

# Management's Discussion and Analysis of Financial Statements for the three and six months ended February 28, 2021

This Management's Discussion and Analysis ("MDA") of Avalon Advanced Materials Inc. (the "Company" or "Avalon") is an analysis of the Company's financial results for the three and six months ended February 28, 2021 (the "Period"). The following information should be read in conjunction with the accompanying unaudited condensed consolidated interim financial statements for the Period and the consolidated financial statements and Annual Information Form for the year ended August 31, 2020. This MDA is prepared as of April 13, 2021.

#### **Nature of Business and Overall Performance**

Avalon is a Canadian mineral development company that is listed on the Toronto Stock Exchange in Canada, traded on the OTCQB Venture Market in the United States and also trades on the Frankfurt Stock Exchange in Germany. The Company seeks to build shareholder value by becoming a diversified sustainable producer and marketer of specialty metals and minerals and by expanding the markets for its mineral products.

Avalon operates primarily in Canada with a focus on the "Technology Metals" or "Cleantech Materials", including lithium, rare earth elements ("REEs"), 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 continues to evaluate new opportunities with near term development potential such as extracting valuable products from mine wastes using new technologies. This is an opportunity the Company has modelled at its East Kemptville Tin-Indium Project and is now looking at on another site in northeastern Ontario called Cargill where there is potential to recover rare earths from tailings at a closed phosphate minesite. The concept is attracting increasing interest from ESG investors promoting the "circular economy" and government, particularly for sites with rare earth elements in the wastes.

All three of the Company's advanced projects have significant mineral resources and preliminary economic evaluations for which the next step is identifying markets for the mineral products and/or processing bulk samples to demonstrate appropriate extraction processes and produce product samples for customer evaluation. Advances in technology can suddenly create new demand for certain critical minerals providing opportunities for new producers if one is in a position to react quickly to serve the new demand. A recent example has been the sudden growth in demand for the "magnet rare earths" neodymium and praseodymium ("Nd-Pr"), coupled with the risk of supply shortages due to China's control of the rare earth supply chain.

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 ("CSR") best practices. In November 2020, the Company released its ninth comprehensive Sustainability Report (the "2020 Sustainability Report") and recently secured a top 5% ESG Risk rating amongst our peer companies from Sustainalytics.

The Company believes that industrial demand for the advanced materials products it seeks to produce, particularly lithium, cesium, tantalum, rare earths and tin, is growing due to their critical importance in an expanding array of applications in new clean technology, notably clean energy generation and storage, and electric vehicles.

# **Resource Development Activities**

Resource property expenditures for the three months ended February 28, 2021 (the "Quarter") totalled \$139,880, a 31% decrease from the level of expenditures (\$203,674) for the same quarter in fiscal 2020 ("Fiscal 2020"), primarily due to the higher expenditures on metallurgical testwork programs completed during the same quarter on the Separation Rapids Lithium Project ("Separation Rapids") and higher expenditures on the East Kemptville Tin-Indium Project to evaluate various tailings management strategies, and re-evaluating the project development model using ore sorting technology, which did not recur during the Quarter. Of these expenditures, 73% were incurred on Separation Rapids, 12% were incurred on the Lilypad Cesium-Tantalum Project ("Lilypad"), and 13% were incurred on the Nechalacho Rare Earth Elements Project ("Nechalacho").

No properties were abandoned or impairment losses recorded during the Quarter.

Resource property expenditures for the six months ended February 28, 2021 (the "Six Month Period") totaled \$251,612 a 38% decrease from the level of expenditures for the six months ended February 29, 2020 (\$406,330). Of these expenditures, 62% were incurred on Separation Rapids Project, 25% were incurred on the Lilypad Project, and 11% were incurred on the Nechalacho Project. Expenditures on the Separation Rapids Project decreased to \$156,468 from \$326,374 in the same period in Fiscal 2020, due to decreased metallurgical testwork. The expenditures on the Lilypad Project increased to \$63,733 from \$Nil in the prior period, as the Company reactivated the Lilypad Project and completed a small fieldwork program during the Six Month Period. Expenditures on Nechalacho holding and storage costs were about the same at \$28,361 compared to \$21,125 in the prior period.

No properties were abandoned or impairment losses recorded during the Six Month Period.

## Separation Rapids Lithium Project

The Separation Rapids property consists of nineteen mineral claims and one mining lease covering a combined area of approximately 4,414 hectares (10,910 acres) in the Paterson Lake Area, Kenora Mining Division, Ontario, all of which are owned 100% by Avalon. The lease covers an area of approximately 421 hectares over the area of the main lithium pegmatite deposit and adjacent lands that may be used for mine development infrastructure. Avalon also owns three aggregate permits along the road to the site, which cover a total area of approximately 16 hectares and are located within the area covered by the claims. 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.

During fiscal 2018, the Company completed an updated preliminary economic assessment ("PEA") on a simplified business model that focuses on initial production of lithium mineral concentrates for the glass industry, with potential for future expansion into production of the battery materials lithium carbonate and/or lithium hydroxide. This smaller scale development model reduces capital expenditure requirements substantially from the lithium hydroxide production model completed in September, 2016, while generating attractive returns and reducing overall business and permitting risk. However, with growing interest in establishing new lithium battery materials supply chains in Canada, the Company is now looking at potentially accelerating its plans to produce lithium battery materials and has identified several potential industrial sites for a lithium refinery in Thunder Bay including one on industrial lands owned by the Fort William First Nation ("FWFN"). Subsequent to the end of the Quarter the Company signed a letter of intent with FWFN to collaborate on the development of this refinery on their lands.

During the Quarter, the Company incurred \$101,748 (2020 - \$169,139) in exploration and development expenditures on the Separation Rapids Lithium Project. Approximately 47% of these expenditures were incurred primarily on the preparation for the bulk sample program which was completed subsequent to the end of the Quarter and on the satellite image topographic survey, 20% were spent on permitting, and 33% were incurred on metallurgical testwork mainly to perform a calcination campaign on 50 kg of petalite concentrate and produce a lithium sulphate solution.

Approximately \$11,500 was also expended on lithium market development work towards securing offtake agreements for the petalite and lithium hydroxide products.

#### **Lithium Markets**

Recent marketing work has been focused mainly on high strength lithium glass-ceramics where a number of new market opportunities have been identified in aerospace technology. Production of petalite product samples for customer evaluation continues with strong interest from customers in Asia. Global lithium carbonate prices are now rising consistent with recent lithium market forecasts showing rapid growth in demand driven mainly by the battery market with supply shortages expected within the next 2-3 years. The Company is also revisiting the potential to produce a lithium hydroxide battery material, as outlined in Avalon's 2016 Preliminary Economic Assessment, because of the new interest in establishing lithium battery materials supply chains in Ontario.

With Ontario Premier Doug Ford recently announcing Ontario's interest in establishing new battery materials supply chains in the province, Avalon has been investigating collaborative opportunities to establish a lithium refinery in Thunder Bay, Ontario, and recently signed a letter of intent with Fort William First Nation to collaborate on developing this refinery on their industrial lands. The refinery being planned would be adaptable for producing different lithium battery materials products, and would also be expandable to increase output and accept concentrates from other aspiring producers of lithium minerals from the many pegmatite deposits that occur in northern Ontario.

With demand for lithium growing rapidly and few advanced lithium projects ready to commence production, the Company remains well-positioned to bring a new supply of high-purity lithium minerals to the market to serve priority customers, once project financing and all required permits are in place. While project permitting has been progressing slowly, it can be accelerated once the project development model is finalized. Further, the Ontario government now recognizes that changes need to be made to the existing regulatory regime ("cutting the red tape") to differentiate critical minerals like lithium from traditional exchange-traded commodities and facilitate their more rapid development in Ontario as part of a new industrial strategy. There is also growing interest in the Federal government to encourage development of critical minerals supply chains for clean technology in Canada, particularly in the context of supporting economic recovery post-COVID-19.

#### **Recent Activities and Future Plans**

The next step in the project's development is to proceed with a pilot plant program on a bulk sample to finalize flowsheet parameters for engineering purposes including reagent recycling and water treatment processes, after which a feasibility study can be completed. The bulk sample collection work program was completed subsequent to the end of the Quarter with the extraction of 5,000 tonnes of mineralized rock of the three different ore types that will be stored and processed separately. The sample was trucked to Kenora where it will be crushed to appropriate size prior to shipping to a metallurgical testing facility for pilot scale work. This work will also generate large product samples meeting the detailed specifications for glass-ceramic customer qualification and acceptance and provide concentrate for further laboratory work on the lithium hydroxide process flowsheet. This process work will begin in April and continue into summer, 2021.

