zirconium and beryllium. All are critical minerals needed for: clean energy, aerospace, defense, energy efficiency, modern electronics, medicine and much more. However, such elements are often minor by-products of other mining operations, are not traded on commodity exchanges and do not yet have well-established supply chains in North America.

With its rich and diverse mineral resource endowment, Canada can take the lead in implementing environmentally and socially responsible clean technology materials development. We are already seeing supply shortages for rare earths and lithium, as increased demand growth outpaces the development of new, secure supply chains for non-traditional mineral commodities vital for new technology.
Cleantech Business Opportunities

Avalon is evaluating opportunities to apply innovative new extraction technologies to recover rare earths, tin and other rare elements from mine wastes, including acid mine drainage, at closed mine sites.

Avalon’s East Kemptville Tin-Indium Project (presently inactive) is such an example of a closed site with potential to recover tin, indium, gallium, germanium and lithium as well as copper and zinc from historic mine wastes. The goal is to recover the elements of economic interest at a much lower cost compared to a new mining operation while remediating the long-term environmental liabilities.

Separation Rapids Lithium

Lithium-cesium-tantalum (LCT) pegmatite deposit unusual in its enrichment in the rare high-purity lithium mineral petalite.

Potential producer of lithium minerals for high tech glass applications and lithium battery materials (2018 updated PEA).


Current activities and future plans include: extraction of a 5,000 tonne bulk sample and processing to produce more lithium mineral product samples, finalizing the process flowsheet and plant design parameters, securing off-take agreements and arranging project financing.

Lilypad Cesium-Tantalum

The work program carried out in 2001 confirmed the presence of economically-significant cesium and tantalum-mineralization associated with lithium in a field of pegmatite dykes.

Avalon re-activated the project in 2020, with a sampling program focused on cesium potential. Testwork to define an efficient process to concentrate the cesium mineral pollucite is now in progress.

Follow-up field work including geological and geochemical surveys to define additional cesium-tantalum resources is planned for 2021.

With limited current production, new cesium producers are needed to meet growing demand in many new technology applications.

Nechalacho Rare Earths

Rich polymetallic rare metals resource, with potential for economic recovery of the rare earth elements, as well as zirconium, niobium and tantalum.

Explored from 2006-14 primarily for its potential to produce heavy rare earths from the Basal Zone, with a Feasibility Study completed in 2013.

In 2019, Avalon and Cheetah Resources Pty Ltd. entered into a definitive agreement in which Cheetah acquired T-Zone and Tardiff Zone resources for C$5 million, while Avalon retains its 100% interest in the Basal Zone.

PEAs are preliminary in nature, include 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 a PEA will be realized.