



AVALON
ADVANCED MATERIALS INC.

2021 Sustainability Report

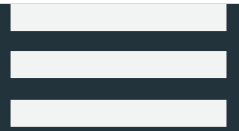


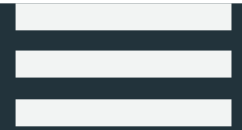
Table of Contents

President & CEO Message	1
VP, Sustainability Message	4
Academic Outreach	7
Industry Outreach	8
2021 Goal Performance	10
Short & Long Term Goals	13
Towards Sustainable Mining	17
Global Reporting Initiative	23
UN Sustainable Development Goals Map	44

Forward Looking Statements

This Report contains “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities legislation. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as “potential”, “scheduled”, “anticipates”, “continues”, “expects”, “is expected”, “targeted”, “planned”, “believes”, “will”, “intends” or variations of such words and phrases or the negative thereof. Statements that are not based on historical fact contained in this Report, including through documents incorporated by reference herein, are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of Avalon to be materially different from those expressed or implied by such forward-looking statements. Forward-looking statements reflect the Company’s current views with respect to future events and include among other things, statements with respect to the Company integrating sustainability into all aspects of its business, that the Company pursues sustainability in all areas of its business and actively promotes improved mineral industry practice with investors, potential partners and government, that the Company will strive to ensure that our projects are energy efficient and protective of the environment, the existence of any significant potential for creating additional shareholder value through exceptional sustainability performance, remaining committed to doing Avalon’s part to advocate for improved sustainability performance, the anticipation that it would proceed with certain plans, activities or achieve certain goals or efficiencies, assumptions related to future economic, market or other conditions that while considered reasonable by the Company, are inherently subject to risks and uncertainties, including significant business, economic, competitive, political and social uncertainties and contingencies. Although Avalon has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Factors that may cause actual results to differ materially from expected results described in forward-looking statements include, but are not limited to, market conditions, the possibility of cost overruns or unanticipated costs and expenses, the impact of proposed optimizations at the Company’s projects, actual results of exploration activities, mineral reserves and mineral resources and metallurgical recoveries, discrepancies between actual and estimated production rate, mining operational and development risks and delays, regulatory restrictions (including environmental), activities by governmental authorities, financing delays, joint venture or strategic alliances risks, or other risks in the mining industry; as well as those risk factors set out in the Company’s current Annual Information Form, Management’s Discussion and Analysis and other disclosure documents available under the Company’s profile filed with the securities regulatory authorities in all provinces and territories of Canada, other than Québec, and available at www.sedar.com. Most of the foregoing factors are beyond Avalon’s ability to control or predict. 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 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 forward-looking statements contained herein are presented for the purpose of assisting readers in understanding the Company’s expected sustainability performance, the Company’s plans and objectives, and may not be appropriate for other purposes. Avalon does not undertake to update any forward-looking statements that are contained herein, except in accordance with applicable securities law. All currency in this Report is in Canadian dollars, unless otherwise noted.

President & CEO Message



Thank you for your interest in Avalon's 10th annual Sustainability Report. It's been an interesting year for me with all the new interest here in Canada in finally establishing the critical minerals supply chains needed in new clean technologies.

This is something we have been working on for over 10 years now and I never anticipated there would be such a sudden surge in interest over the past two years, but these COVID-19 pandemic times have made it challenging to take advantage and move our projects forward quickly. Despite the slow progress, we are inspired to see the broader mineral industry and government finally seeing what we have been promoting all these years: that these non-traditional mineral commodities like lithium and rare earths, needed in clean technology, can be produced in very sustainable ways using efficient new process technologies!

Avalon has been a leader in promoting the opportunity to create the circular economy in the mining industry by looking at closed mine sites as opportunities to profitably extract critical minerals from historic mine wastes, while remediating the long-term environmental liability. It has taken a long time for government to finally recognize this opportunity and remove the barriers to access for forward-thinking junior companies like Avalon. However, it is finally starting to get recognized as an exceptional opportunity to establish new critical minerals supply chains more rapidly in Canada. There are many examples of closed mine sites in Canada like Avalon's East Kemptville Tin-Indium Project in Nova Scotia, with high concentrations of lithium, rare earths and other rare elements in the tailings and waste rock piles.

While traditional bulk commodities like coal and copper are still mainly produced from large scale operations with significant environmental impacts, it is important for investors to appreciate that emerging new commodities like lithium, cesium, and tantalum, with relatively small but

growing markets, can be produced in much more sustainable ways including starting as small, low impact quarry operations. The key is defining a market for the product and then designing an efficient extraction process to produce it at a competitive cost with minimal waste. In many cases, especially with lithium pegmatites, the wastes can be used to generate additional by-products and production can be scaled up gradually as demand grows.

That is what Avalon has been trying to do for many, many years and although the regulatory barriers have been formidable, we are delighted to report that things are changing fast. There is growing support from government and the investment community for establishing a circular economy in the mining industry especially for critical minerals supply chains.

With our advanced Separation Rapids Lithium Project ready to get started at a modest scale to begin serving the glass-ceramics markets, we will be well positioned to transition to production of lithium battery materials once we have a customer commitment and a separate process facility up and running. We envision doing this in partnership with an end-user and will design it to accept concentrates from other emerging producers. As lithium minerals can be readily recovered from pegmatites without generating any toxic wastes, it is our vision that remote First Nation communities across northwestern Ontario can take advantage of the abundance of lithium pegmatites in their traditional territories to participate directly as owners and developers in this emerging new business.

Doing this in sustainable ways while creating new economic development opportunities for remote First Nations communities in the north remains a key component of our business strategy. This is now being recognized by the growing ESG (environmental, social, governance) investment community as being compatible with their investment criteria and is opening new doors for Avalon to access investment capital. This new interest motivated

Avalon to obtain an independent audit of its ESG performance to secure an ESG risk rating in 2021 from Sustainalytics, a Morningstar company.

Avalon's overall management of material ESG issues is strong and no events or material gaps in our policies and ESG management systems were identified that may negatively impact stakeholders, the environment, or the Company's operations. Avalon's risk rating placed it in the top 5% of companies in its sector referred to as "diversified metals". This sector is mainly comprised of operating mining companies and Avalon was the first development stage critical minerals resource company audited by Sustainalytics. It is gratifying to have third party confirmation that Avalon is indeed a leader amongst operating resource companies, not just junior explorers, in its management of ESG risk.

Government policymakers here in Canada are now realizing that they will need to show visible support through regulatory change and access to funding for critical material supply chains to get started here. With the focus on climate change, it is becoming a policy priority to facilitate the transition to a world that is less reliant on fossil fuels for its energy needs. All renewable energy, energy storage, and electric vehicle technologies rely on a diverse array of non-traditional mineral commodities and rare elements that Canada has never produced despite having vast untapped potential to produce them. It is all about creating more domestic demand for elements like lithium and rare earths to encourage more private sector investment in developing these resources. Although the bulk of this demand is in international markets both the Canadian and Ontario governments are now making funding commitments to support domestic manufacturing of both electric vehicles and batteries.

Time is of the essence now to take advantage of the surging global demand for lithium battery materials and rare earth elements. As it can take more than 10 years to get a new mine permitted and production started, a better route to near term production is to go back to closed mine sites where previously mined waste materials are often enriched in an array of non-traditional minerals and metals that had no value when the mine was in operation but do today. Avalon's East Kemptville Tin-Indium Project is a classic

example of such a site that was developed just to produce tin for its traditional applications, but the resource also contained significant indium, gallium, germanium, and lithium that were not recovered. With at least 25 million tonnes of waste materials now generating acid mine drainage that can be re-processed to recover all these elements as well as unrecovered tin, copper and zinc, the site now represents a very attractive economic development opportunity for southwestern Nova Scotia with the additional benefit of fully remediating the long-term liability of acid mine drainage.

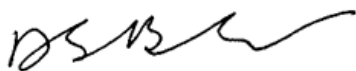
Avalon is also looking at a historic phosphate mine site hosted by the Cargill Carbonatite Complex near Kapuskasing, Ontario. It was developed purely as a source of phosphate for fertilizer products although the resource was enriched in several other critical minerals that were not recovered, including the rare earths and scandium. Both the tailings and waste rocks contain exceptional concentrations of these rare elements associated with the phosphate minerals. Avalon's vision is to design an extraction process to recover these elements while also producing purified phosphate products for fertilizer applications, where it is now in very high demand, and potentially also for lithium-ion battery LFP cathode materials.

While it has been nearly 25 years since I first started to see the potential for establishing new supplies of lithium and rare earths, it looks like our time has finally come. Our long focus on producing these non-traditional commodities in sustainable ways is finally attracting interest from investors keen to support responsible resource development of materials needed in clean technologies. While the world is moving quickly to reduce its reliance on fossil fuels, it won't happen overnight, and it will take a huge increase in supply of materials like lithium before we can get there, while reducing our reliance on China for many of these critical materials. Hopefully, Avalon's success will inspire others in Canada to start to recognize how producing these critical minerals can be done much more efficiently and sustainably than was done in the past for bulk commodities in the traditional mining industry.

Our Vice President, Sustainability will expand on this elsewhere in this report. Rest assured that the entire team

here at Avalon is dedicated to moving all of our critical minerals projects forward ethically and sustainably, while generating value for our investors, employees, local communities and our society as a whole. I would like to end by thanking our long-time, loyal shareholders for their patience and support through the challenging times we have endured over the past 10 years.

Thank you very much!



Donald S. Bubar

Summer Fires at Separation Rapids



Avalon Road as Fire Break

During a fire season that saw many blazes in Northwestern Ontario, the largest of the summer burned close to, but north of, Avalon's Separation Rapids property. Fire Kenora 51 continues to burn today, but it is now classified as under control. Fire Kenora 27 occurred to the west of the project access road. This fire is now classified as out.

Fortunately, no damage was done to any of Avalon's infrastructure by Fire 27. The Avalon Road and quarry were used for fire fighting staging and the road acted as a fire break, preventing the fire on the west side of the road crossing to the east. Much of the underbrush has been burnt away in sections.

We would like to reiterate our thanks to the Ministry of Northern Development, Mines, Natural Resources and Forestry for the protection provided to the Separation Rapids site from Kenora Fire 27. The Ministry established sprinkler systems for Avalon's core storage area, but fortunately it was not required

Lilypad Clean-up



Historic scrap metal at Lilypad

During the summer 2021 field program at the Lilypad cesium property the crew took the time to collect metal waste that was left from historic activities. In total approximately 1.5 tonnes of scrap metal were removed from site and disposed of at a provincially licensed facility.

VP, Sustainability Message

For the tenth time, it pleases me to welcome you to Avalon's 2021 Sustainability Report. We know of no other exploration and development company that has completed an annual sustainability report that meets GRI standards for as long as we have. We are very proud of this achievement.

Tracking and reporting publicly on our sustainability performance has many benefits to us, our shareholders, and the communities in which we operate. It focuses us on meeting our sustainability performance targets, ensuring Avalon walks the responsibility walk as well as talking the talk. Achieving our sustainability performance goals de-risks our projects, making the projects and Company more attractive to investors and potential customers, and encourages greater buy-in from the communities in which we operate, and increases support from government agencies and stakeholders in general.

This report covers Avalon's fiscal year, from September 1, 2020, to August 31, 2021. Despite the COVID-19 pandemic lockdown, Avalon has remained active doing basic research, and putting boots on the ground, to do the work needed to start developing our projects that will supply the critical materials needed by Canada to sustainably achieve its greenhouse gas reduction targets.