The use of gravity concentration and ore sorting pre-concentration methods are to be further investigated, with the objective of reducing costs for the flotation circuit, reducing energy, reagent use and waste volumes and overall environmental impacts by reducing the amount of feed reporting to the milling circuit. Some additional drilling is also contemplated to collect more geotechnical data for pit and infrastructure design work. Continued exploration including drilling on the Paterson Lake claims in the vicinity of the new Snowbank petalite pegmatite discovery and the Glitter pegmatite is also planned, subject to financing.

In its 2016 Preliminary Economic Assessment, Avalon developed a proprietary process flowsheet to produce a high purity lithium hydroxide product from petalite for the lithium battery material market. The flowsheet has the advantage of generating limited waste by the recycling of the sulphuric acid solvent. To further optimize this flowsheet, Avalon has recently shipped a 50 kg sample of petalite

concentrate to XPS (Expert Process Solutions) in Sudbury, Ontario to generate leach solution for use in optimizing the final stages of the process, which involves the use of electrolysis to produce lithium hydroxide. The program will focus on an improved membrane alternative and efficient crystallization of the final high purity product. The results (expected in June, 2021) will enable finalizing equipment selection and design for the planned lithium refinery.

In the glass-ceramics market, the innovation of new products is creating many new market opportunities for Avalon's petalite product. One such market requires a petalite product that has not been concentrated by froth flotation, as residual reagents on the surface of the product can compromise its performance in this specific glass-ceramic material. Recent testwork conducted at Met-Solve Laboratories, Langley, BC has successfully demonstrated that an acceptable quality petalite product to serve this market can be produced simply by using Dense Media Separation (DMS). The Company's next step is to recover a 20 tonne product sample from the recently collected bulk sample for evaluation by the customer that expressed interest in it. This work is targeted for completion in Q3.

Other testwork underway is focused on ways to reduce processing costs and energy consumption, including alternative milling technologies. Samples from three mineralogical sub-zones within the main Separation Rapids resource were sent to Selfrag AG in Switzerland, for testing using their patented electric pulse disaggregation ("EPD") process. EPD uses high voltage electrical pulses to fragment broken rock along internal mineral grain boundaries. The result is a crushed mass of single mineral particles, as opposed to the less selective breakage that occurs with traditional mechanical comminution methods. Avalon believes EPD is the most relevant alternative milling method for reducing over-grinding and improving overall petalite recoveries as well as reducing energy consumption.

The Company has commenced satellite image surveying of the total property area covering 100 km² which will result in computer-based topographic information with 1 metre survey grid and 1 metre contours. This information will be valuable for further project engineering and environmental studies in the feasibility study.

#### **Environmental Assessment and Community Engagement**

Avalon is committed to developing the Separation Rapids Lithium Project based on modern CSR principles and reporting on its performance in its annual Sustainability Report. These CSR principles include commitments to minimize environmental impacts, ensuring the health and safety of employees, creating benefits for local communities and providing full transparency in its social and environmental performance. The Company and the project are now well known in the local community.

The project is located in the traditional land use area of the Wabaseemoong Independent Nations ("WIN") for which they have stewardship under an agreement with the Province. The Company first signed an MOU with WIN in 1999 which was renewed when the project was reactivated in 2013. Avalon management has been keeping WIN leadership informed on project activities and remains committed to fulfilling its community consultation obligations and partnering with WIN on business opportunities and providing training for community members. The Company has also initiated dialogue with the Métis Nation of Ontario which holds Indigenous rights in the area. Engagement is ongoing with local Indigenous communities, regulators, and local government most recently on the update of the closure plan for the planned bulk sample program. All the Indigenous groups continue to be supportive of the project.

Environmental studies of the proposed power transmission line route are planned and opportunities to reduce costs and greenhouse gas ("GHG") footprint with green energy supply are also being investigated. With the exception of the powerline route study, the environmental studies necessary for permitting are largely complete, though some minor updates are planned. A Toronto University Capstone Masters Project was initiated to assess green energy production options and other opportunities to reduce environmental impacts. Once applications are submitted, it is anticipated that

all necessary permits for construction can be obtained in under a year. Construction activities for many project components can be initiated prior to receipt of all permits.

Avalon received the necessary approvals in 2020 to proceed with the 5,000 tonne bulk sample extraction program noted above to recover petalite product samples. This includes acceptance for filing by the Ministry of Energy, Mines and Northern Development of the Company's revised Closure Plan for Advanced Exploration dated January 22, 2020, which was received on May 29, 2020, and the September 13 Mining Act Section 91 Exemption.

As a result of progressive rehabilitation and improvements to the closure plan, financial assurance to be filed with the plan is significantly less than that which is already filed for the existing advanced exploration permit. A maintenance agreement and Quarry Permit from the Ministry of Natural Resources and Forestry allows for any needed road maintenance work, if required for bulk sampling. In an effort to minimize site environmental impacts and reduce costs, an application for a quarry amendment was submitted. This amendment, approved on March 25, 2020, allows unlimited extraction of aggregate from its dimension stone quarry and would permit the bulk sample crushing at the quarry site. Avalon continued the development programs with existing inventory of sample material. The Company decided to proceed with the bulk sampling program during the winter months to take advantage of the frozen ground conditions for ease of transport. As a result, planned upgrades to the access road can be delayed until summer 2021, reducing the bulk sample collection costs. Collection of this sample was completed by April 1, 2021 with minimal road maintenance required.

Unless otherwise noted, the technical information on the Separation Rapids Lithium Project has been reviewed and approved by the Company's Consulting Metallurgist, Mr. David Marsh, FAusIMM (CP), or Dr. William Mercer, PhD, P.Geo. (Ontario), Vice President, Operations, who are both Qualified Persons under NI 43-101.

# **Nechalacho Rare Earth Elements Project**

The Nechalacho Rare Earth Elements Project is located at Thor Lake in the Mackenzie Mining District of the Northwest Territories ("NWT"), approximately 100 kilometres southeast of the city of Yellowknife. The property is comprised of eight contiguous mining leases totalling 5,786 hectares (14,297 acres), after three mining claims totalling 332 hectares on the southwest side of the original five leases were converted to mining leases. The original five leases are subject to one independently owned 2.5% Net Smelter Returns ("NSR") royalty agreement. Avalon has the contractual right to buy out this royalty on the basis of a fixed formula, which is currently approximately \$1.6 million, and which will increase at a rate equal to the Canadian prime rate until the royalty is bought out.

During Fiscal 2020, Avalon sold the rights to the near-surface mineral resources above a depth of 150 metres above sea level ("Upper Zone Resources") to Cheetah Resources Pty Ltd. ("Cheetah"). Avalon retained a 3.0% NSR royalty (the "3.0% NSR Royalty") and will continue to have access to the property for development and mining of its 100% owned Basal Zone resources. Avalon has also agreed to waive the 3.0% NSR Royalty for the first five years of Cheetah's commercial production and to grant Cheetah the option to pay the Company \$2 million within eight years of the transaction closing to extend the waiver of this royalty in perpetuity. Cheetah also has the option to purchase the Company's option in the 2.5% NSR Royalty, provided that, upon exercising the option, it extinguishes this royalty. The eight mining leases are jointly recorded in the names of Cheetah 50% and the Company 50%, while the beneficial ownership is held in trust by Cheetah and Avalon as to their respective beneficial ownership entitlement in and to the Upper Zone Resources and the Basal Zone Resources, respectively. Avalon and Cheetah have formed a jointly-owned corporation (NWT Rare Earths Ltd.) to hold the exploration permits and related authorizations related to Nechalacho and have also entered into a co-ownership agreement governing each party's activities and management at site. On November 30, 2020, a new Land Use Permit MV2020D0013, expiring November 29, 2025 and Water License expiring November 29, 2027 were approved for both the Cheetah Demonstration Project and the previously approved Avalon Nechalacho early works construction activities.

Expenditures during the Quarter were \$17,975 (2020 - \$8,443), which were incurred primarily on annual mining lease fees and on-going sample storage costs.

