



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.

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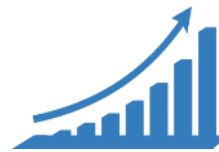
**Mineral exploration & development co.**



**Clean technology materials focus**



**Toronto-based est. 1995**



**Staged-development project approach to minimize risk**



**Leader in Indigenous community engagement**



**Committed to be carbon neutral by 2050**

#### Operations designed to:



- Minimize GHG Emissions**
- Reduce environmental footprint**
- Extract value from historical mine wastes**
- Plan for productive use of land post closure**

#### MANAGEMENT & SENIOR STAFF

**Jim Andersen**, CA, CPA - VP Finance, CFO & Corporate Secretary

**Donald S. Bubar**, P.Geo. - President & CEO

**Cindy Hu**, CA, CPA - Controller

**Mary Kita**, BA, M.Sc. - Director of Communications

**Ron Malashewski**, P.Eng (AB) - Community Relations, Kenora

**David Marsh**, FAusIMM (CP) - Senior Metallurgist

**Bill Mercer**, Ph.D., P.Geo. - VP Exploration

**Chris Pedersen**, P.Geo. - Senior Project Geologist

**Zeeshan Syed**, M.Sc. - Manager, Government Affairs and New Business Development

**Mark Wiseman**, B.Sc., MBA - VP Sustainability

#### BOARD of DIRECTORS

**Donald S. Bubar**, P.Geo. CEO

**Alan Ferry**, CFA - Chair and Audit Committee Chair

**John Fisher**, B.Sc., M.B.A

**Naomi Johnson**, LL.B.

**Marilyn Spink**, P.Eng.

# Advanced Project Portfolio

## 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).

Avalon entered into LOI with Rock Tech Lithium to collaborate on the development of a lithium refinery in Thunder Bay, Ontario in November 2020.

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.

The global glass industry is valued at over \$100 billion and continues to grow through innovation of new products, many of which take advantage of the unique properties of lithium for strengthening glass.

## 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.*

The technical information contained in this document has been reviewed and approved by Donald Bubar, P.Geo. (ON), President and CEO of Avalon, the qualified person for the purposes of National Instrument 43-101. This document contains or incorporates by reference "forward looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities legislation, which may not be based on historical fact. Readers can identify many of these statements by looking for words such as "believe", "expects", "will", "intends", "projects", "anticipates", "estimates", "continues" or similar words or the negative thereof. Statements that are not based on historical fact contained in this presentation, including through documents incorporated by reference herein, are forward-looking statements that involve risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in the forward-looking statements. Such forward-looking statements reflect the Company's current views with respect to 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/or assumptions related to future economic, market and other conditions that, while considered reasonable by the Corporation, are inherently subject to risks and uncertainties, including significant business, economic, competitive, political and social uncertainties and contingencies. These estimates and/or assumptions include, but are not limited to: grade of ore; rare earth and by-product commodity prices; metallurgical recoveries; operating costs; achievement of current timetables for development; strength of the global economy; availability of additional capital; and availability of supplies, equipment and labour. Factors that could cause the Company's actual results, performance, 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

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