Separation Rapids

This fiscal year the Company drilled and blasted a 5,000-tonne bulk sample from the Separation Rapids pegmatite.

The drilling and blasting were contracted out to a local certified Indigenous business. The operation took less than two weeks and was completed on time and on budget with zero safety incidents. The bulk sample is now in storage in the Kenora area while Avalon seeks access to an appropriately equipped process facility to provide trial quantities of the mineral products for potential customers.

Various process test work campaigns and optimizations



Blasting caps being placed Separation Rapids

were completed during the fiscal year. Building on the waterless sensor-based sorting method described in previous sustainability reports, Dense Media Separation (DMS) has been investigated as another method of concentration that has no water discharge. This method efficiently concentrates the ore minerals based on their relative density. Upgrading of this material proved very effective at concentrating our lithium mineral petalite to meet the requirements of end-users in the glass-ceramics industry. Water dialysis was also performed on a petalite sample to generate a solution to be used to optimize the dialysis process in another effort to significantly reduce the energy requirement of getting the lithium solution from which a battery material product can be recovered.

Permitting for the Separation Rapids Lithium Project steadily moved ahead during fiscal 2021. An environmental consultant company was enlisted to update and expand the area of the environmental baseline work and will assist with site layout and routing of potential effluent discharges. Upon completion of the baseline work, no new issues were identified. The site layout for a demonstration plant at the Avalon quarry was developed with this information, with positive effects on permitting and sustainability due to very low water use and water discharge. Initial flow data has

been captured and indicates that discharges are easily managed and low risk as the lithium ore and waste releases no toxic elements. Bird monitors were installed at the site to assess whether there are any avian species at risk in the area.

Subsequent to the reporting period, a geological mapping and sampling program was conducted northwest of the main pegmatite. This led to the discovery of an extension of the new Snowbank pegmatite. Follow-up work is being planned to begin drilling this new pegmatite to assess its size potential.

We would like to take this opportunity to publicly thank the Ministry of Northern Development, Mines, Natural Resources and Forestry (formerly MNR and ENDM) for the assistance they provided in the summer fighting Kenora Fire 27 and the precautions they took to protect our core racks stored at the site.

Lilypad Cesium-Tantalum-Lithium

This year Avalon completed two field programs at the Lilypad site. The first program was to collect a 200 kg bulk sample from the Pollucite Dyke for doing process test work on how to efficiently concentrate the cesium ore mineral pollucite using sensor-based ore sorting. The second program was to carry out geological mapping and geochemical sampling looking for new cesium occurrences and included repairing infrastructure to facilitate site access, setting up a remote camp for geologists and support crew to operate from, and limited line cutting. Approximately 300 geochemical samples were collected including vegetation samples with some encouraging initial results confirming the exceptional cesium potential there as well as tantalum and lithium.

During the second program, there was a medical aid accident; an employee of a contractor cut his finger which required his evacuation to a clinic. The individual was fit for duty the next day, but the contractor elected not to have him back on site.

There was a near miss involving a tree falling on a tent due to high winds. While no one was injured, the exploration program was put on pause and all staff left the site for a one-day safety refresher program. The project risk assessment was reviewed. All potentially at-risk trees were

subsequently removed. Smaller trees and vegetation were left to minimize the long-term impact and prevent soil erosion. Finally, there were three bears present around the Lilypad camp. One of these bears did not respond to repeated attempts to deter them from entering the camp. For the safety of our employees, in consultation with regulators and the local First Nation community, the bear was, regrettably, put down.

Cargill Mine Site, Kapuskasing, ON

This former phosphate producer for fertilizer products holds significant potential for the recovery of rare earth elements,



Lilypad Camp

scandium, and zirconium as well as phosphate from the un-reclaimed tailings. The Cargill site represents a near-term opportunity to demonstrate the potential such sites have for profitable recovery of critical minerals while rehabilitating the long-term environmental liability. Test programs are being designed with potential for support from NRCAN, to innovate new extraction processes for recovering the critical minerals and purified phosphate products from the tailings and will move forward once full title and control of the site has been assumed.

Sustainability

Avalon continued to participate in Mining Association of Canada (MAC) COVID committees and continued to review and update its office and field COVID management plans. To date, all employees have received at least one vaccine, and we have been fortunate to have had no incidents of COVID-19 at any of our sites. A policy requiring fully vaccinated employees and contractors at our work

locations was initiated and was approved subsequent to the fiscal year end.

In fiscal 2021 Avalon has written or updated several policies, including an energy policy, an accessibility policy, and a biodiversity policy, and has updated the insider trading and sustainability policies. The review and update of the Sustainability Policy was undergoing internal review at year end. The latter includes a pledge to be carbon neutral by 2040, though we are optimistic that Avalon can achieve this goal sooner. In support of this commitment, Avalon completed a Capstone Project with University of Toronto Master's students that demonstrated positive economics for green energy production at Separation Rapids. The Sustainability Policy had previously included commitments to equality and diversity and now explicitly embraces inclusivity in the people section of the policy.

Despite the challenges of the COVID-19 Pandemic, Avalon has continued to keep our directly impacted Indigenous communities and other stakeholders aware of the progress of our projects.

Finally, I too must mention how pleased I was with the top 5% score Avalon received with respect to the external ESG audit completed by Sustainalytics, where we were compared to operating mining companies with much greater resources. We also provided Sustainalytics with numerous recommendations on how to modify their audit process to better assess exploration and development stage companies in the hope that more junior companies will follow Avalon's lead on adopting ESG principles.

I have personally remained active in industry groups, promoting sustainability in critical materials specifically and mining in general. I am a part of the Prospectors and Developers Association of Canada's (PDAC) Net Zero working group focusing on energy and protected areas as well as the sustainability committee. Via PDAC and in support of PDAC's E3+, I am advocating for the development of a set of protocols and indicators that are designed to measure the quality and comprehensiveness of exploration management systems. These are intended to provide additional guidance to the industry as well as provide the public and other stakeholders with an overview of the exploration industry's performance in key

environmental and social areas. I am hoping to assist in producing a set of protocols for exploration stage mineral companies patterned after MAC's leading and internationally recognized Towards Sustainable Mining protocols. I also remain active on Ontario Mining Association and Mining Association of Canada committees, including the recognized Community of Interest Panel. I have agreed to sit on a Standards Council of Canada shadow committee for the development of a Rare Earth Sustainability Standard with the Canadian Critical Minerals and Materials Alliance (C2M2A) and other stakeholders.

Disclosures

In the following pages we report and review our performance in the Environmental, Social and Governance space using the Global Reporting Initiative's (GRI) disclosures and the Mining Association of Canada's Towards Sustainable Mining (TSM) framework. In addition, we map both to the United Nations Sustainable Development Goals. It is our belief that these give investors, local communities, regulators, and all our communities of interest the information they need to make informed decisions when deciding whether to do business with Avalon. We do not shy away from the scrutiny these disclosures put on us. In fact, we welcome it.

I would like to personally thank all my colleagues at Avalon for their contributions to this year's report. In addition, my thanks for the support of the Board of Directors in the creation and review of this report. It is another demonstration of Avalon's commitment to sustainability at all levels of the organization.



Mark Wiseman

Academic Outreach

Avalon recognizes that education plays a critical role in developing the next generation of geologists to find and define economic deposits of critical materials, the process engineers to extract them, and for the public to be informed and supportive of these projects. Avalon proudly promotes education in support of our projects, while ensuring the future required industry skills. In fiscal 2021 Avalon continued to invest in grad students Garnet Ching and Sarah Bodeving, while assisting with capstone projects at the University of Toronto and Laurentian University. These are two of 12 graduate students in Avalon project geological, metallurgical, and environmental studies that Avalon has supported over recent years.

Don Bubar continues to be a Board member and supporter of PDAC's Mining Matters Earth Science education support program for elementary school children which has an increasing focus on critical minerals. He serves on the Foundation Board of the Canadian Museum of Nature whose *Edukit* program provides materials for elementary school education. He continues on the Advisory Board to the Faculty of Science at McGill University where a new School of Sustainability is presently being established.

Mark Wiseman worked with a group of master's students from the University of Toronto on a capstone project to outline the potential returns of clean energy generation for the Separation Rapids Project. The project conclusions indicated that the economics are positive for green energy at the site.

Bill Mercer is leading a group of seven companies supporting a master's student at the Centre for Research into Occupational Safety and Health at Laurentian University. The human kinetics master's student is studying accidents in mineral exploration, based on the PDAC-AME accident and fatality database.

Sarah Bodeving is a PhD student who has worked for several seasons at Avalon and continues to prove herself a

capable geologist. Sarah is in the fifth year of her PhD program at McGill University, supervised by Professor A. E. Williams-Jones. Her research is focused on the



Sarah Bodeving at the Separation Rapids site

petrogenesis of LCT pegmatites, and the mineralization of lithium and cesium. Sarah's field responsibilities have been growing; she led the 2021 field programs at the Lilypad Project.

Safety at Sep Rapids



Work during Separation Rapids Bulk Sample

During the Separation Rapids bulk sample 48 toolbox meetings were held. Safety first, always!

Industry Outreach

Canadian Critical Minerals and Materials Alliance - C2M2A

Avalon was a founding member of C2M2A's predecessor organization, the Canadian Rare Earth Elements Network (CREEN), and continues to support the work being done by C2M2A. C2M2A seeks to assist in the creation and growth of critical material supply chains in Canada. C2M2A's four pillars to pursue this goal: public advocacy of the benefits of critical material supply chains; build and foster relationships between a wide range of stakeholders along the value chain; educate on the importance of critical materials to our way of life and to the future we wish to achieve; and commercialize Canadian technologies which will increase the usage of these materials are laudable and fully supported by Avalon.

International Network on Acid Prevention (INAP)

One of the most serious effects of some mining can be Acid Mine Drainage (AMD), also known as Acid Rock Drainage (ARD). AMD occurs where water leaving a mine site is acidic which is caused by a chemical reaction whereby water and air oxidizes (rusts) sulphur bearing minerals creating sulphuric acid. AMD negatively affects both plant and animal life, including humans, and can be a liability for decades after final site closure.

The only project Avalon is currently involved in that has the potential to generate AMD is the historic East Kemptville mine in Nova Scotia. The creation of AMD is one of the reasons why Avalon's development plan for the property is currently conceived as it is, to extract the critical materials contained in the ore while leaving no opportunity for sulphur bearing rock to be oxidized, eliminating any perpetual AMD liability. Avalon has looked at applying a new extraction technology called *NanoBeads* designed to passively recover elements of economic interest dissolved in the AMD before neutralizing the acidity with lime.

Avalon has begun working with the International Network

on Acid Prevention (INAP) to identify further potential treatment sites where a similar model can be implemented. INAP seeks to reduce the liability of AMD through network and information sharing, technology transfer and research.

International Standards Organization via Standards Council of Canada

C2M2A, under the leadership of Ian London, continues to head Canada's Participating Member seat at the ISO TC298 Rare Earth. This technical committee is to create standards that relate to the rare earth elements (REE) at all links in the supply chain from mine to magnet.

Vice President, Sustainability Mark Wiseman has been selected to join TC298 Working Group 5 - Sustainability. This committee is to research and present standards which, if followed, will ensure the safe and environmentally responsible extraction and processing of the REE.

PDAC Net Zero Working Group and 'TSM Light'

The Prospectors and Developers Association of Canada (PDAC) convened a Net Zero Working Group to research, debate and inform how the mineral development industry might reach the government of Canada's stated goal of the country being a net zero contributor to global emissions by 2050. Avalon was represented on this working group and looks forward to influencing the conversation on the ways our industry will prevent contributing to global climate change.