# East Kemptville Tin-Indium Project

The 100% owned East Kemptville Tin-Indium Project is located 55 km northeast of Yarmouth, Nova Scotia, Canada. The property consists of an exploration licence covering 1,165 hectares (2,880 acres). East Kemptville was an operating tin mine from 1985-1992 and was North America's only large primary tin producer, before closing prematurely in 1992 due to a collapse in tin prices. Increasing global demand for tin and tightening supplies has resulted in improved tin prices, creating an opportunity for Avalon to consider re-developing East Kemptville.

The Company completed a preliminary economic assessment during fiscal 2018 with a development model of utilizing the existing tailings management area ("TMA") and had been in negotiation with the surface rights owner to secure full tenure to the project site. Agreement in principle was reached in Fiscal 2019, however, the surface rights owner subsequently refused to sign the agreement after putting on hold on any new work on TMAs on all of its closed minesites. Not having access to the existing unused tailings ponds severely limits the possibilities for economic redevelopment of the site. This realization, coupled with the continuing difficulties in getting surface access to the project site, caused the Company to decide to withdraw its mineral lease application and the Company wrote off the costs incurred to-date of \$5,587,210 as an impairment loss during Fiscal 2020.

The Company did not incur any significant expenditures (2020 - \$26,092) during the Quarter on the East Kemptville Tin-Indium Project. The Company continues to retain the mineral rights through its exploration licence, and management remains optimistic that the Company will eventually be able to secure access to the site again to resume its site redevelopment plans.

# Lilypad Cesium-Tantalum Project

The Lilypad Cesium-Tantalum Project consists of 14 claims, comprising 166 new claim units or cells, totaling slightly over 3,299 hectares (8,152 acres), covering a field of lithium, cesium, tantalum ("LCT") mineralized pegmatites, and located 150 kilometres northeast of Pickle Lake, Ontario. The claims were staked between January, 1999 and October, 2000 and are 100% owned by the Company with no underlying royalties. Previous owners of the property drilled some 50 shallow drill holes, and Avalon completed 32 drill holes totaling 4,781 metres in 2000 and 2001 in a program focused primarily on the tantalum potential. These produced encouraging initial results including the discovery of significant cesium mineralization as the cesium ore mineral pollucite (Cs,Na)<sub>2</sub>Al<sub>2</sub>Si<sub>4</sub>O<sub>12</sub>·2H<sub>2</sub>O) assaying up to 6.205% Cs<sub>2</sub>O over 1.70 metres along with significant tantalum mineralization assaying over 0.10%Ta<sub>2</sub>O<sub>5</sub>. Lithium commonly occurs in these pegmatites both as spodumene and as lepidolite in association with the pollucite and tantalite mineralization.

The project had been inactive since 2002 but was re-activated in 2020 due to rising demand for cesium. New demand for cesium emerged in 2018 with the cessation of pollucite production at the Tanco mine in Manitoba. Then in 2019, Cabot Corp. announced the sale of its Specialty Fluids division (owner of the Tanco Mine) to Sinomine, a large Chinese mining and chemical company focused on critical minerals supply. This potentially creates new market opportunities for Avalon to serve with its cesium, tantalum and lithium products. There is now also renewed interest in tantalum due to limited supply sources and growing demand in new technology.

Some 75% of cesium production has been used to make cesium formate: a high density, low viscosity fluid used in deep offshore oil drilling. Cesium formate has a value of approximately US\$2,200/kg and is leased to oil well drilling companies and recycled after use. Other cesium products often sell at prices from US\$200-1,000/kg. Cesium has a variety of other high technology applications, including extremely accurate atomic clocks, and great potential in a range of applications in the production of electronics, photoelectric cells and in specialty glass applications.

During the Six Month Period, the Company carried out a brief field program to collect 200 kg of cesium mineralized pegmatite rock for study on how to efficiently concentrate the pollucite mineralization which, unlike most such occurrences, is found widely distributed throughout the many LCT pegmatite dykes on the property. Follow-up work now in progress will involve mineralogical and analytical testwork to characterize in detail how the pollucite occurs, followed by metallurgical process testwork to identify the most efficient methods for concentrating the pollucite and recovering by-product tantalum and lithium. This includes recent testwork using the Selfrag AG EPD process and sensor-based ore-sorting testwork conducted in January, 2021. Some results from this work have been received and are currently being analysed. Depending on the results, further sorting work will be conducted and methods for further concentrating explored.

Most of the 200 kg of sample material was collected from one occurrence known as the Pollucite Dyke. Five duplicate analyses of two subsamples of the 200 kg averaged 3.02%  $Cs_2O$ , 0.038%  $Ta_2O_5$  and 1.07%  $Li_2O$  with a range of  $Cs_2O$  from 2.95% to 3.09%. This is similar to grades obtained in historic trench sampling and also similar to the historic previously estimated average grade of the deposit adding confirmation of historic data. Similar results were obtained from grabs of drill core stored at site.

It was drilled by Avalon in 2001 and a preliminary resource was estimated in 2001 to contain roughly 340,000 tonnes grading 2.294% Cs<sub>2</sub>O and 0.037% Ta<sub>2</sub>O<sub>5</sub>\* based on 9 holes drilled to a maximum vertical depth of 250 metres. The resource is open to depth and along strike for expansion. Other similar pollucite-bearing LCT pegmatite dykes on the property remain untested. Work is underway to verify this resource estimation under present CIM Standards for NI 43-101. Detailed mineralogical and geochemical studies are being undertaken at McGill University for modelling the origin and genesis of these unique pegmatite dykes to help guide further exploration.

Additional exploration work is planned for summer 2021 and will include geological mapping and geochemical sampling to identify new tantalum-cesium drill targets. A follow-up drilling program is planned for the fall of 2021, to test any new targets and do additional drilling on the Pollucite Dyke. Preliminary environmental studies can also be initiated. Future development of the project would be positively impacted by new infrastructure development, including road access, to the Ring of Fire mineral projects located further to the north.

The project is located in the traditional territory of the Eabametoong First Nation ("EFN"), approximately 25 km west of the community of Fort Hope. The Company has been in communication with EFN Chief Harvey Yesno toward restarting formal consultation with the EFN community leadership and discussions on exploration support services that community members can provide for the planned 2021 summer field program.

The Company incurred \$17,107 (2020 - \$Nil) in expenditures during the Quarter on the Lilypad Cesium-Tantalum Project, which were mainly spent on the laboratory analysis on samples collected during the fall 2020 fieldwork program.

\*Cautionary note: the Lilypad resources described above are considered historic under NI 43-101 guidelines and have not been verified by an independent QP and therefore should not be relied upon. The Company is not treating the historic estimate as a current resource.

#### **Other Projects**

#### **Clean Technology Business Opportunities**

Avalon is also continuing to evaluate the opportunity to apply an innovative new extraction technology called NanoBeads® developed by Precision Periodics to recover rare earths and other metals from historic mine wastes including acid mine drainage. There are many such sites in North America where the waste may contain critical minerals that had no value when the mine was in operation but do today. This technology could have broad application at many of these sites. Avalon plans to collaborate with the innovators of the technology, Precision Periodics, to implement it on a trial basis at other closed base and precious metals mine sites in Canada or in the US. Some producing mining

companies such as Rio Tinto, are now recovering critical minerals including scandium from current tailings streams as part of a corporate strategy referred to as "Full-Value Mining".

Management sees enormous growth potential in this emerging sector and good opportunities for accessing capital from the many government programs oriented towards cleantech development and from the growing international Impact/ESG investment community. This is also consistent with the growing interest in establishing the "Circular Economy" through innovative recycling of waste materials.

Government is increasingly committed to supporting the establishment of new critical minerals supply chains in Canada including in Ontario where the Province just announced the creation of a new critical minerals strategy on March 10<sup>th</sup>. Avalon is continuing to support the efforts of policymakers to implement needed regulatory changes to recognize critical minerals as a unique sub-sector of the mineral industry. Central to this need is recognizing the importance of bulk sampling at the early stages of exploration to determine if the mineralization of economic interest can be efficiently processed to make a product that will be accepted in the market.