PDAC is also investigating creating and implementing a series of protocols for membership to follow informed by the Mining Association of Canada's (MAC) 'Towards Sustainable Mining' (TSM) protocols. This system would allow for PDAC members to report on protocols tailored to prospectors and development companies, rather than the MAC protocols which are meant for operators. Currently Avalon is the only non-operator to report under TSM.

Personal Development

During the past year Avalon staff found many ways in which to develop themselves personally, enriching their lives, those close to them and their communities.



“To keep the kids away from screens, we developed a routine of Family Painting time”

“For the past two years I have been in the Oakville Celtic Fiddle Orchestra and we do a concert each year raising money which is donated to Food 4 Kids Halton”

```
49 void Workstation::display(std::ostream& os) const {  
50     os << this->getItemName();  
51     os << " --> ";  
52     os << ((*this->getNextStation() != nullptr ? (*this->getNextStation())->getItemName() : "End of Line");  
53     os << std::endl;  
54 }  
55  
56 Workstation& Workstation::operator+=(CustomerOrder&& newOrder) {  
57     m_orders.push_back(std::move(newOrder));  
58     return *this;  
59 }
```

“I learned how to program in C, C++, and Javascript”

“I started working on developing a woodworking shop”

“I strategized to bring critical material supply chains to Ontario”

“I learned how to juggle”

“I made anti-COVID baskets”

“I started to experiment growing exotic vegetables including Chinese bitter melons”



2021 Goal Performance

The following table summarizes Avalon's performance against their stated FY2021 goals as set in the 2020 Sustainability Report. Status of Goals is one of:

Achieved | Partially Achieved | Not Achieved | Not Applicable

Health and Safety

FY2021 Goal	Status	Comments
Zero fatalities	Achieved	A subcontract worker injured his finger with an axe at the Lilypad project site and required medical aid. Please see page 5 for more details.
Zero lost time accidents	Achieved	
Zero medical aid accidents	Not Achieved	
Create additional metrics to compare Avalon's health and safety performance against peers.	Partially Achieved	Avalon continued to track all health and safety metrics as currently instituted and completed an internal review of Avalon metrics vs our peers. No new metrics were identified this fiscal year.
Support the Prospectors and Developers Association of Canada (PDAC) efforts to improve exploration industry safety performance through active membership on the PDAC Health and Safety Committee	Achieved	Bill Mercer chairs the PDAC Health and Safety Committee.
Successfully run the "Exploration Health and Safety" course at 2021 PDAC Convention	Not Applicable	PDAC 2021 was a fully online event. As such the "Exploration Health and Safety" course was cancelled. Bill Mercer did organise and participate in an online health and safety webinar as part of the virtual PDAC event.
Zero reportable environmental incidents in field work	Achieved	There were no reportable environmental incidents at any of Avalon's project sites during fiscal 2021.
Inventory and proactively handle all rock and rock-derived materials in storage, whether geological or metallurgical, and either disposing of appropriately or ensuring appropriate storage conditions, thus reducing corporate environmental risks	Partially Achieved	Avalon has up to date inventories of all off site storage locations. The highest risk materials have been previously disposed of. Remaining historic samples in storage in Yellowknife still require appropriate disposal.

Environment and Permitting

FY2021 Goal	Status	Comments
Monitor and respond to proposed and actual regulatory changes in all jurisdictions in which Avalon operates (independently or through industry associations)	Achieved	Avalon is kept abreast of regulatory developments and changes through a variety of channels including regulatory officials, industry associations, mail lists, and industry contacts.
Engage with government and regulators to provide industry advice and perspective on more effective, practical, and achievable governance in cleantech materials development	Achieved	Avalon continued to engage with government and regulators both directly and via industry associations such as PDAC, MAC and C2M2A. Reception to Avalon's suggestions are positive and discussions continue.
Create and evaluate additional metrics to compare Avalon's environmental performance against peers	Achieved	Avalon continued to track environmental metrics as currently instituted. Avalon compared 16 true peer companies and determined that Avalon's public reporting greatly exceeds peer exploration companies. In 16 categories
Conduct prioritized project-specific financial and other risk assessments regarding the risks and opportunities posed by climate change that have the potential to generate substantive changes in future operations.	Achieved	Risk assessments were completed for all field activities. Given that no projects entered the Feasibility Study (FS) or operations phases and with the short timeline of present project activities, there was no justification for climate change risk assessments. These will be completed once projects are in the FS stage.
Update and expand Separation Rapids Project alternative energy source options	Achieved	A University of Toronto Master's students' Capstone project was completed for the Separation Rapids Project and economic opportunities were identified to implement green energy production at this operation.
Facilitate communication between MAC and PDAC; specifically, to provide updates to PDAC on applicable MAC and regulatory initiatives as they develop	Achieved	Communication between MAC and PDAC continues. A focus has been on the creation of a set of 'TSM light' metrics to benchmark PDAC junior companies, encourage improvement in their sustainability, and increase reporting.

Community, People, and Outreach

FY2021 Goal	Status	Comments
Implement the external whistleblower/complaint management system for local Communities of Interest to utilize in case of concerns, including website and dedicated telephone number; implement a communications plan	Partially Achieved	Avalon has always, and continues to, implement its whistleblower protection policy, a formal Community Response Procedure was also completed. In part due to COVID-19 and the closure of the office, the installation of the electronic systems components, procedure and stakeholder training required to fully
Continued engagement with Indigenous governments and organizations at projects, including helping facilitate collaborations with other institutions	Achieved	Avalon continues to be a leader in Indigenous engagement at current and potential project sites. Local leadership can directly engage in dialog with any member of Avalon management, including the President and CEO. An example of facilitation only tangentially related to Avalon was the introduction of WIN to training programs for mercury analysis.
Advocate for better industry sustainability practices and increase public awareness about the minerals/metals sector through industry associations	Achieved	Avalon advocates for increased focus on sustainability practices throughout the critical material supply chains and continues to publicly call for increased education around the necessity of these
Complete external sustainability audit and prioritize any gaps identified in the audit and prepare and implement a schedule and plan to address the gaps	Achieved	Sustainalytics completed an Environment, Social, and Governance audit of Avalon in February 2021. No material gaps were identified.
Produce FY2021 Sustainability Report	Achieved	The 2021 Sustainability report was released on November 26, 2021.

Achieved Pre-Operational Goals

FY2021 Goal	Status	Comments
Extract, crush and ship a bulk sample from Separation Rapids deposit without environmental, health or safety incident	Achieved	Avalon extracted a 5,000-tonne bulk sample from the Separation Rapids property in March 2021. There were no environmental, health or safety incidents during the extraction.

Short & Long Term Goals

FY2022 goals have been set by Avalon's management team for the Company's fiscal year 2022 (September 1, 2021 - August 31, 2022). Progress towards these goals will be reported in the 2022 Sustainability Report.

Avalon has also set pre-operational or operational goals, to be accomplished as projects with funding advance to production. Finally, long-term goals illustrate the high-level, long-term objectives of the company.

Health and Safety

FY2022 Goals	Pre-Operational/Operational	Long Term
Zero fatalities	Complete the procedures and systems to support the Avalon Health, Safety and Environmental (HSE) construction management plan to achieve the applicable Mining Association of Canada (MAC)'s Towards Sustainable Mining (TSM) A or AA ratings prior to the start of construction, and update it prior to the start of operations	To never cause harm to people in the pursuit of production and profits
Zero lost time accidents		Create an injury free workplace and enhance the well-being of employees, contractors, and the communities in which we operate
Zero medical aid accidents		Demonstrate through metrics that Avalon is among the leaders of exploration and mineral developers in health and safety standards
Support the Prospectors and Developers Association of Canada (PDAC) efforts to improve exploration industry safety performance through active membership on the PDAC Health and Safety Committee	Crush, process, and ship a bulk sample of Separation Rapids' material without environmental, health or safety incident	Consistently improve health and safety performance and awareness of employees and contractors working in the field
Successfully run the "Exploration Health and Safety" course at 2022 PDAC Convention, if requested		Positively contribute to the health and safety performance of the global mineral industry

Environment and Permitting

FY2022 Goals	Pre-Operational/Operational	Long Term
Zero reportable environmental incidents in field work	Complete the procedures and systems to support the Avalon HSE management plan for construction to achieve applicable TSM A or AA rating for all environmental indicators prior to the start of construction, and update it prior to the start of operations	Preserve and protect the long-term health, function and viability of the natural environment and Species at Risk
Inventory and proactively handle all rock and rock-derived materials in storage, whether geological or metallurgical, and either disposing of appropriately or ensuring appropriate storage conditions	Carbon net neutrality designed in all project models to the extent practical.	Develop and utilize innovative technologies in support of finding better ways to create value while protecting the environment
Monitor and respond to proposed and actual regulatory changes in all jurisdictions in which Avalon operates (independently or through industry associations)	Complete alternate preliminary route assessment, design and costing to decide on most effective hydro line route to the Separation Rapids site and installation method; complete any required environmental studies on preferred route, including access roads	Become carbon neutral by 2050
Engage with government and regulators to provide industry advice and perspective on more effective, practical, and achievable regulation and support of cleantech materials development	Conduct review of options and initiate the approval process for the fishery management plan at Separation Rapids Project in respect of full time mine development	Operate in jurisdictions with effective, practical, and achievable regulations through constructively engaging with government and regulators (independently or through industry associations)
Prepare preliminary site design for a demonstration plant at the Separation Rapids quarry site. Complete the baseline studies initiated in 2021 if financing is available.	Update and engineer the Separation Rapids Project alternative energy source options in FS, if financed and initiated.	Demonstrate through metrics that Avalon is among the leaders in exploration and mineral developers in environmental standards and carbon net neutrality
Facilitate communication between MAC and PDAC; specifically, to provide updates to PDAC on applicable MAC and regulatory initiatives as they develop	Conduct prioritized project-specific financial and other risk assessments regarding the risks and opportunities posed by climate change that have the potential to generate substantive changes in future operations for advancing projects	Positively contribute to the environmental performance of global mineral industry
Participate in PDAC's conference Sustainability Program		
Run the PDAC Environment Training Course, if requested.		
Implement environmental programs to facilitate necessary permitting for all project phases		
Train employees on physical and mental health services offered through employee assistance plan		
Investigate need for additional mental health supports		

Community, People and Outreach

FY2022 Goals	Pre-Operational/Operational	Long Term
Implement the Community Response Procedure for local Communities of Interest to utilize in case of concerns, including website and dedicated telephone number for advancing projects, if office opens	Include preferred communication methods and priorities regarding sustainability activities, including Sustainability Report content, in discussions with Communities of Interest local to Avalon's projects	Be a responsible corporate citizen and contribute to the social and economic well-being of the communities associated with our activities
Develop and implement a communications plan for advanced projects	Establish collaborative economic partnerships and Agreements with Communities of Interest local to project sites before operations	Establish and support authentic partnerships to create shared success and prosperity Increase public awareness about the minerals/metals sector through industry associations
Continued engagement with Indigenous governments and organizations at projects, including helping facilitate collaborations with other institutions	Establish community engagement committee with local Communities of Interest, including regulators and Indigenous groups in advanced projects	Support Canada's global leadership in mining and material science by advancing materials research through collaboration with universities, government, and industry
Advocate for better industry sustainability practices and increase public awareness about the minerals/metals sector through industry associations	Conduct a stakeholder mapping exercise to update Communities of Interest and assess material topics	
Complete implementing the COVID-19 policy and provide training for employees and contractors		
Create a workplace based on mutual respect, fairness, and integrity where employees are encouraged to innovate and grow within the organization over the long-term		