During the Quarter, the Company entered into a binding letter of intent (the "LOI") to purchase ownership of 2333382 Ontario Inc. ("2333382"), a private Ontario corporation which owns four industrial minerals properties and a demonstration-scale processing plant located at Matheson, Ontario. Among the industrial minerals property assets owned by 2333382 is an asset transfer agreement giving 2333382 the right to acquire full title to the mining leases of the former phosphate mine on the Cargill Carbonatite Complex near Kapuskasing, Ontario. This carbonatite complex hosts significant concentrations of a number of critical minerals including rare earths, contained both in the bedrock and in the mine tailings.

Work done by 2333382 has demonstrated that the estimated 12.5 million tonnes of tailings contain phosphate levels ranging from 15-20%  $P_2O_5$  and can be sold "as is" for use in various agricultural fertilizer products. Sales of these phosphate-rich tailings are already generating revenues for 2333382 with considerable potential for growth as demand for phosphate mineral products is increasing. Analytical work done by 2333382 and Avalon on the tailings to date indicates the presence of significant concentrations of rare earths, scandium and zirconium, which preliminary testwork indicates will be recoverable through additional processing of the tailings. This provides significant potential for future revenue growth.

The total purchase price to be paid by the Company will be \$16 million, payable in a combination of cash and common shares of Avalon over a period of two years. The initial payment of \$200,000 in cash and the issuance of 1,000,000 common shares have been paid subsequent to the end of the Quarter. The balance of the purchase price will be made in four instalments on the following schedule:

- i) on or before August 15, 2021, \$900,000 in cash, of which 50% can be paid in common shares at the Company's discretion;
- ii) on or before February 15, 2022, \$3 million in cash;
- iii) on or before August 15, 2022, \$3 million in cash; and
- iv) on or before February 15, 2023, \$8,700,000 in cash.

The Company will also assume responsibility for managing all of 2333382's ongoing operations upon posting of a Letter of Credit in the amount of \$23.7 million with the Ontario government to meet current closure plan financial assurance requirements at the Cargill site. Discussions are in progress with a number of lenders and surety providers toward securing the required Letter of Credit.

During the Quarter, the Company also staked six mineral claims in close proximity to the Cargill Carbonatite Complex.

# Warren Township Anorthosite Project

Avalon is considering reactivating its wholly-owned Warren Township Anorthosite Project in view of growing demand for the calcium feldspar product, which is being driven by innovation in glass

technology and space exploration technology. The property is covered by a lease of 688 hectares (1,699 acres). The high-quality calcium feldspar product is used in the manufacture of reinforcing glass fibre and other industrial products, such as mineral fillers. The market has continued to grow with new emerging cleantech applications, such as composites for wind turbine blades.

Recently, there has been demand for small quantities of the crushed anorthosite rock for use as a "lunar simulant" due to its mineralogical similarity with dust on the surface of the moon. There is considerable research into developing lunar vehicles where lunar simulant is needed to replicate conditions on the moon. The Shawmere anorthosite at Warren Township is ideally suited for this purpose.

The Company is now in the process of compiling all the historic drilling and analytical data and bringing them into up-to-date digital file formats. This was supported by a recently completed drone topographic and photographic digital survey. Samples of crushed anorthosite have recently been supplied to interested lunar simulant customers outside Canada.

# **Corporate Social Responsibility**

In November 2020, the Company released its 2020 Sustainability Report, which is now available for download on the Company's website at: <a href="http://www.AvalonAM.com">http://www.AvalonAM.com</a>. During the Quarter the Company announced receiving its Environmental, Social and Corporate Governance ("ESG") Risk Rating following an independent audit of the Company's business practices and policies performed by Sustainalytics, a Morningstar company. Avalon received an ESG Risk Rating of 28.9 in its industry, Diversified Metals, and ranked among the top 5% of 150 industry companies analyzed globally. The benefits of obtaining an ESG Risk Rating include the ability to provide better access to ESG investment capital, and the ability to gain commercial benefit from the rating externally with creditors, suppliers and other stakeholders.

The 2020 Sustainability Report was prepared in accordance with the Global Reporting Initiative's Global Reporting Standards. It incorporates a self-assessment of Fiscal 2020 performance and sets targets for 2021 against the applicable and updated Mining Association of Canada "Toward Sustainable Mining" indicators. A risk assessment was completed related to the COVID 19 pandemic and detailed office re-opening procedures were developed and training completed for all employees. The office remains largely closed with most employees still working from home and only occasionally visiting the office. No COVID 19 related illnesses have been reported.

Avalon is committed to working closely with its Indigenous partners to create lasting economic and social benefits in the communities. Dialogue is ongoing with Wabaseemoong Independent Nations ("WIN") and Métis Nation of Ontario with respect to the Separation Rapids Lithium Project, and was expanded with the announcement of a plan to collaborate with Fort William First Nation on the planned lithium refinery in Thunder Bay. This will help create opportunities for other First Nations in Northern Ontario to develop future supplies of lithium mineral concentrates for the refinery. Dialogue continued during the Quarter with Eabametoong First Nation Chief, Chief Harvey Yesno, toward re-starting work on the Lilypad Cesium-Tantalum Project. Avalon also has an MOU with the Chapleau Cree First Nation regarding the Warren Township Anorthosite Project, which it hopes to re-activate in 2021.

Avalon's leading sustainability efforts are also benefitting the exploration industry. Avalon is supporting the PDAC, the Ontario Mining Association and the Mining Association of Canada in their efforts to educate regulators and policymakers regarding the need to update regulations in order to encourage more and sustainable development of critical minerals resources in Canada that are vital for establishing the new clean economy in Canada and to ensure access to land for exploration purposes.

The Company's focus is on materials that enable clean technology, including electric vehicles, power storage, solar and wind power. In order to do this sustainably, Avalon designs its operations to minimize environmental impacts and greenhouse gas emissions, while planning for rehabilitation and productive use of the land post closure. The Company also now incorporates a staged-development approach to its cleantech materials projects, which involves starting production at a modest scale, to

minimize project footprint and potential risks to environment, while also reducing investment risk and creating opportunities for its Indigenous business partners. Further, Avalon is a leader in looking at closed mine sites as opportunities to remediate long term environmental liabilities through economic extraction of valuable minerals from waste materials using new technologies such as sensor-based ore-sorting or the Precision Periodic extraction technology.

In response to the increasing concern expressed by regulators, insurers, investors, customers and other communities of interest, and building on its historic success in reducing greenhouse gas emissions, Avalon has continued to evaluate the potential to become carbon neutral by 2050. In conjunction with climate change risk assessment, Avalon is investigating a wide range of opportunities and potential barriers to cost effectively achieving this, and is cautiously optimistic that a serious and realistic commitment to achieving this goal can be made.

Being a recognized sustainability leader reduces costs and facilitates good relationships with communities, which helps reduce risk of experiencing lengthy delays in receiving operating permits and approvals. This also helps facilitate the acquisition of our social license to operate. Avalon believes that responsible users of our cleantech materials will require increasingly sustainable sources for their materials which we believe will provide Avalon with a competitive advantage in securing market access for its products.

## **Administration and Other**

Interest income decreased to \$1,325 compared to \$9,949 in the comparable quarter in Fiscal 2020. During the Quarter interest-bearing cash balances as well as interest rates were lower than the comparative quarter in Fiscal 2020.

Management fees of \$1,006 were earned in the Quarter (2020 - \$11,119) related to the management and support of Cheetah's work programs at Nechalacho, which have substantially wound up and are only continuing at a de minimis level.

Corporate and Administrative expenses totalled \$470,268 during the Quarter, a 15% decrease from the amount incurred during the comparative quarter in Fiscal 2020 (\$556,029). The main areas of decreased operating expenses for the Quarter were expenses on salaries and benefits and investor relations expenses, which were partly offset by higher corporate filing and legal fees.

Salaries and benefits decreased by \$32,895 (11%) to \$260,851 compared to \$293,746 for the same quarter in Fiscal 2020. This decrease is primarily related to a reduced level of staffing and the Canada Emergency Wage Subsidy.

Expenses on public and investor relations decreased by \$60,451 (72%) compared to the same quarter in Fiscal 2020. The decrease is primarily related to a reduced level of investor relations activities carried out by consultants, reduced travel and a reduced number of investor conferences attended during the Quarter due to COVID-19 compared to the same quarter in Fiscal 2020. Investor relations activities during the Quarter continued to involve responding to regular email and phone inquiries and occasional participation by the CEO in virtual investor conferences and critical minerals webinars along with a well attended virtual presentation to shareholders following the formal AGM held virtually on February 25.

Expenses on marketing, sales and government relations decreased by \$19,883 (49%) to \$20,480 during the Quarter compared to the same quarter in Fiscal 2020 primarily due to government relations activities are now being conducted inhouse.

Corporate filing and legal fees increased by \$24,052 (32%) compared to the same quarter in Fiscal 2020. The increase is primarily related to the increased filing fees and legal work relating to the Company's share capital amendment, which was completed on March 15, 2021.

Expenses on general exploration decreased by \$49,572 to \$19,679 during the Quarter compared to \$69,251 in Fiscal 2020. Higher metallurgical testwork expenditures were incurred to evaluate a potential project in Fiscal 2020, which did not reincur during the Quarter.

Depreciation expense decreased by \$32,867 to \$26,371 during the Quarter compared to \$59,238 for the same quarter in Fiscal 2020. This decrease is primarily due to the rent subsidy under the Canada Emergency Rent Subsidy programs recognized during the Quarter relating to the Company's leased office premises.

Share based compensation expense totalled \$30,759 for the Quarter compared to \$19,112 for the same quarter in Fiscal 2020. This increase is primarily related to the increased number of options earned during the Quarter compared to the same quarter in Fiscal 2020.

The Company recognized a financing transaction cost expense of \$1,274,563 during the Six Month Period relating to the issuance of the convertible note payable issued during Quarter.

At each reporting period date, the fair values of the Company's outstanding derivative liabilities (which included the warrants denominated in US\$ and warrants with exercise prices that are subject to adjustment from time to time in the event of certain common share rights offerings, collectively referred to as "liability classified warrants") are re-measured using the Black-Scholes pricing model, which resulted in a loss of \$2,146,464 and a loss of 2,339,521 in the Quarter and in the Six Month Period, respectively, compared to a gain of \$25,089 and a gain of \$16,198 in the comparable quarter and six month period in Fiscal 2020, respectively. The changes in the estimated value of these warrants are mainly caused by the fluctuation in the trading price of the Company's common shares between the beginning and end of the reporting periods, and the issuance of 9,800,000 liability classified warrants during the Quarter.

Consistent with the Quarter and for similar reasons, interest income decreased to \$2,341 compared to \$19,939 for the Six Month Period compared to the same period in Fiscal 2020.

Consistent with the Quarter and for the same reason, management fees earned in the Six Month Period decreased to \$3,076 compared to \$101,106 for the same period in Fiscal 2020 related to the management of Cheetah's work programs at Nechalacho.

For the Six Month Period, corporate and administrative expenses totalled \$984,295 compared to \$1,136,006 for the same period in Fiscal 2020. The main areas of decreased operating expenses for the Six Month Period were salaries and benefits and investor relations expenses, which were partly offset by higher audit and legal fees.

Consistent with the Quarter and for similar reasons, salaries and benefits for the Six Month Period decreased by approximately 19% to \$529,219, compared to the same period in Fiscal 2020.

Consistent with the Quarter and for similar reasons, investor relations expenses decreased by \$97,010 (57%) to \$74,729 during the Six Month Period compared to the same period in Fiscal 2020.

Audit and legal fees increased by \$80,523 (156%) compared to the same quarter in Fiscal 2020. The increase is primarily related to the increase in fees for the audit of the Company's financial statements for Fiscal 2020 and the increased legal work with respect to the Company's share capital amendment and in reviewing the Company's governance documents and the Company's Deferred Share Unit ("DSU") Plan and Restricted Share Unit ("RSU") Plan.

Share based compensation increased to \$56,003 from \$36,933 during the Six Month Period compared to the same period in Fiscal 2020. This increase is primarily related to the increase in the number of options earned during the Six Month Period compared to the same period in Fiscal 2020.

The fair values of the Company's outstanding convertible redeemable preferred shares were remeasured quarterly, which resulted in a loss of \$7,875 and a loss of \$39,375 for the quarter and six months ended February 29, 2020, respectively. All of the Company's preferred shares had been

converted into common shares prior to the beginning of the Six Month Period, and accordingly there is no comparable expense in the Quarter and the Six Month Period.

# **Summary of Quarterly Results**

The following selected financial data is derived from the unaudited condensed consolidated interim financial statements and financial information of the Company.

Fiscal Year		202	2019					
For the Quarters Ended	Feb. 28	Nov. 30	Aug. 31	May 31	Feb. 29	Nov. 30	Aug. 31	May 31
	\$	\$	\$	\$	\$	\$	\$	\$
Revenue	2,331	3,086	4,813	8,280	21,068	99,977	13,301	10,655
Net Income (Loss) before discontinued operations	(3,945,714)	(758,116)	(5,913,590)	(578,071)	1,700,782	(576,385)	(50,259)	(1,127,319)
Net Income (Loss)	(3,945,714)	(758,116)	(5,913,590)	(578,071)	1,700,782	(576,385)	(50,259)	(1,127,319)
Income (Loss), per share, basic	(0.011)	(0.002)	(0.017)	(0.002)	0.005	(0.002)	(0.000)	(0.004)
Income (Loss), per share, diluted	(0.011)	(0.002)	(0.017)	(0.002)	0.005	(0.002)	(0.000)	(0.004)

The fluctuation in quarterly net loss is primarily due to share-based compensation expenses recognized as stock options granted to directors, officers, employees and consultants of the Company are earned, the gain on sale of property, plant and equipment, the impairment losses recognized on resource properties, changes in the fair value of derivative liabilities and convertible redeemable preference shares, and expensed financing transaction costs. The costs of resource properties are written down at the time the properties are abandoned or considered to be impaired in value.

# **Liquidity and Capital Resources**

In management's view, given the nature of the Company's operations, which consists mainly of the exploration and development of mineral properties, the most relevant financial information relates primarily to current liquidity, solvency, and planned property expenditures. The Company's financial success will be dependent on the economic viability of its resource properties and the extent to which it can develop its mineral resources. Such development may take several years to complete and the amount of resulting income, if any, is difficult to determine. The sales value of any mineralization discovered by the Company is largely dependent on factors beyond the Company's control, including the market value of the metals and minerals to be produced.

The Company manages its capital structure and makes adjustments to it based on the funds available to the Company in light of changes in general economic conditions, the Company's short term working capital requirements, and its planned exploration and development program expenditure requirements.

As the Company is in the development stage, its principal source of capital is from the issuance of equity securities. In order to achieve its objectives, the Company expects to spend its existing working capital and raise additional funds as required.

The outbreak of the novel strain of coronavirus, specifically identified as "COVID-19", has resulted in governments worldwide enacting emergency measures to combat the spread of the virus. These measures, which include the implementation of travel bans, self-imposed quarantine periods and social distancing, have caused material disruption to businesses globally resulting in an economic slowdown. Global equity markets have experienced significant volatility and weakness. Governments and central banks have reacted with significant monetary and fiscal interventions designed to stabilize economic conditions. The duration and impact of the COVID-19 outbreak is unknown at this time, as is the efficacy of the government and central bank interventions. It is not possible to reliably estimate the length and severity of these developments and the impact on the Company's ability to raise capital, its financial results or its financial condition. The Company is

implementing measures to reduce costs and preserve working capital during this period of reduced business activity. While the Company has closed its office temporarily due to the COVID-19 pandemic, staff continue to work from home on a reduced work schedule in anticipation of resuming project field work when it is safe to do so. Very minor field work, such as sample collection, has continued where possible under acceptable conditions.

On January 29, 2021, the Company issued a convertible note payable in the amount of \$3,000,000 to an entity managed by the Lind Partners ("Lind") (the "Note"). The Note has a term of two years with a maturity date of January 29, 2023 and accrued an interest amount of \$600,000 on the date of issuance, resulting in the Note to bear a face value of \$3,600,000 at issuance.

Lind is entitled to convert any outstanding amount of the face value of the Note into common shares commencing on May 30, 2021 at a conversion price equal 85% of the five day trailing value weighted average price of the common shares prior to the date of conversion. The Company has the right to repurchase the Note at the outstanding face value at any time, subject to the holder's option to convert up to one third of the original value into common shares prior to the Company's repurchase.