Governance and Economics

FY2022 Goals	Pre-Operational/Operational	Long Term
Update identified Avalon corporate policies for Board of Directors or Senior Management review and approval, as applicable	Update Avalon's Sustainability Policy to incorporate project construction and production phases	Conduct our business openly, honestly, ethically to keep our promises and commitments
Promote Avalon's sustainability focus and associated advantages in ongoing efforts to acquire strategic partners, investment, or other support for Avalon's projects	Establish management bonus system that includes sustainability performance	Create shareholder value through the development and operation of one or more projects in a sustainable and profitable manner
Update Avalon's Sustainability Policy	Formalize procedure to onboard site workers to include better communication of Avalon policy information, while maintaining legal requirements (i.e., plain language explanation)	
Update governance Policies as required	Acquire strategic partners, investment, or other support for Avalon's projects due, in part, to Avalon's sustainability leadership and associated advantages	

Sustainability Performance and Reporting

FY2022 Goals	Pre-Operational/Operational	Long Term
Produce FY2022 Sustainability Report	Develop, formalize and audit HSE management systems appropriate to the project phase	Consistently improving sustainability performance and awareness through annual benchmarking, policy, and procedure development
	Conduct sustainability reporting protocol review to identify and initiate implementation of required management of systems that will permit TSM reporting, including input from Communities of Interest.	Demonstrate through metrics that Avalon is among the leaders in exploration and mineral developers in reporting standards and recommended frameworks
	Investigate and implement options for electronic-tracking and management of sustainability performance	
	Integrate financial and sustainability reporting, once audits demonstrate compatibility with financial systems	

Towards Sustainable Mining

Avalon annually reports on the Mining Association of Canada (MAC)'s Towards Sustainable Mining (TSM) protocols. The guidance that is provided assists all mining companies in measuring and improving their performance in eight areas of operational performance. Information on the protocols, frameworks and grade can be found on MAC's [TSM website](#).

Avalon reports on six of the eight performance protocols, excluding Tailings Management and Preventing Child and Forced Labour. As a non-operating company, Avalon has been welcomed by MAC to provide non-verified self-assessments. The following is a summary of Avalon's FY2020 performance in reaching its TSM performance indicators, as well as FY2021 targets and action plans.

Indigenous and Community Relationships

TSM Performance Indicator	FY2022 Target	FY2022 Action Plan	FY2021 Actual	FY2021 Action Taken	FY2021 Target
Effective Communities of Interest Engagement and Dialogue	AA	Meaningfully engage with all Indigenous Communities of Interest on all projects that advance to the next stage of development.	AA	No projects advanced to the next stage of development. Regardless, Avalon kept all Indigenous groups aware of project activities with the potential to impact them. Agreements and Memorandums of Understanding in place at all advancing sites.	AAA
Effective Indigenous Engagement and Dialogue	AA	Meaningfully engage with all Indigenous Communities of Interest on all projects that advance to the next stage of development.	AA	No projects advanced to the next stage of development. Regardless, Avalon kept all Indigenous groups aware of project activities with the potential to impact them.	A
Community Impact and Benefit Management	A	Meaningfully engage with all Indigenous Communities of Interest on all projects that advance to the next stage of development.	A	No projects advanced to the next stage of development. Regardless, Avalon kept all Indigenous groups aware of project activities with the potential to impact them.	AA
Communities of Interest Response Mechanism	AA	Implement the Corporate external whistleblower/complaint management system for local Communities of Interest to utilize in case of concerns, including website and dedicated telephone number for advancing projects if access to office permits.	AA	As no projects advanced to the next stage of development, and as the office was closed due to COVID-19, Avalon was unable to fully implement this target.	AAA

Indigenous & Community Relationships (continued)

TSM Performance Indicator	FY2022 Target	FY2022 Action Plan	FY2021 Actual	FY2021 Action Taken	FY2021 Target
Communities of Interest Identification	A	Continue to advance MOUs or Benefits Agreements at all projects that receive funding to advance to the next phase of development; continue with periodic updates and engagement as projects develop.	A	Avalon kept the WIN informed of activities at the Separation Rapids Project and hired a WIN member to participate in the program. The Métis Nation of Ontario (MNO) were updated on the project. All potentially affected parties were informed of the bulk sample activities and potential for a Thunder Bay refinery. Meetings were held with Fort Hope and Chief Yesno. Band members were hired for the Lilypad exploration program. Avalon held discussions with the Chief of the Fort William First Nation (FWFN) in Thunder Bay on their interest in a refinery on their land. To date, no actions have been initiated. Discussions were held with the Ojibway First Nation at the Warren Township Project. It was decided a renewal of the existing MOU was unnecessary. The Asubpeeschoseewagong Netum Anishinabek ("ANA" or "Grassy Narrows First Nation") requested all exploration activity be put on hold in their proposed Indigenous Protected and Conserved Area (IPCA). The Separation Rapids Project is outside this proposed IPCA and is within the Wabaseemoong Independent Nation (WIN) Stewardship Area. Avalon has an MOU with WIN. As per protocol the matter was turned over to Chief Scott of WIN. No further action was required. The MNO and two FN bands received notices of staking at the Cargill Project. Avalon gave presentation to a group of FN regional development organizations. Agreements remain in place with Nechalacho Indigenous Groups, while the project remains on hold. Due to COVID-19, Avalon was not able to engage with COIs regarding how to identify COIs.	AA

Energy and Greenhouse Gas Emissions

TSM Performance Indicator	FY2022 Target	FY2022 Action Plan	FY2021 Actual	FY2021 Action Taken	FY2021 Target
Energy use and greenhouse gas emissions management systems	AA	Assist PDAC to update its GHG reporting protocol. Complete trade off studies regarding green energy production as part of project Feasibility Studies.	AA	A Capstone Project with the University of Toronto was completed for the most advanced project (Separation Rapids) that demonstrated that solar energy could be cost effective to offset the diesel generated GHG and the small amount of non-green energy from the grid. Electric mining equipment was also investigated for use at the site to reduce GHG production from diesel- or gas-powered equipment.	A
Energy use and greenhouse gas emissions reporting systems	A	Continue to participate in industry associations with respect to climate change initiatives.	A	Avalon continued to participate in and support climate change initiatives at MAC and PDAC. Energy use was reported on at all projects, including the reactivated Lilypad Cesium project.	A
Energy and greenhouse gas emissions performance targets	A	Establish GHG emission targets for all projects that advance to production.	A	Completed a Capstone Project that assessed the potential to be carbon neutral at Separation Rapids based on the 2020 Project model and Pre-Feasibility Study. Concluded that solar energy could be cost effective.	A

Biodiversity Conservation

TSM Performance Indicator	FY2022 Target	FY2022 Action Plan	FY2021 Actual	FY2021 Action Taken	FY2021 Target
Corporate biodiversity conservation commitment, accountability and communications	A	Complete Phase 2 of the environmental studies for Separation Rapids, including hydrology study modeling. Pending financing, update environmental data at other projects that advance. Initiate baseline studies in new exploration areas, pending financing and project advancements.	A	Completed Phase 1 baseline study field work updates at the Separation Rapids pit site and field work for Avalon Separation Rapids Quarry Site. Initiated baseline studies at Lilypad Cesium Project.	A
Facility-level biodiversity conservation planning and implementation	A	Continue to advance biodiversity management plans for financed projects in consultation with regulators, Indigenous peoples, and other Communities of Interest.	A	No projects received financing.	A

Safety and Health

TSM Performance Indicator	FY2022 Target	FY2022 Action Plan	FY2021 Actual	FY2021 Action Taken	FY2021 Target
Commitments and accountability	A	Continue to review and assign operational health, safety, and environment responsibilities at active project sites.	A	HSE responsibilities and training provided to field staff at the new Lilypad Cesium Project. No other projects advanced to the next stage of development.	A
		Review and update emergency response plans as appropriate.		Emergency response plans were updated at all active exploration sites.	
		Advance safety programs for projects that advance to next stage of development.			
Planning and implementation	A	Conduct risk assessments and prepare safety management plans for all project activities. Continue to monitor the COVID-19 pandemic, update procedures as required and train all employees and contractors as required.	A	Completed risk assessment for the Lilypad Project and updated the risk assessment and emergency response plan for Separation Rapids Project.	A
		Develop an Avalon vaccination Policy and implement it.		Updated the COVID-19 Office Procedures and supported contract employees to be tested and/or vaccinated. A Covid Vaccination Policy for Avalon was under development at fiscal year end. The HSE Management Plan, Office Risk Assessment, Risk Management Policy and Procedure, Anti-Harassment policies were reviewed and updated.	
				Sustainability policy review ongoing at year end.	
Training, behaviour and culture	AA	In addition to any updated site risk assessments and emergency response procedures, train on modifications or updates to the Sustainability Policy, Vaccination Policy, COVID Policies and procedures and others as modified or updated.	AA	Lilypad Cesium Project employees attended a one-day HS training program.	AA
				All employees attended training for the Office COVID-19 protocols, as well as other mandated policies.	
Monitoring and reporting	A	Continue to report leading and lagging indicators at material projects.	A	Reported HS leading and lagging indicators in Sustainability Report and regularly reported to management and the Board of Directors.	A
Performance	AA	Set and work toward safety targets appropriate for the work. Target recordable injuries for drilling programs.	AA	A single medical aid accident (cut finger) resulted in a failure to meet the Medical Aid and Total Recordable Injury target of 0.0. All other targets were met.	AA

Crisis Management and Communications

TSM Performance Indicator	FY2022 Target	FY2022 Action Plan	FY2021 Actual	FY2021 Action Taken	FY2021 Target
Crisis management and communications preparedness	Comp.	Continue to monitor and respond to the COVID-19 crisis and update all site-specific emergency response plans at operating sites. Review and update as necessary the Crisis Management and Communications preparedness for any project that advances to the next stage and its impact on the overall Plan.	Comp.	Avalon reviewed and updated the Separation Rapids and Lilypad Emergency Response Plans and COVID-19 Office Procedures and was developing a Vaccination Policy at year end. Action items were completed but did not complete emergency simulation.	Comp.
Review	Comp.	Complete a Crisis Management Plan review and desktop crisis simulation, pending financing for an advancing project.	Comp.	Training was completed to reduce the risk of crisis associated with being hacked. All emergency response plans and risk assessments were updated at all active sites. Action items were completed but did not complete emergency simulation.	Comp.
Training	Comp.	Train on any recommended updates to the Crisis Management Plan that come out of the Plan Review/ simulation, pending financing for advancing a project.	N/A	N/A No financing was available to advance a project.	Comp.