In conjunction with the issuance of the Note, Lind received a closing fee of \$90,000 and 9,800,000 common share purchase warrants. Each warrant entitles the holder to purchase one common share of the Company at a price of \$0.18 per common share until January 29, 2025.

The number of common shares to be issued would be 16,608,997 if the entire Note had been converted into common shares based on the closing price of the Company's common shares on the TSX of \$0.255 on February 28, 2021.

As at February 28, 2021, the Company has current assets of \$3,712,056 and current liabilities of \$1,076,196, and its working capital was \$2,635,860. Excluding the deferred flow-through share premium of \$74,874, the Company's adjusted working capital as at February 28, 2021 was \$2,710,734, (calculated by adding back the deferred flow-through share premium of \$74,874 to the working capital of \$2,635,860). As the de-recognition of the deferred flow-through share premium will not require the future out flow of resources by the Company, it is management's belief that the adjusted working capital figure provides useful information in assessing the Company's liquidity risk.

The Company's monthly operating expenditures, excluding expenditures on resource property work programs, average \$210,000 during periods of moderate project activity. The Company's contemplated resource property expenditures for Fiscal 2021, assuming the requisite financing is in place, are budgeted at approximately \$3,200,000 (excluding capitalized salaries and benefits), of which approximately \$225,000 had been incurred by February 28, 2021.

The Company will need to raise additional capital to fund significant new work programs on the Separation Rapids Lithium and Lilypad Cesium-Tantalum Projects. Initiatives to raise additional capital are on-going and include flow-through equity financing for planned exploration work programs. There continues to be increasing investor interest in critical minerals for clean technology creating many new opportunities to access capital including from the growing ESG investment community. Having the new ESG risk rating will improve access to ESG oriented risk capital including Green Bonds. Discussions with potential joint venture partners to provide project financing are also ongoing and the Company is continuing to prioritize financing opportunities that will minimize the potential for excessive shareholder dilution. The Company's expenditures on discretionary exploration and development activities have some scope for flexibility in terms of amount and timing, which can be adjusted accordingly.

The Company does not have any externally imposed capital requirements other than those certain Redemption Events contained in the preferred share terms. The Company continues to work on attracting more substantial project financing through the participation of one or more strategic partners, a long term construction debt financing facility, and/or through the equity markets. If the Company is not able to secure financing on satisfactory terms, expenditures on the development of its projects will need to be delayed.

All of the Company's resource properties are owned, leased or licenced with minimal holding costs. The most significant holding costs being annual lease rental fees on Nechalacho of \$24,841 (which will now be shared 50/50 with Cheetah) and the annual expenditures related to the mining leases at Separation Rapids and Warren Township totalling \$3,327. As at February 28, 2021, the Company is required to incur additional Canadian Exploration Expenditures of \$295,225 by December 31, 2021. This amount represents the required expenditures resulting from the private placement completed in August 2020. The Company also has additional payment requirements pursuant to the 2333382 LOI as outlined earlier under "Other Projects".

A joint venture with an industry partner or end-user may represent an attractive alternative for financing the further stages in the development of any of the Company's projects once the capital requirements become relatively large.

The Company has a lease for its premises. As at the date of this MDA, the minimum lease commitments under this lease are as follows:

Fiscal year ended August 31,	2021	\$ 73,729
•	2022	\$ 222,556
	2023	\$ 229,181
	2024	\$ 233,563
	2025	\$ 63.280

# **Off Balance Sheet Arrangements**

As at February 28, 2021, the Company had no material off balance sheet arrangements such as guaranteed contracts, contingent interests in assets transferred to an entity, derivative instrument obligations or any instruments that could trigger financing, market or credit risk to the Company.

### **Transactions with Related Parties**

Balances and transactions between the Company and its subsidiaries have been eliminated on consolidation and are not disclosed here. Details of the transactions between the Company and other related parties are disclosed below:

#### a) Trading transactions

There have been no material trading transactions with related parties during each of the six months ended February 28, 2021 and February 29, 2020.

## b) Compensation of key management personnel

The remuneration of directors and other key members of the Company's senior management team during each of the three and six months ended February 28, 2021 and February 29, 2020 are as follows:

	Three Months Ended				Six Months Ended			
	February 28, 2021		February 29, 2020		February 28, 2021		February 29, 2020	
Salaries, benefits and directors' fees <sup>(1)</sup> Share based compensation <sup>(2)</sup>	\$	270,857 17,610	\$	292,989 16,328	\$	579,319 34,217	\$	655,041 32,234
	\$	288,467	\$	309,317	\$	613,536	\$	687,275

<sup>(1)</sup> Salaries and benefits of key management personnel capitalized to exploration and evaluation assets and PPE for the Quarter and for the Six Month Period totaled \$15,492 (February 29, 2020)

- \$62,379) and \$36,891 (February 29, 2020 \$143,537), respectively.
- (2) Fair value of stock options earned and recognized as share based compensation during the respective reporting period.

# **Subsequent Events**

Subsequent to the end of the Quarter, the Company:

- a) Granted an aggregate of 700,000 stock options with a weighted average exercise price of \$0.23
  per share to an employee and certain consultants of the Company. The weighted average
  contract life of these options at issuance was 3.7 years;
- b) issued 1,197,500 common shares pursuant to the exercise of 1,197,500 stock options with a weighted average exercise price of \$0.11 per share;
- c) issued 1,537,500 common shares pursuant to the exercise of 1,537,500 warrants with a weighted average exercise price of \$0.07 per share;
- d) paid the initial payment of \$200,000 in cash and issued 1,000,000 common shares pursuant to the LOI as described under "Resource Development Activities";
- e) cancelled 243,750 stock options with a weighted average exercise price of \$0.09 per share; and
- f) completed its share capital amendment, which involved amending the Company's articles to reflect a 500:1 consolidation of the Company's common shares, immediately followed by a 1:500 split of the Company's post-consolidated common shares on March 15, 2021 (the "Share Capital Amendment"). Shareholders who held less than 500 common shares in the form of a physical certificate immediately prior to March 15, 2021 ("Registered Shareholder") were paid a cash payment in exchange for their shares (the "Cash Payment") equal to the number of common shares they held immediately prior to the Share Capital Amendment multiplied by \$0.21, which is the volume weighted average trading price of the common shares on the TSX during the five consecutive trading days prior to March 15, 2021. Shareholders holding less than 500 common shares in a brokerage account immediately prior to the March 15, 2021, and who so elected through their intermediary, have been paid the Cash Payment. All other shareholders continued to hold the exact same number of shares after the Share Capital Amendment that they did prior to the Share Capital Amendment.

As a result of the Share Capital Amendment, a total of 955,949 common shares has been redeemed and cancelled, of which 932,366 shares were elected by shareholders who held their shares in a brokerage account, and the balance of 23,583 shares were held by Registered Shareholders.

# **Financial Instruments**

The Company's financial instruments consist of cash and cash equivalents, receivables, accounts payable and accrued liabilities, warrants denominated in foreign currency, and warrants with exercise prices that are subject to adjustment from time to time.

Management does not believe these financial instruments expose the Company to any significant interest, currency or credit risks arising from these financial instruments. The fair market values of cash and cash equivalents, receivables, accounts payable and accrued liabilities and convertible note payable approximate their carrying values.

The Company has 6,466,513 warrants outstanding as at February 28, 2021 with an original exercise price of US\$0.56 per share ("US\$ Warrants"). These warrants are subject to certain anti-dilution provisions, which may reduce the exercise price, with a floor of US\$0.5095 per share. The adjusted

exercise price as calculated by the anti-dilution provisions as at February 28, 2021 and as at the date of this MDA is US\$0.5223. These warrants are exercisable until June 13, 2021. These warrants were recorded at fair value at the time of issuance, and are re-measured at fair value using the Black-Scholes pricing model at each financial statement reporting date, with the resulting change in fair value being recorded in the statement of comprehensive loss.

Interest income from cash and cash equivalents are recorded in the statement of comprehensive loss.

# **Outstanding Share Data**

## a) Common and Preferred Shares

The Company is presently authorized to issue an unlimited number of common shares without par value. The Company is also authorized to issue up to 25,000,000 preferred shares without par value, of which 950 have been issued and none is outstanding as at February 28, 2021.