Water Stewardship

TSM Performance Indicator	FY2022 Target	FY2022 Action Plan	FY2021 Actual	FY2021 Action Taken	FY2021 Target
Water governance	AA	Drillers and employees to be made aware of responsibilities for water management at all drill programs. Spill and emergency response plans will be in place, equipped and trained workers at all active sites.	AA	No drilling took place in Fiscal 2021. Water management in place for camps. Spill and emergency response plan were in place. Preliminary water management plan developed for SR Demonstration plant.	A
Operational water management	AA	Assist PDAC to update its GHG reporting protocol. Complete trade off studies regarding green energy production for advanced (Feasibility Study) projects. Advance design of water management at advancing sites, including fisheries assessments where financing available.	AA	Phase 1 of additional baseline water quality and flow information collection completed at Separation Rapids to allow options study. Phase 2 (modeling of flows, receiver bathymetry and water balance) on hold pending Project financing. Additional scope included water quality and flow information collected at Quarry site. Preliminary environmental baseline information collected at Lilypad Cesium Project. Tested new potable water treatment process at Lilypad camp.	A
Watershed-scale planning	AA	Pending financing, complete Phase 2 of the Separation Rapids baseline study and hydrology assessment for input into broader watershed study. Pending financing and operational design and water discharge, evaluate the need for broader watershed-scale planning at Separation Rapids or other sites that are funded and advancing.	AA	Phase 1 of additional baseline water quality and flow information collection completed at Separation Rapids to allow options study. Watershed scale planning deemed unnecessary at this time due to insignificant impact of planned short-term activities and lack of detail for long range operations. Phase 2 (modeling of flows, receiver bathymetry and water balance) on hold pending Project financing. Additional scope included baseline flow and water quality collection at Quarry Site.	A
Water performance and reporting	A	Evaluate need for or opportunities to augment water quality and quantity monitoring at sites with active water discharges. Report performance in annual Sustainability Reports where collected. Pending financing, initiate operations options water management study.	A	No sites had active (continuous) water discharges. No site discharges had potential for environmental impacts. Baseline water quality and quantity data collected at Separation Rapids pit and quarry sites and baseline water quality at the Lilypad Cesium exploration site.	A

Global Reporting Initiative



Below is the table of Avalon's disclosures to the Global Reporting Initiative's standards. Reporting is completed in accordance with GRI Standards: Core option.

Please note that, due to Avalon not significantly changing its form, governance or approach to material topics during the fiscal year, many of the Disclosures in the Index below contain repetitive text from Avalon's previous reports.

GRI 100 Series: General Disclosures 2016

Organizational profile

102-1

Name of the organization

Avalon Advanced Materials Inc. (Avalon or the Company)

102-2

Activities, brands, products, and services

Avalon is a mineral resource exploration and development company that owns five projects across Canada, all potential sources of critical minerals for clean technologies. Avalon is also evaluating opportunities to apply new extraction technologies to recover rare earths and other metals from historic mine wastes, including acid mine drainage, at closed mine sites across North America, while remediating the long-term environmental liability.

102-3

Location of headquarters

Toronto, Ontario, Canada.

102-4

Location of operations

Canada. See Avalon's website at [Projects](#) for specific project locations.

102-5

Ownership and legal form

Avalon is a Canadian corporation continued under the Canadian Business Corporations Act. It is a publicly traded company with common shares listed on the Toronto Stock Exchange, on the OTCQB in New York and it also trades on the Frankfurt Stock Exchange in Germany.

102-6

Markets served

As none of Avalon's projects are currently in production, the Company does not yet serve any market with a product or service. Avalon is primarily targeting the clean technology sector, where new demand is being created for elements such as lithium, tantalum, cesium and the rare earths.

102-7

Scale of the organization

See Avalon's 2021 Year End Financial Statements available publicly on [SEDAR](#) and [EDGAR](#).

Organizational profile (continued)

102-8 Information on employees and other workers	As of August 31, 2021, Avalon had seven permanent, full-time employees (two female, five male), and one part time employee (male). The workforce is based in Toronto, Ontario, Canada. Avalon employs contracted individuals in some corporate roles, as well as project site roles, as needed.
102-9 Supply chain	Avalon purchases goods and services to develop the properties it owns. It does not currently sell any products or services.
102-10 Significant changes to the organization and its supply chain	There were no significant changes during FY2021 in Avalon's ownership, scale, or supply chain.
102-11 Precautionary Principle or approach	Avalon applies the precautionary approach in its management of environmental risk. This approach reflects the need to take prudent action in the face of potentially significant risk without having to await the completion of further scientific research for confirmation. The precautionary approach incorporates a cost benefit analysis to ensure that the lack of full scientific certainty is not used as a reason for postponing cost-effective measures to prevent unnecessary environmental degradation.
102-12 External initiatives	Avalon has publicly subscribed to the principles and practices of the Prospectors and Developers Association of Canada (PDAC)'s e3 Plus: A Framework for Responsible Exploration and the Mining Association of Canada (MAC)'s Towards Sustainable Mining (TSM) framework.
102-13 Membership of associations	Association for Mineral Exploration British Columbia - Member - Health and Safety Committee Member Canadian Critical Minerals and Materials Alliance - Founding Member International Standards Organization TC298 Rare Earth Canadian Mirror Committee - Committee Member Mining Association of Canada - Member of the Board - Environmental Committee Member - Science Committee Member - Community of Interest Panel NWT & Nunavut Chamber of Mines - Member Prospectors and Developers Association of Canada - Lands Committee Member - Health and Safety Committee Chair - Indigenous Affairs Committee Member - Conventions Planning Member - Corporate Social Responsibility Committee Member - Geoscience Committee Member - Awards Committee Member
	This information refers to memberships maintained at the organizational level. In addition, Avalon supports its President and CEO, Don Bubar's participation on the Advisory Board to the Faculty of Science of McGill University, as a Director of PDAC's Mining Matters earth science education program and as a Board member of the Nature Foundation supporting the Canadian Museum of Nature in Ottawa.

Strategy

102-14

Statement from senior decision-maker See Message from the President and CEO on page 1.

102-15

Key impacts, risks, and opportunities See Message from the VP, Sustainability on page 4, FY2022 Goals on page 12 and Disclosures on Management Approach on page 46 of Avalon's 2017 Sustainability Report.

Ethics and integrity

102-16

Values, principles, standards, and norms of behavior See Avalon's website at [About - Governance](#).

102-17

Mechanisms for advice and concerns about ethics The Whistleblower Protection Policy establishes procedures for managing complaints received regarding accounting, internal accounting controls, auditing matters or violations of the Company's Code of Business Conduct and Ethics. All good faith reports of suspected violations will be treated fairly and without reprisals. Investigations will be conducted into all allegations of inappropriate behaviour. The Whistleblower Protection Policy provides contact persons independent of management for those who wish to file a report and is found on Avalon's website at [About - Governance](#). When an operation is in place, Avalon will employ additional external mechanisms for reporting concerns, including a community concern mechanism already in draft.

Governance

102-18

Governance structure Avalon is a widely held public company that is overseen by its Board of Directors and managed by its senior management team. For further information, see Avalon's website at [About - Directors and Committees](#).

102-19

Delegating authority During Board meetings, the Board of Directors receives regular input from Avalon's management team regarding economic, environmental, community and risk management concerns, both internal and external. These are held at least four times a year (there were 6 meetings held in FY2021) or as necessary to address other matters that may arise between quarterly meetings. When required, the Directors act on this input by providing direction to senior management or through amendments, to the Company's policies. Current policies are found on Avalon's website at [About - Governance](#).

Governance (continued)

102-20

Executive-level responsibility for economic, environmental, and social topics

Avalon's President and CEO, Don Bubar, is the primary contact for informing the Board of Directors of any concerns. Reporting to the President, Avalon has also appointed Jim Andersen, VP, Finance and CFO; Bill Mercer, VP, Exploration; and Mark Wiseman, VP, Sustainability, to be responsible for the day-to-day management of economic, environmental, safety, process development, risk management programs and social topics, and to provide quarterly updates to the Board of Directors on these matters.

102-21

Consulting stakeholders on economic, environmental, and social topics

Avalon's Board of Directors is updated by the CEO on relevant developments. Avalon management regularly engages with its Communities of Interest to provide project updates and obtain feedback. As well, Communities of Interest may contact the appropriate manager for consultation, most frequently through the VP, Exploration; VP, Sustainability; President and CEO. The Chair of the Board of Directors is accessible to Communities of Interest for outreach on unanswered concerns.

102-22

Composition of the highest governance body and its committees

See Avalon's website at [About - Directors and Committees](#).

102-23

Chair of the highest governance body

Alan Ferry is the non-executive Chair of Avalon's Board of Directors.

102-24

Nominating and selecting the highest governance body

The responsibility of nominating an individual as a Director of the Company falls under the Compensation, Governance and Nominating (CGN) Committee. In making its recommendations, the CGN Committee will consider the candidates': competencies and skills (including experience in economic, environmental, or social topics); ability to devote sufficient time and resources; diversity; and compliance with the requirements of the applicable securities' regulatory authorities. The CGN Committee periodically reviews the size and composition of the Board and Board Committees and accepts recommendations from the President and CEO. As a publicly traded company, all members of Avalon's Board of Directors are re-elected by shareholders' votes at the Company's Annual General Meeting.

102-25

Conflicts of interest

The Board of Directors conducts periodic reviews of the Company's Code of Business Conduct and Ethics, which all Directors and employees are subject. Additionally, Directors are bound by the rules of the Canada Business Corporations Act. The Act obliges Directors to disclose material interest in any transaction or arrangement that the Board is contemplating. Directors who have divulged such an interest are prohibited from participating in the analysis or voting on the disclosed transaction. The Company's Code of Business Conduct and Ethics was updated in fiscal 2021. Avalon periodically reviews and updates all its corporate policies.

102-26

Role of highest governance body in setting purpose, values, and strategy

Avalon's Vision, Mission and Values statement received Board Approval in 2013. Material revisions to this and other corporate policies require Board approval. Each year, senior management and the Board review the Company's sustainability goals in the annual Sustainability Report.

Governance (continued)

102-27

Collective knowledge of highest governance body

See GRI Disclosure 102-19 on page 29.

102-28

Evaluating the highest governance body's performance

The Board of Directors conducted a self-assessment during FY2015 with respect to overall effectiveness and performance. The evaluation was conducted and reviewed internally. There were no specifications that came or were identified from the self-assessment. Similar assessments are planned to be conducted in the future.

102-29

Identifying and managing economic, environmental, and social impacts

Avalon's risk management practices include a formal process to identify, evaluate, rank, mitigate, monitor, and assign responsibility for all types of risks facing the Company. High level and moderate risks must be regularly monitored and mitigated to within acceptable levels. Emergency preparedness is a component of risk management.

102-30

Effectiveness of risk management processes

Avalon's VP, Sustainability and VP, Finance have day to day responsibility for management of economic, health and safety, environmental and social risks. Health and safety responsibility is assigned at all levels within the Company as part of the health, safety, and environment management plan. Material, high-level risks are periodically reported to the Board of Directors at their request, or on the recommendation of management to ensure that risk management systems are in place and operating to manage these risks to acceptable levels. Increased scrutiny occurs when there is a significant change in a project's status or phase.

102-31

Review of economic, environmental, and social topics

See GRI Disclosure 102-19 on page 29.

102-32

Highest governance body's role in sustainability reporting

The VP, Sustainability is responsible for all aspects of sustainability reporting. The annual Sustainability Report is reviewed by members of senior management, the Board of Directors, and the Sustainability Advisory Committee.

102-33

Communicating critical concerns

See GRI Disclosure 102-19 on page 29.

102-34

Nature and total number of critical concerns

Avalon did not experience any health and safety, environmental, or financial critical concerns over the course of FY2021. Mechanisms for addressing critical concerns is as described in Avalon's Whistleblower Protection Policy found on Avalon's website at [About - Governance](#).

Governance (continued)

102-35

Remuneration policies

Avalon's CGN Committee aims to evaluate and maintain fair and reasonable levels of compensation. Compensation to Avalon's executive officers, including the President and CEO, has three components: base salary, cash bonuses and long term incentives. Bonus compensation is an occasional cash component of management compensation to permit the recognition of outstanding individual efforts, performance (including health, safety, environmental and community), achievements and/or accomplishments by members of the Company's management team. The stock option plan and other long term incentives are intended to align employees' performance with the interests of the shareholders in the continued growth of the Company. The Board receives remuneration for acting as Directors. See Avalon's 2021 Year End Financial Statements with Management Discussion and Analysis publicly available on [SEDAR](#) and [EDGAR](#), or Avalon's annual Information Circular available on its website at [Investors - Regulatory Filings](#).

102-36

Process for determining remuneration

Senior executive compensation is governed through the approval of the CGN Committee. Compensation of non-executive employees is determined by management and is based on market conditions, values, and individual performance. Avalon currently does not rely on remuneration consultants to establish compensation levels but has in the past utilized external salary surveys to determine market values.

102-37

Stakeholders' involvement in remuneration

The Company's methodology and practices with respect to remuneration are described in detail in the Company's 2021 Information Circular. No issues were raised by the shareholders with respect to remuneration at the Company's Annual and Special Meeting held in February 2021.

Stakeholder Engagement

102-40

List of stakeholder groups

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's 2016 Sustainability Report.

102-41

Collective bargaining agreements

None.

102-42

Identifying and selecting stakeholders

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's 2016 Sustainability Report.

Stakeholder Engagement (continued)

102-43

Approach to stakeholder engagement

As reflected in the table below, Avalon regularly conducts Communities of Interest engagement at a level commensurate with project activity. Engagement is part of the way Avalon conducts business and is not undertaken specifically as part of the report preparation process. In FY2021, engagement lessened at some projects due to the COVID-19 pandemic and project activity.

Avalon 2021 Engagement Summary

	Separation Rapids			Lilypad			Nechalacho			East Kemptville			Multiple Projects		
	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021	2020	2019	2021	2020	2019
Total Non-Indigenous	368	263	245	14	14	9	154	136	175	61	141	152	1131	981	512
Contacts	48	57	179	14	14	9	69	52	83	34	87	73	120	175	81
Engagements	320	206	66	0	0	0	85	84	92	27	54	79	1011	806	431
Government/Regulators	109	252	245	14	2	9	66	76	122	37	49	66	231	253	31
Other	259	11	0	0	2	0	88	56	5	14	31	43	828	728	481
NGOs	0	0	0	0	10	0	0	4	48	10	6	0	72	0	0
Surface Rights Holder	0	0	0	0	0	0	0	0	0	0	55	43	0	0	0
Total Indigenous	70	86	244	299	29	6	0	44	129	3	32	62	30	2	2
Contacts	68	64	222	299	29	6	0	40	80	3	8	19	4	2	2
Engagements	2	22	22	0	0	0	0	4	49	0	24	43	26	0	0
Indigenous Government/Organizations	60	58	164	1	11	6	0	36	106	0	32	62	0	0	0
Indigenous Business	10	26	68	14	18	0	0	2	21	3	0	0	0	0	2
Indigenous Other	0	2	12	284	0	0	0	6	2	0	0	0	30	2	0
Indigenous Rights Violations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Engagement in fiscal 2021 was related to field activities at Separation Rapids and Lilypad Projects and with regulators and industry associations on government regulatory and policy issues. There was little engagement activity at Nechalacho or East Kemptville. Regrettably, during the Pandemic, face to face engagement with Indigenous people was put on hold. Avalon continued to keep Indigenous groups informed of our activities.

On October 1, 2020, Avalon was informed by the Asubpeeschoseewagong Netum Anishinabek (ANA) about efforts to establish an Indigenous Protected and Conserved Area (IPCA) and requested us to halt all mineral exploration activity in their Territory. Avalon exploration activities, access road, claims and leases are all outside of the proposed ANA IPCA and are within the Wabaseemong Independent Nations (WIN) Stewardship Area/Territory. As per our Memorandum of Understanding with WIN and discussions with ANA, communications about Avalon activities in WIN territory must go through WIN. Avalon believes WIN contacted the ANA regarding Avalon's areas of activity. Avalon had not heard from the ANA since that time.

102-44

Key topics and concerns raised

No concerns were brought to Avalon from any community of interest during fiscal 2021. Engagement continued at all active projects in FY2021. The Company also engaged with industry associations, regulators, and federal and provincial governments throughout FY2021, on a range of regulatory initiatives with the potential to impact Avalon's projects. Much of this engagement was to provide advice on needed policy and regulatory changes to help enable the creation of critical minerals supply chains in Canada. This included submissions directly from the Company or included with industry association responses. See the Message from the VP, Sustainability on page 5.

Reporting Practice

102-45

Entities included in the consolidated financial statements

See Avalon's 2021 Year End Financial Statements available publicly on [SEDAR](#) and [EDGAR](#). This Sustainability Report does not cover inactive or non-material entities that may be mentioned within the Company's Financial Statements.

102-46

Defining report content and topic Boundaries

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's 2016 Sustainability Report.

102-47

List of material topics

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's 2016 Sustainability Report.

102-48

Restatements of information

There have been no restatements of Avalon's previous Sustainability Reports. There has been a minor redistribution of engagement numbers. See page 33.

102-49

Changes in reporting

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's 2016 Sustainability Report.

102-50

Reporting period

September 1, 2020 to August 31, 2021 (Avalon's 2021 fiscal year, or FY2021).

102-51

Date of most recent report

November 30, 2020.

102-52

Reporting cycle

Annual.

102-53

Contact point for questions regarding the report

Avalon's VP, Sustainability, Mark Wiseman, can be reached at sustainability@AvalonAM.com or +1-416-364-4938.

102-54

Claims of reporting in accordance with the GRI Standards

This Sustainability Report has been prepared in accordance with the GRI Standards: Core option.

102-55

GRI content index

This complete GRI Content Index begins on page 27.

102-56

External assurance

This Sustainability Report has not been externally assured. At this time, there is a low level of risk in the information presented herein and the fundamental systems used to gather data. Previous annual sustainability reports have been reviewed by Sustainalytics in the process of their assessment of ESG risk in fiscal 2021.

GRI 200 Series: Economics

GRI 201: Economic Performance 2016

		Direct Economic Value Generated and Distributed			
		FY2021	FY2020	FY2019	FY2018
201-1 Direct economic value generated and distributed	Revenue				
	Interest	\$6,127	\$24,787	\$42,819	\$61,777
	Management fees	\$5,122	\$109,351	\$10,204	\$0
	Expenses	\$3,966,153	\$7,922,144	\$3,594,034	\$3,520,753
	Loss from Operations	-\$3,954,904	-\$7,788,006	-\$3,541,011	-\$3,458,976
	Gain on sale of property, plant and equipment	\$0	\$2,373,261	\$0	\$0
	Net Loss before income taxes	(3,954,904)	(5,414,745)	(3,541,011)	(3,458,976)
	Deferred Income Tax Recoveries	-\$199,781	-\$47,481	\$154,676	\$218,232
	Net Loss for the Year	-\$3,755,123	-\$5,367,264	-\$3,386,335	-\$3,240,744

201-2 Financial implications and other risks and opportunities due to climate change	By the nature of the products the Company intends to offer, Avalon is well positioned to take advantage of the transition to a low carbon economy. Opportunities that exist for Avalon due to climate change include lithium for batteries for stationary energy storage or electric vehicles, and indium and rare earths in green power generation systems. Projects will consider climate change risk in design, construction, operations, and closure.
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201-3 Defined benefit plan obligations and other retirement plans	Avalon currently has no defined benefits plan but plans to establish some type of pension plan in the future when a long-term revenue generating, producing operation has been established.
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201-4 Financial assistance received from government	Avalon received \$257,329 through the Canada Emergency Wage Subsidy and \$121,966 through the Canada Emergency Commercial Rent Assistance.
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GRI 201: Indirect Economic Impacts 2016

203-1 Infrastructure investments and services supported	There were no infrastructure developments, services or investments supported by Avalon during FY2021.
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GRI 204: Procurement Practices 2016

Separation Rapids Expenditures by Vendor Group

204-1

Proportion of spending on local suppliers

	FY2021		FY2020		FY2019	
Indigenous Vendors	\$356,452	52%	\$6,977	2%	\$2,000	1%
Local Vendors	\$129,667	19%	\$86,058	24%	\$100,864	28%
Other Vendors	\$195,032	29%	\$269,512	74%	\$251,980	71%
TOTAL	\$681,151		\$362,547		\$354,844	

Lilypad Expenditures by Vendor Group

Indigenous Vendors	\$6,243	2%	\$0	0%
Local Vendors	\$187,665	66%	\$0	0%
Other Vendors	\$90,967	32%	\$17,146	100%
TOTAL	\$284,875		\$17,146	

GRI 300 Series: Environment

GRI 302: Energy 2016

302-1

Energy consumption within the organization

Avalon consumed 2,022.24 gigajoules (GJ) internally over FY2021. See table below for year-over-year comparison.

302-2

Energy consumption outside of the organization

Avalon consumed 36.95 GJ externally over FY2021. See table below for year-over-year comparison.

302-4

Reduction of energy consumption

Energy consumption increased by 1,561.31 GJ from FY2020. This is attributed to internal use of diesel fuel during the bulk sample program at Separation Rapids. This increase was despite the decrease in external energy consumption due to reduced executive travel. See table below for year-over-year comparison.

Energy Use (GJ)

	FY2021	FY2020	FY2019	FY2018
Internal	2022.24	357.99	389.29	1206.64
External	36.95	139.89	313.24	359.86

GRI 303: Water and Effluents 2018

303-1

Interactions with water as a shared resource

Potential risks to water are identified as part of a risk management program and appropriate management strategies identified. Avalon's VP, Sustainability has overall responsibility for managing Avalon's activities that may impact water. Avalon conducts environmental impact assessments for its advanced projects, collecting and utilizing extensive baseline environmental data utilizing standard accepted methodologies, timelines, and Quality Assurance/Quality Control protocols. Baseline water quality data normally spans more than two years. Avalon utilizes decades of locally available climatic data for the design and management of water and wind and to design for critical storm events such as temperature extremes, the 1 in a 100-year storm and probable maximum storm events. Aquatic, terrestrial species and Species at Risk Act-compliant studies detail species local to project sites and management plans are developed as necessary to protect them. This includes engagement with local Indigenous groups, regulators, and communities regarding a wide variety of water uses, discharges, short and long-term water quality criteria and goals and including the cumulative impacts of other potential environmental impacts and climate change. Results of monitoring are regularly reported to government regulators, local communities and are also summarized in Avalon's annual Sustainability Report. Avalon also prepares rehabilitation plans for post closure land use that include the long-term protection of water quality post closure. Avalon is engineering its processing facilities to minimize water use and maximize recycling. Water is planned to be withdrawn from large local sources in a manner that will not have any significant impact on water flow and water levels and thus have no measurable impact on the biota. Planned pilot scale testing of water treatment systems ensures that the minimal water quantities discharged and returned to the local sources meet or improve upon effluent criteria, and where those are not available, Avalon has historically established its own criteria for the protection of receivers. In keeping with best practices, site-specific and detailed management plans will be developed for each project location to monitor aquatic effects, site run off, spill contingency, waste management and other potential risks to water.

303-2

Management of water discharge-related impacts

Avalon operations are all located in Canadian jurisdictions with well-developed water quality and biological performance criteria. However, occasionally there are data-poor minerals with lesser-known impacts on the environment for which effluent criteria or guidelines have not yet been established. In such cases, Avalon attempts to develop its own guidelines. At the Nechalacho Property in the Northwest Territories, Avalon worked with academia and regulators to develop effluent guidelines for the rare earth elements using protocols like the Canadian Council of Minister of Environment protocols. These guidelines have subsequently been proposed as regulatory guidelines in Avalon's water permit. Avalon has worked extensively with MAC and the Ministry of the Environment and Climate Change to establish the water quality and biological criteria that were incorporated into the new Metal and Diamond Mines regulations. The Company is also engaged with regulators in the establishment of regulations and guidelines associated with new acts at the provincial, territorial, and federal levels. Avalon has selected non-fish habitat for siting of its proposed tailings management facilities and discharge locations where possible. Where not possible, Avalon engages with Indigenous communities and regulators regarding their preferred water discharge location, which include considerations of the receiver water and biotic health, use(s) and how best to minimize potential for impacts.