As at February 28, 2021, the Company had 352,925,657 common shares issued and outstanding. Subsequent to the end of the Quarter, and as described earlier under "Subsequent Events", a total 3,735,000 shares were issued and 955,949 shares were redeemed and cancelled. As of the date of this MDA, the Company has 355,704,708 common shares outstanding

#### b) Options

As at February 28, 2021, the Company had an aggregate of 12,107,500 incentive stock options outstanding with a weighted average exercise price of \$0.10 (of which 4,175,000 were vested and 7,932,500 were unvested). Subsequent to the end of the Quarter, 700,000 options were granted, 1,197,500 options were exercised and 243,750 options were cancelled (as described earlier under "Subsequent Events"). As at the date of this MDA, the Company has 11,366,250 incentive stock options with a weighted average exercise price of \$0.10 outstanding.

#### c) Warrants

As at February 28, 2021 the Company has the following common share purchase warrants outstanding:

- i. 6,466,513 US\$ Warrants, with an original exercise price of US\$0.56 per share and are exercisable until June 13, 2021. These warrants are also subject to certain anti-dilution provisions, which may reduce the exercise price, with a floor of US\$0.5095 per share. The adjusted exercise price as calculated by the anti-dilution provisions as at February 28, 2021 and as at the date of this MDA is US\$0.5223;
- ii. 10,000 warrants, issued pursuant to the Accommodation Agreement, with an exercise price of \$0.23 per share and expiring on August 2, 2021;
- iii. 1,900,000 warrants with an exercise price of \$0.12 per share and expiring on November 1, 2021, or if the closing price of the common shares on the TSX is \$0.16 or higher for a period of twenty consecutive trading days after November 1, 2018, the Company may, by notice to the holder reduce the expiry date of the warrants to not less than 30 days from the date of such notice;
- iv. 287,500 warrants with an exercise price of \$0.12 per share and expiring on November 23, 2021, or if the closing price of the common shares on the TSX is \$0.16 or higher for a period of twenty consecutive trading days after November 23, 2018,

the Company may, by notice to the holder reduce the expiry date of the warrants to not less than 30 days from the date of such notice;

- v. 6,900,000 A1 Warrants with an exercise price of \$0.23 per common share which are exercisable until March 10, 2022;
- vi. 3,000,000 warrants with an exercise price of \$0.12 per share and expiring on August 25, 2022.
- vii. 6,250,000 B1 Warrants with an exercise price of \$0.15 per common share which are exercisable until January 15, 2023;
- viii. 3,750,000 C1 Warrants with an exercise price of \$0.125 per common share which are exercisable until June 29, 2023;
- ix. 1,500,000 warrants with an exercise price of \$0.07 per share expiring on November 30, 2021; and
- x. 9,800,000 warrants with an exercise price of \$0.18 per common share which are exercisable until January 29, 2025.

Subsequent to the end of the Quarter, and as described earlier under "Subsequent Events", 1,537,500 warrants with a weighted average exercise price of \$0.07 per share were exercised.

The Company is also committed to issue 20,000 warrants to the NWTMN in two equal installments of 10,000 warrants upon the Nechalacho Project meeting certain milestones. These warrants will have a contractual term of five years and will have an exercise price based on the then current market price of the Company's common shares at the date of issue of the warrants.

## d) Brokers' Compensation Warrants

As at February 28, 2021, the Company had no compensation warrants outstanding.

#### **Disclosure Controls and Procedures**

Disclosure controls and procedures are designed to provide reasonable assurance that material information is gathered and reported to senior management, including the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), as appropriate, to permit timely decisions regarding public disclosure.

Management, including the CEO and CFO, has designed or caused to be designed under their supervision, disclosure controls to provide reasonable assurance that the information required to be disclosed in annual filings, interim filings, or other reports filed or submitted under Canadian securities legislation, or reports filed or submitted under the U.S. Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time period specified in those rules.

# **Internal Control over Financial Reporting**

The CEO and CFO are also responsible for the design of the Company's internal controls over financial reporting ("ICFR") to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. Because of its inherent limitation, internal control over financial reporting may not prevent or detect misstatements.

There have been no changes to the Company's design of internal controls over financial reporting that occurred during the Quarter that materially affected, or are reasonably likely to affect, the Company's ICFR.

# **Critical Accounting Judgments and Estimation Uncertainties**

The preparation of the consolidated financial statements in conformity with IFRS requires that the Company's management make critical judgments, estimates and assumptions about future events that affect the amounts reported in the consolidated financial statements and the related notes thereto. Actual results may differ from those estimates. Estimates and assumptions are reviewed on an on-going basis based on historical experience and other factors that are considered to be relevant under the circumstances. Revisions to estimates are accounted for prospectively.

The Company has identified the following significant areas where critical accounting judgments, estimates and assumptions are made and where actual results may differ from these estimates under different assumptions and conditions and may materially affect financial results or the financial position reported in future periods.

Further details of the nature of these assumptions and conditions may be found in the relevant notes to the consolidated financial statements.

#### **Key Sources of Estimation Uncertainty**

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment to the financial results or the financial positions reported in future periods are included in the following notes:

Recoverability of Exploration and Evaluation Assets, Development Assets and Property, Plant and Equipment

The Company assesses its long-lived assets, specifically all exploration and evaluation assets, development assets and property, plant and equipment ("PPE") at each reporting date to determine whether any indication of impairment exists. Where an indicator of impairment exists, a formal estimate of the recoverable amount is made, which is the higher of the fair value less costs of disposal and value in use. These assessments require the use of estimates and assumptions such as long-term commodity prices, discount rates, foreign exchange rates, years to commencement of production, future capital requirements, exploration potential and operating performance.

# Determination of Reserve and Resource Estimates

Mineral reserves and resources are estimates of the amount of ore that can be economically and legally extracted from the Company's exploration and development properties. The estimation of recoverable reserves is based upon factors such as estimates of commodity prices, production costs, production techniques, future capital requirements and foreign exchange rates, along with geological assumptions and judgments made in estimating the size and grade of the ore body. Changes in the reserve or resource estimates may impact the carrying value of exploration and evaluation assets, development assets, PPE, site closure and reclamation provision and amortization expense.

#### Fair Value of Share Based Payments and Warrants

The Company follows IFRS 2, Share-based Payment, in determining the fair value of share based payments. This calculated amount is not based on historical cost, but is derived based on assumptions (such as the expected volatility of the price of the underlying security, expected hold period before exercise, dividend yield and the risk-free rate of return) input into a pricing model. The model requires that management make forecasts as to future events, including estimates of: the average future hold period of issued stock options and compensation warrants before exercise, expiry or cancellation; future volatility of the Company's share price in the expected hold period; dividend yield; and the appropriate risk-free rate of interest. The resulting value calculated is not necessarily

the value that the holder of the option or warrant could receive in an arm's length transaction, given that there is no market for the options or compensation warrants and they are not transferable. Similar calculations are made in estimating the fair value of the warrant component of an equity unit. The assumptions used in these calculations are inherently uncertain. Changes in these assumptions could materially affect the related fair value estimates.

#### Site Closure and Reclamation Provision

The Company's accounting policy for the recognition of a site closure and reclamation obligation requires significant estimates and assumptions such as: requirements of the relevant legal and regulatory framework, the magnitude of possible disturbance and the timing thereof, extent and costs of required closure and rehabilitation activity, and discount rate. These uncertainties may result in future actual expenditures differing from the amounts currently provided. Site closure and reclamation provision recognized is periodically reviewed and updated based on the facts and circumstances available at the time. Changes to the estimated future costs are recognized in the statement of financial position by adjusting both the site closure and reclamation asset and provision.

#### Property, Plant and Equipment ("PPE") - Estimated Useful Lives

Management estimates the useful lives of PPE based on the period during which the assets are expected to be available for use. The amounts and timing of recorded expenses for depreciation of PPE for any period are affected by these estimated useful lives. The estimates are reviewed at least annually and are updated if expectations change as a result of physical wear and tear, technical or commercial obsolescence and legal or other limits to use. It is possible that changes in these factors may cause significant changes in the estimated useful lives of the Company's PPE in the future.

## **Critical Judgments**

Information about critical judgments in applying accounting policies that have most significant effect on the consolidated financial statements are as follows:

#### Capitalization of Exploration and Evaluation Costs

Exploration and evaluation costs incurred during the year are recorded at cost. Capitalized costs include costs directly attributable to exploration and evaluation activities, including salaries and benefits of employees who are directly engaged in the exploration and evaluation activities. Administrative and other overhead costs are expensed. Exploration and evaluation costs incurred that have been determined to have future economic benefits and can be economically recoverable are capitalized. In making this judgment, management assesses various sources of information including, but not limited to the geologic and metallurgic information, history of conversion of mineral deposits to proven and probable mineral reserves, scoping and feasibility studies, proximity of operating facilities, operating management expertise and existing permits.

# **Changes in Accounting Policies Including Initial Adoption**

The Company did not adopt any new accounting standards during the Quarter.

## **Recent Accounting Pronouncements**

As at February 28, 2021 and the date of this MDA, there are no significant newly issued pronouncements that are applicable to the Company.

## Forward-Looking Statements, Risk Factors and Qualified Persons

Certain of the statements that are not historical facts contained in this MDA 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 management, 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;
- mineral product and 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, the factors described or referred to under "Description of the Business - Risk Factors" in the Company's Annual Information Form for the year ended August 31, 2020, and:

- risks related to the Company's history of losses, lack of operating history, ability to generate material revenues and continue as a going concern;
- risks related to establishing new mining operations in the event that the Company elects to proceed with the development of one of its mineral projects;
- risks related to the Company's need for additional financing;
- risks related to any joint venture or strategic alliances that may be entered into by the Company;
- risks related to the impact of the novel coronavirus ("COVID-19") pandemic, or other global pandemics;
- risks related to either Avalon's or Cheetah's development plans of the Nechalacho Project negatively impacting the other's development plans;
- risks related to the progression of the Separation Rapids Lithium Project to a positive feasibility stage;
- risks related to securing product off-take agreements on a timely basis;
- risks related to the unique ore type at the Nechalacho Rare Earth Elements Project ("Nechalacho" or the "Nechalacho Project") and the Separation Rapids Lithium Project for which known metallurgical processes have not previously been applied;
- uncertainty related to title to the Company's properties as well as the risk of delays in
  obtaining licenses and permits as a result of local opposition, including uncertainty related to
  any challenges in connection with Indigenous land title claims and Indigenous rights;
- risks related to the possible existence of rights and interests of Indigenous groups, which may limit the Company's ability to develop its properties;
- risks related to the need to acquire properties for the hydrometallurgical plant and potentially a rare earth refinery for the Nechalacho Project;
- risks that actual capital costs, production schedules and economic returns for the Nechalacho Project may differ significantly from those anticipated by the Company;
- risks related to the demand for technology metals and minerals and fluctuations in their pricing;
- risks related to the demand for lithium and fluctuations in its pricing;
- risks related to competition and the actions of competitors;
- risks related to costs or delays in the commercialization of rare earth products;
- uncertainties related to the fact that the Company's mineral resources and mineral reserves are only estimates;
- risks related to obtaining, maintaining and renewing licenses and permits, and the material costs, liabilities and obligations in connection therewith;

- risks that the Company will be subject to material costs, liabilities and obligations in connection with environmental laws, regulations and approvals and that approvals will not be available;
- uncertainties involving uninsured risks;
- risks related to possible shortages of supplies, equipment and labour;
- risks related to the Company's ability to attract and retain qualified management and technical personnel;
- uncertainty whether the Company will acquire commercially mineable ore deposits or whether the current mineral deposits identified by the Company can be developed as commercially viable ore bodies;
- risks inherent to the competitive nature of the mineral industry;
- risks related to the extensive federal, state, provincial, territorial and local laws and regulations to which the Company's activities are subject;
- risks related to the availability and reliability of adequate infrastructure;
- risks and hazards inherent to the mining industry;
- risks related to any changes in critical accounting estimates that adversely affect the Company's financial results;
- risks related to potential conflicts of interest of the Company's directors and officers who may have involvement with other resource companies;
- risks related to cybersecurity;
- risks due to being a "passive foreign investment company" for U.S. purposes;
- risks related to fluctuations of currency exchange rates;
- risks related to share price volatility;
- risks related to dilution of existing shareholders;
- risks related to not paying cash dividends;
- risks related to being a non-US corporation; and
- risks related to there being no market for the Company's warrants.

Most of the foregoing factors are beyond the Company's ability to control or predict. Although the Company has attempted to identify important factors that could cause actual results, performance, achievements, developments or events to differ materially from those described in forward-looking statements, there may be other factors that cause actual results, performance, achievements, developments or events not to be as anticipated, estimated or intended. There can be no assurance that the estimates and/or assumptions upon which these forward-looking statements are based will occur.

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. There can be no assurance that the plans, intentions or expectations upon which these forward-looking statements are based will occur.

The forward-looking statements contained herein are made as of the date of this MDA and are expressly qualified in their entirety by this cautionary statement. Readers should not place undue reliance on the forward-looking statements, which reflect management's plans, estimates, projections and views only as of the date hereof. The Company undertakes no obligation to publicly revise these forward-looking statements to reflect subsequent events or circumstances, except as required by applicable law.

The technical information included in this MDA, unless otherwise stated, has been reviewed and approved by Donald S. Bubar, P. Geo., President and Chief Executive Officer of the Company and Dr. William Mercer, P. Geo., Vice-President, Operations of the Company. Mr. Bubar and Dr. Mercer are both Qualified Persons under National Instrument 43-101 ("NI 43-101").

# Notice Regarding Presentation of our Mineral Reserve and Resource Estimates

This MDA has been prepared in accordance with the requirements of Canadian securities laws, which differ from the requirements of United States securities laws. Unless otherwise indicated, all reserve

and resource estimates included in this MDA have been prepared in accordance with NI 43-101. NI 43-101 is a rule developed by the Canadian Securities Administrators which establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects.

Canadian standards, including NI 43-101, differ significantly from the requirements of the United States Securities and Exchange Commission (the "SEC"), and reserve and resource information contained in this MDA may not be comparable to similar information disclosed by United States companies. In particular, and without limiting the generality of the foregoing, the term "resource" does not equate to the term "reserve". Under SEC's Industry Guide 7 standards, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. The SEC's Industry Guide 7 disclosure standards do not define the terms "measured mineral resources", "indicated mineral resources" or "inferred mineral resources" or other similar descriptions of the amount of mineralization in mineral deposits and United States companies have historically not been permitted to disclose mineral resources of any category in documents they file with the SEC. United States investors should also understand that "inferred mineral resources" have a great amount of uncertainty as to their existence and as to their economic and legal feasibility. It cannot be assumed that all or any part of an "inferred mineral resource" exists, is economically or legally mineable, or will ever be upgraded to a higher category. Under Canadian rules, estimated "inferred mineral resources" may not form the basis of feasibility or pre-feasibility studies except in rare cases. Disclosure of "contained ounces" in a resource estimate is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC standards as in-place tonnage and grade without reference to unit measures. The requirements of NI 43-101 for identification of "reserves" are also not the same as those of the SEC, and reserves reported by Avalon in compliance with NI 43-101 may not qualify as "reserves" under SEC standards. Accordingly, information concerning mineral deposits set forth herein may not be comparable with information made public by companies that report in accordance with SEC's Industry Guide 7 standards.

The SEC has adopted amendments to its disclosure rules to modernize the mineral property disclosure requirements for issuers whose securities are registered with the SEC. These amendments became effective February 25, 2019 (the "SEC Modernization Rules") and, following a two-year transition period, the SEC Modernization Rules will replace the historical property disclosure requirements for mining registrants that are included in SEC Industry Guide 7. Following the transition period, the Company may be subject to the SEC Modernization Rules which differ from the requirements of NI 43-101. Under the SEC Modernization Rules, the definitions of "proven mineral reserves" and "probable mineral reserves" have been amended to be substantially similar to the corresponding Canadian standards and the SEC has added definitions to recognize "measured mineral resources", "indicated mineral resources" and "inferred mineral resources" which are also substantially similar to the corresponding Canadian standards; however, there are differences in the definitions under the SEC Modernization Rules and the Canadian standards and therefore once the Company begins reporting under the SEC Modernization Rules there is no assurance that the Company's reserve and resource estimates will be the same as those reported under Canadian standards as contained in this Annual Report.

#### Other Information

Additional information on the Company is available on SEDAR at <a href="www.sedar.com">www.sedar.com</a> and on the Company's website at <a href="www.avalonadvancedmaterials.com">www.avalonadvancedmaterials.com</a>.