Water and Effluents (continued)

303-3

Water withdrawal

Avalon removed approximately 196 m³ from the municipal water system at the Company head office in fiscal 2021. In addition, approximately 0.5 m³ of water was removed from Long Lake during the Lilypad field program. This totals 196.5 m³ water removal for fiscal 2021.

303-4

Water discharge

Most all the 196.5 m³ of water removed was returned, the water from head office operations to the municipal water system for treatment and eventual release, and the water from Long Lake back to the natural environment on the Lilypad Property.

303-5

Water consumption

Avalon considers water usage for fiscal 2021 to be nil as all water withdrawn is eventually returned to the natural environment.

GRI 304: Biodiversity 2016

304-1

Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

The East Kemptville Project is located near the Tobeatic Game Reserve in Nova Scotia, to the north of the property. Avalon's other project sites are not located in or near protected or high biodiversity value areas.

304-2

Significant impacts of activities, products, and services on biodiversity

Currently, Avalon has no material construction, manufacturing plants, mines or transportation infrastructure that have the potential to have significant impacts on biodiversity in protected areas or areas of high biodiversity outside protected areas.

304-3

Habitats protected or restored

See Disclosure G4-MM01 on page 45.

304-4

IUCN Red List species and national conservation list species with habitats in areas affected by operations

See page 39 of Avalon's 2019 Sustainability Report.

GRI 305: Emissions 2016

305-1

Direct (Scope 1) GHG emissions

Avalon generated total Scope 1 Emissions of 135.43 tonnes of CO₂e. See table below for year-over-year comparisons. Scope 1 emissions increased substantially due to the use of diesel-powered equipment during the Separation Rapids bulk sample program

305-2

Energy indirect (Scope 2) GHG emissions

Avalon generated total Scope 2 Emissions of 8.64 tonnes of CO₂e. See table below for year-over-year comparisons. Scope 2 emissions decreased due to a large decrease in electricity/steam power consumption at the company's head office due to reduced activity in the building due to the COVID-19 pandemic.

305-3

Other indirect (Scope 3) GHG emissions

Avalon generated total Scope 3 Emissions of 2.63 tonnes of CO₂e. See table below for year-over-year comparisons. Scope 3 Emissions decreased primarily due to reduced executive travel.

305-7

Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions

NOX are included in the CO₂e totals for Scope 1, 2 and 3 Emissions. Due to the factors used to convert units of energy/distance to CO₂e, only for some types of emissions are the NOX tonnes calculated separately, and then converted to CO₂e. SOX is not a material component of the Company's emissions at this time.

GHG Emissions (Tonnes CO₂e)

	FY2021	FY2020	FY2019	FY2018
Scope 1	135.43	2.3	3.77	52.36
Scope 2	8.64	15.09	15.46	23.78
Scope 3	2.63	11.13	13.98	27.25

GRI 306: Waste 2020

306-3

Waste generated

Avalon 2021 Waste (tonnes)

	tonnes
Waste	1.05
Paper/Cardboard	0.12
Shredding	0.00
Cans/Bottles/Plastics	0.01
Organics	0.33
Grease	0.08
Fluorescent Lights	0.02
Cigarette Butts	0.00
Scrap Metal	1.50
Other	0.00
Total	3.10

GRI 306: Waste 2020

306-4

Waste diverted from disposal

0.56 tonnes of waste were diverted from disposal by the company's head office during FY2021. All this waste was non-hazardous and diverted to municipal recycling sites.

306-5

Waste directed to disposal

In FY2021 1.5 tonnes of historic scrap metal were removed from the Lilypad property and disposed of at a local landfill facility. 1.05 tonnes of non-hazardous waste were directed to disposal from the Company's head office in Toronto, Ontario. This waste was directed to offsite landfill facilities.

GRI 307: Environmental Compliance 2016

307-1

Non-compliance with environmental laws and regulations

There have been no instances of non-compliance with laws and regulations in FY2021.

GRI 308: Supplier Environmental Assessment

308-1

New suppliers that were screened using environmental criteria

Avalon includes its sustainability questionnaire on Requests for Proposals. The contractors' health and safety record, including sustainability questionnaire responses, are factored into Avalon's ultimate choice of contractor.

GRI 400 Series: Social GRI 401: Employment 2016

401-1

New employee hires and employee turnover

Avalon hired one new employee during the reporting period. Overall turnover rate was 29%.

401-2

Benefits provided to full-time employees that are not provided to temporary or part-time employees

All full time and permanent and part time employees of Avalon receive full benefits from the Company. Fixed term and temporary employees do not.

401-3

Parental leave

All full time and permanent part time employees of Avalon are entitled to parental leave as lawful in the province of Ontario.

GRI 403: Occupational Health and Safety 2018

403-1

Occupational health and safety management system

Health and safety is a core Company value. While safety is the responsibility of all employees and contractors, Avalon's VP, Sustainability has overall responsibility for health and safety management systems. Avalon's corporate values state that "We will never cause harm to people in the pursuit of production and profits or in the conduct of our business." Avalon ensures the workforce has the proper resources to work safely in full compliance with all health and safety regulations. Avalon works in jurisdictions with well-developed health and safety regulations, and all have worker safety and compensation systems for the management of injured workers. In support of Avalon's Sustainability Policy, a health, safety and environment management plan and emergency response plans have been developed that detail health and safety requirements for all of Avalon's active project sites as part of the Occupational Health and Safety Management System. Contractor health and safety systems and performance are assessed against Avalon's standards prior to engaging them. Avalon has a Risk Management Policy and Procedure that is utilized to identify and manage risk at all stages of its operations. Risk assessments are completed before all new site activities and management plans and procedures developed as required based on these assessments.

403-2

Hazard identification, risk assessment, and incident investigation

Regular occupational health, safety and environment meetings, inspections and risk assessments are completed at all active sites and reported through the organization. While accident prevention is the priority, accident and incident management and emergency response are all components of the health and safety programs at all sites. All site workers are required to participate in daily risk assessment prior to the start of work and prior to any significant change in work activity during the shift. This is supported by near miss and accident reporting and associated actions to reduce future risks related to them. All accidents and incidents are investigated and actions to reduce or eliminate the associated risks and potential for a repeat incident are taken.

403-3

Occupational health services

Avalon's VP, Sustainability is responsible for the development of the health and safety and risk management system. All employees are responsible for their own safety and the safety of others around them in the workplace, and for the identification and management of risk. Avalon provides training for all employees in the identification and management of risk, with an emphasis on supervisory training and root cause analysis. Accident and incident reports are reviewed by the VP, Sustainability and the VP, Exploration. Where reports are inadequate, they become involved in the ongoing investigation to ensure that the risks have been properly identified and addressed.

403-4

Worker participation, consultation, and communication on occupational health and safety

Avalon is a small company with part time, occasional workers employed at sites. These workers have participated in site-specific training and have contributed to these training programs and the development of emergency response plans. They are also involved in the training of site contractors. Both the VP, Exploration and VP, Sustainability participate in the development of the health and safety training programs, risk assessment training, risk assessment and the preparation of emergency response plans. Avalon has a joint health and safety committee located in the Toronto office, and periodic walk-throughs are conducted to assess first aid supplies and protective equipment. An Avalon employee attends the office building's management group's health and safety committee meetings, as well as fire warden training. All Toronto-based employees participate in an emergency fire drill and evacuation a minimum of once a year.

GRI 403: Health and Safety 2018 (continued)

403-5

Worker training on occupational health and safety

All employees receive site-specific induction training prior to any work activities. This includes the identification and management of site-specific risks. All drillers also receive specific training on drilling hazard management and safety requirements prior to arrival on site from their employer.

403-6

Promotion of worker health

All full-time, permanent employees at Avalon are covered under a benefits plan that includes health promotion and services. Employees are given multiple, confidential methods to receive medical and healthcare directly through the Company's insurance provider. The health issues and risks of each employee remain confidential from the Company.

403-7

Prevention and mitigation of occupational health and safety impacts directly linked by business relationships

All contractors with safety risks are required to fill out Avalon's Sustainability Questionnaire. Only qualified contractors with solid HS performance and appropriate HS management systems are utilized. Contractors are required to utilize only trained employees that are qualified and fit for work. Avalon provides site specific training to all employees at site. Daily field risk assessments are required, as well as whenever there is a significant change in work activity during the day. Avalon and contractors are covered by government employee compensation and protection plans and are required to carry EHS insurance where necessary.

403-8

Workers covered by an occupational health and safety management system

All employees are covered by an occupational health and safety management system.

403-9

Work-related injuries

Avalon 2021 Health and Safety Statistics

	Lost Time Injury Frequency	Medical Aid Injury Frequency	Total Recordable Frequency	Severity Frequency	Lost Time Injuries	Medical Aid Injuries	Total Recordable Injuries	Total Hours	Lost or Light Duty Days
FY2021	0	9.23	9.23	0	0	1	1	21,664	0
FY2020	0	0	0	0	0	0	0	24,492	0
FY2019	0	0	0	0	0	0	0	27,207	0
FY2018	0	0	0	0	0	0	0	32,462	0
FY2017	0	5	5	18	0	1	1	43,268	4

403-10

Work-related ill health

There were no fatalities at any of Avalon's sites in fiscal 2021. There was one reportable work-related health issue in FY2021, a medical aid injury at the Lilypad Project. Please see page 7 for further details. Work-related risks will be significantly greater in number when Avalon is in operations. Avalon developed procedures and took appropriate and successful COVID-19 protection measures. No Avalon employees or contractors contracted COVID-19.

GRI 404: Training and Education 2016

404-1

Average hours of training per year per employee

One female employee completed a total of 80 hours, or an average of 20 hours per female employee. Five male employees completed a total of 161.5 hours, or an average of 32.33 hours per male employee. Six executive level employees completed 241.5 hours, or an average of 40.25 hours per executive level employee. Executive employees are defined as the President, VPs and the Controller. All other employees are Professional level.

404-3

Percentage of employees receiving regular performance and career development reviews

Permanent employees take part in an annual performance review, conducted by their direct supervisor or Board of Directors as determined by the employment category.

GRI 405: Diversity and Equal Opportunity 2016

Age and Gender of Avalon Board of Directors

	% of Board	% Minority
Male - 3	60%	0
Female - 2	40%	0
>50	100%	0
50 & under	0%	0

405-1

Diversity of governance bodies and employees

Age and Gender of Avalon Employees

	under 30 Female	under 30 Male	30 - 50 Female	30 - 50 Male	over 50 Female	over 50 Male	Total	Minority
Professional	0	0	0	2	1	0	3	2
Executive	0	0	0	0	1	4	5	1
Total							8	3

Executive employees are defined as the President, VPs, and the Controller. All other employees are Professional level.

GRI 406: Non-discrimination 2016

406-1

Incidents of discrimination and corrective actions taken

Avalon had no reported incidents of discrimination at any of its work sites in FY2021.

GRI 411: Rights of Indigenous Peoples 2016

411-1

Incidents of violations involving rights of indigenous peoples

There were no reported rights violations involving Indigenous peoples, nor any other group or individual, in fiscal 2021.

GRI 412: Human Rights Assessment 2016

412-2

Employee training on human rights policies or procedures

Each year every Avalon employee is required to sign a Policy Compliance Certificate. This states that the employee has read, understands, and agrees to abide by the Company's policies and procedures, including Avalon's Anti- Harassment, Bullying and Violence Policy.

GRI 406: Non-discrimination 2016

413-1

Operations with local community engagement, impact assessments, and development programs

Avalon's level of engagement with Communities of Interest is commensurate with project activity. No formalized programs have yet been implemented for projects, given Avalon's present low impact activities. Avalon has formal Indigenous engagement plans for the advanced Nechalacho Project, presently on hold, that were developed in consultation with Indigenous representatives. Similarly, the project had multiple environmental management plans that include reporting to government and Indigenous stakeholders. Impact assessments are completed at all advanced projects and development activities developed under Indigenous Accommodation Agreements.

413-2

Operations with significant actual and potential negative impacts on local communities

Given that only low impact exploration activities have taken place at Avalon's projects, there have been no known negative significant impacts to local communities from Avalon's activities. Prior to each work phase proceeding each project undergoes a rigorous environmental assessment process to evaluate the potential environmental and social impacts and to identify mitigation measures where necessary. Engagement on this is sought from potentially impacted local communities, including Indigenous communities and governments. Avalon seeks out opportunities for both short and long-term benefits to the local communities commensurate to project activity.

GRI 414: Supplier Social Assessment 2016

414-1

New suppliers that were screened using social criteria

See 308-01 on page 40.

GRI 419: Socioeconomic Compliance 2016

419-1

Non-compliance with laws and regulations in the social and economic area Avalon had no fines, nor any non-monetary sanctions levied against it in FY2021.

G4 Mining and Metals Sector Disclosures

G4 Sector Disclosure: Mining and Metals 2010

G4-MM1

Amount Of Land (Owned Or Leased, And Managed For Production Activities Or Extractive Use) Disturbed Or Rehabilitated

Avalon Land Holding and Disturbed Area

	Hectares
Land Owned, Leased or Managed	15,352
Land Disturbed	34
Land Rehabilitated/Transferred	0

Changes in disturbed area were entirely due to line cutting at the Lilypad project site. All sites have financial assurance filed for identified as liabilities for rehabilitation for insurance purposes.

G4-MM2

The Number And Percentage Of Sites Requiring Biodiversity Management Plans and Percentage Of Those Sites With Plans In Place

One hundred percent of Avalon sites requiring biodiversity management plans have such in place. All of Avalon's project sites with significant past or ongoing activities have financially assured rehabilitation plans in place to mitigate potential disturbance-related impacts to biodiversity. Given the low level of impact at all sites at their present stages of development, impacts to biodiversity are not significant. The Nechalacho property is not adjacent to identified areas of high biodiversity value and does not have a formal biodiversity management plan in place. It does, however, have in place several lands, wildlife and aquatic and other management plans as required by regulation for future permits that effectively comprise a biodiversity management plan. These plans are available on the Mackenzie Valley Land and Water Board public registry. The East Kemptville Project is located adjacent to the Tobeatic Wilderness Area in Nova Scotia, on the northern boundary of the property.

G4-MM3

Total Amounts Of Overburden, Rock, Tailings, And Sludges And Their Associated Risks

Should the East Kemptville Project move ahead, Avalon will inherit a 5.9 million tonne low grade ore stockpile, a tailings management area with 18.8 million tonnes of acid-generating tailings and additional waste dumps totaling another four million tonnes. The project design includes the full remediation of these historical liabilities. There are no material rock or tailings piles at Separation Rapids, Lilypad or Nechalacho. Avalon possesses 94 drums of flotation process waste in Yellowknife, Northwest Territories awaiting disposal. An analysis conducted in 2017 confirmed that the average concentrations of elements are well within the Metal Mining Effluent Regulation limits and below to marginally above the Canadian Council of Ministers of the Environment guidelines.

G4-MM4

Number of Strikes and Lockouts Exceeding One Week's Duration

None.

G4 Sector: Mining and Metals 2010 (continued)

G4-MM5

Total Number Of Operations Taking Place In Or Adjacent To Indigenous Peoples' Territories, where there are formal Agreements

Avalon has no operations but has advanced development projects near Indigenous communities. At the Nechalacho property, Avalon has signed formal Agreements with the Deninu K'ue First Nation, the Northwest Territory Métis Nation, and advanced Agreements with others. Avalon has a Memorandum of Understanding with the Wabaseemoong Independent Nations and initiated discussions with the Métis Nation of Ontario at the Separation Rapids Project in Northwestern Ontario. Avalon is advancing with a Memorandum of Understanding with the Acadia First Nation near the East Kemptville Project in Nova Scotia. Avalon has initiated discussions with the Fort Hope Eabametoong First Nation related to the Lilypad Project near Pickle Lake, Ontario. Avalon signed a Memorandum of Understanding with the Chapleau Cree First Nation in 2009. Should the Warren Township Project advance, this MOU will be re-visited.

G4-MM6

Significant Disputes Relating To Land Use

Avalon had no significant disputes relating to Avalon land use, customary rights of local communities, or Indigenous people in FY2021. Avalon received a letter from the Asubpeeschoseewagong Netum Anishinabek ("ANA" or "Grassy Narrows First Nation"), regarding their Indigenous Protected and Conserved Area located near the Separation Rapids project site. This was later determined to not cover the area of the Separation Rapids project. Comments on proposed exploration activities at Separation Rapids were being addressed by the Provincial Ministry of Mines, Natural Resources and Forestry at fiscal year end. The Ministry and Wabaseemoong Independent Nation that have the authority for development at Separation Rapids remain supportive of the project.

G4-MM7

Grievance Mechanisms To Resolve Land Use Disputes

The Community Response Procedure, a formal community concern procedure, was developed and approved in 2021 and will be promoted and implemented as engagement moves ahead on active projects.

G4-MM8

Number (and Percentage) of Company Operating Sites Where Artisanal and Small-Scale Mining (ASM) Takes Place On, or Adjacent To, The Site; The Associated Risks and the Actions Taken to Manage and Mitigate These Risks

Avalon has zero operations or sites where artisanal or small-scale mining occurs either on the site itself or adjacent to.

G4-MM9

Sites Where Resettlements Took Place, the Number of Households Resettled in Each, and How Their Livelihoods Were Affected in the Process

Avalon has zero operations or sites where any resettlement took place.

G4-MM10

Number And Percentage Of Operations With Closure Plans

Avalon currently has no operations. Avalon's Separation Rapids, Nechalacho, and East Kemptville Projects have closure plans appropriate for the level of Avalon activity at those sites, including budgeted exploration activity clean-up and financial assurance. Closure activities for the Warren Township site are being developed. Avalon's VP, Exploration must approve all closure cost for projects. Please see Avalon's 2021 Year End Financial statements, available publicly on [SEDAR](#) and [EDGAR](#), for details.

G4 Sector: Mining and Metals 2010 (continued)

G4-MM9

Sites Where Resettlements Took Place, the Number of Households Resettled in Each, and How Their Livelihoods Were Affected in the Process

Avalon has zero operations or sites where any resettlement took place.

G4-MM10

Number And Percentage Of Operations With Closure Plans

Avalon currently has no operations. Avalon's Separation Rapids, Nechalacho, and East Kemptville Projects have closure plans appropriate for the level of Avalon activity at those sites, including budgeted exploration activity clean-up and financial assurance. Closure activities for the Warren Township site are being developed and budgeted. Avalon's VP, Exploration must approve all closure cost for projects. Please see Avalon's 2021 Year End Financial statements, available publicly on [SEDAR](#) and [EDGAR](#), for details.



Lilypad property



Separation Rapids bulk sample

UN Sustainable Development Goals Map

In 2019 Avalon integrated the 17 United Nation's Sustainable Development Goals (SDG) into our sustainability report. Below is the map of the UN development goals and the corresponding disclosure provided by Avalon.

UN Goal	Avalon Disclosure	
UN1 No Poverty	GRI 204-01 GRI 413-01 G4-MM5	G4-MM6 G4-MM7
UN2 Zero Hunger	GRI 201-01 GRI 203-01 GRI 411-01 GRI 413-01	G4-MM5 G4-MM6 G4-MM7
UN3 Good Health and Well-Being	TSM Safety and Health GRI 305-01 GRI 305-02 GRI 305-07 GRI 306-03 GRI 306-04	GRI 401-02 GRI 403-02 GRI 403-03 G4-MM1 G4-MM3
UN4 Quality Education	GRI 102-27 GRI 404-01	
UN5 Gender Equality	GRI 102-22 GRI 102-24 GRI 201-01 GRI 203-01 GRI 204-01 GRI 401-01 GRI 401-02	GRI 401-03 GRI 404-01 GRI 404-03 GRI 405-01 GRI 406-01 GRI 414-01
UN6 Clean Water and Sanitation	TSM Water Stewardship GRI 303-01 GRI 303-02 GRI 303-03 GRI 303-04 GRI 304-01 GRI 304-02	GRI 304-04 GRI 306-03 GRI 306-05 G4-MM1 G4-MM2 G4-MM3
UN7 Affordable and Clean Energy	GRI 201-01 GRI 203-01	GRI 302-01 GRI 302-02
UN8 Decent Work and Economic Growth	TSM Safety and Health GRI 102-41 GRI 201-01 GRI 204-01 GRI 302-01 GRI 302-02 GRI 303-03 GRI 303-04 GRI 401-01 GRI 401-02 GRI 401-03	GRI 403-01 GRI 403-02 GRI 403-03 GRI 403-04 GRI 404-01 GRI 404-03 GRI 405-01 GRI 406-01 GRI 414-01 G4-MM4
UN9 Industry, Innovation and Infrastructure	TSM Energy and Greenhouse Gas Emissions GRI 201-01	GRI 203-01

UN SDG Map (continued)

UN Goal	Avalon Disclosure	
UN10 Reduced Inequalities	GRI 401-01 GRI 404-01	GRI 404-03
UN11 Sustainable Cities and Communities	TSM Indigenous and Community Relationships TSM Energy and Greenhouse Gas Emissions TSM Crisis Management and Communications GRI 203-01	
UN12 Responsible Consumption and Production	TSM Water Stewardship GRI 302-01 GRI 302-02 GRI 303-03 GRI 303-04 GRI 305-01	GRI 305-02 GRI 305-07 GRI 306-03 GRI 306-04 G4-MM1 G4-MM3
UN13 Climate Change	TSM Energy and Greenhouse Gas Emissions GRI 302-01 GRI 302-02	GRI 305-01 GRI 305-02 GRI 305-07
UN14 Life Below Water	GRI 304-01 GRI 304-02 GRI 304-04 GRI 305-01 GRI 305-02	GRI 305-07 GRI 306-03 GRI 306-05 G4-MM1 G4-MM2
UN15 Life on Land	TSM Biodiversity Conservation GRI 304-01 GRI 304-02 GRI 304-04 GRI 305-01 GRI 305-02	GRI 305-07 GRI 306-03 GRI 306-05 G4-MM1 G4-MM2
UN16 Peace, Justice, and Strong Institutions	GRI 102-16 GRI 102-17 GRI 102-21 GRI 102-22 GRI 102-23 GRI 102-24	GRI 102-25 GRI 102-29 GRI 102-37 GRI 307-01 GRI 406-01 GRI 414-01
UN17 Partnerships for the Goals	TSM Indigenous and Community Relationships	

