

TSM Self-Assessment

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. MAC introduced the eighth protocol, Water Stewardship, in 2018.

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 FY2019 performance in reaching its TSM performance indicators, as well as FY2020 targets and action plans.

TSM Performance Indicator	FY2020 Target	FY2020 Action Plan	FY2019 Actual	FY2019 Action Taken	FY2019 Target
ABORIGINAL AND COMMUNITY OUTREACH					
Communities of Interest Identification	AA	Continue to advance MOUs or Benefits Agreements at all projects that receive funding to advance to the next phase of development. Continue to engage with the Eabametoong First Nation at Fort Hope with respect to the Lilypad Cesium Project exploration program.	AA	Avalon had preliminary discussion with the Eabametoong First Nation at Fort Hope with respect to the Lilypad Cesium Project. Drilling remains on hold pending more detailed discussions.	AA
Effective Communities of Interest Engagement and Dialogue	AA	Meaningfully engage with all Communities of Interest on all projects that advance to the next stage of development. At a minimum (pending financing and Communities of Interest willingness to engage): <ul style="list-style-type: none"> • Agreement to drill at Lilypad Cesium • MOU with Acadia First Nation • MOU with the Métis Nation of Ontario (MNO) and advance agreements with the Wabaseemoong Independent Nations (WIN) 	AA	Successful discussions were held with all Communities of Interest at Avalon's Separation Rapids Project. An engagement plan was formally approved by the regulator and successfully implemented during closure plan update discussions. Avalon also held initial discussions with Acadia First Nation environmental experts on East Kemptville. Multi-stakeholder engagement was completed on the successful renewal of the Nechalacho Water License and Land Use Permit.	AA

TSM Performance Indicator	FY2020 Target	FY2020 Action Plan	FY2019 Actual	FY2019 Action Taken	FY2019 Target
Communities of Interest Response Mechanism	AAA	In addition to incorporating Communities of Interest input into advancing projects, develop a more formal process for complaints management that would be applicable to all projects.	AAA	An engagement plan was developed in consultation with Indigenous groups and approved by regulators at Separation Rapids. Discussions were held with WIN in support of communities' concerns unrelated to the project. An MOU is under development at East Kemptville, but is on hold pending project advancement. All Communities of Interest at Nechalacho were engaged on the renewal of the Water License and Land Use Permit for early construction activities. Avalon supported Cheetah in their work programs at Nechalacho. In addition, Avalon supported the Yellowknives Dene First Nation in an unsuccessful attempt to obtain funding for an energy and road corridor across their territory.	AAA
Reporting	AA	Complete 2020 Sustainability Report. Promote the new complaints process with Communities of Interest.	AA	2019 Sustainability Report completed. Management received regular updates on engagement activities throughout the year.	AA

ENERGY AND GREENHOUSE GAS EMISSIONS

Energy use and greenhouse gas emissions management systems	A	Continue to develop sensor-based ore-sorting projects. Monitor technology development in the mining industry through industry associations and conferences.	A	Extensive effort was initiated and ongoing with respect to the development of new sensor-based ore-sorting to reduce water, waste and energy use at Nechalacho, Separation Rapids and East Kemptville projects.	A
Energy use and greenhouse gas emissions reporting systems	A	Expand energy reporting to additional projects (pending financing); continue to participate in industry associations with respect to climate change initiatives.	A	Avalon's energy measurement and monitoring system was adapted and provided to the exploration industry and is available on the PDAC web site, along with Avalon case studies. Avalon participated in a multi-disciplined climate change group, looking at developing a Climate Change Risk Management system.	A
Energy and greenhouse gas emissions performance targets	A	Continue to assess impact and cost of regulation on GHG and energy reporting; utilize efficiency targets when in production.	A	Avalon participated in industry association efforts to lobby for practical and achievable regulation and mitigate cost risks.	A

BIODIVERSITY CONVERSATION

Corporate biodiversity conservation commitment, accountability and communications	A	Continue to advance environmental baseline studies for financed projects as necessary; develop biodiversity management plans for species of importance as required for advancing projects.	A	Avalon advanced the clean tailings cover design for the East Kemptville project, including plant growth experiments. No projects advanced to the stage that management plans were required. Additional baseline work was completed at Nechalacho in support of Cheetah. Avalon participated in PDAC and MAC submissions on the new draft Migratory Birds Act.	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. Participate in the MAC Biodiversity Protocol update, if completed in the next fiscal year.	A	Avalon continued to promote the rehabilitation strategy for the East Kemptville Project with all Communities of Interest. There were no known impacts on biodiversity values as a result of activities in the reporting period.	A

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Biodiversity conservation reporting	A	In addition to annual Sustainability Report, engage on biodiversity management with Communities of Interest for projects that move to next phase. Assist Cheetah to update biodiversity data if requested for their project.	A	A biodiversity overview for East Kemptville was included in closure plan that was drafted. Commitment was made for further discussion with the Acadia First Nation, pending project financing.	A

SAFETY AND HEALTH

Commitments and accountability	A	Continue to review and assign operational health, safety and environment responsibilities at active project sites. Advance safety programs for projects that advance to next stage of development.	A	Safety systems implemented for all active drilling projects.	A
Planning and implementation	A	Conduct risk assessments and prepare safety management plans for new projects and update old assessments as appropriate.	A	Avalon developed risk assessments for all drill projects. A new safety procedure was generated for new risk (large sample bag loading and transport).	A
Training, behaviour and culture	AA	Train all personnel as appropriate for site work.	AA	Training was carried out for new procedures and emergency response plans.	AA
Monitoring and reporting	A	Continue to report leading and lagging indicators at material projects.	A	Avalon drill contractors reported leading and lagging indicators.	A
Performance	AA	Set and work toward safety targets appropriate for the work. Target recordable injuries for drilling programs.	AA	Met all safety targets.	AA

CRISIS MANAGEMENT AND COMMUNICATIONS

Crisis management and communications preparedness	Comp.	Review and amend emergency response plans as required for potential new project areas; update existing emergency response plans as necessary and train appropriate employees.	Comp.	Emergency response plans were updated at sites where work took place.	Comp.
Review	Comp.	Install new computers and assess need to replace servers. Update emergency response plans at active sites.	Comp.	Emergency response plans were updated at sites where work took place.	Comp.
Training	Comp.	Complete a desktop crisis simulation, pending financing for an advancing project.	N/A	No simulations were carried out due to lack of financing and project advancement to required stage.	Comp.

WATER STEWARDSHIP (NEW PROTOCOL FOR 2019)

Water governance	A	Drillers to be made aware of responsibilities for water management at all drill programs. Spill and emergency response plans will be in place, equipped and training at all active sites.			
Operational water management	A	Collect additional baseline data for Nechalacho T-Zone area; acquire approval to dewater the adit in 2019; assess need for upgrade of domestic and sewage water treatment at Nechalacho for Cheetah camp upgrades, including need for additional effluent monitoring.			
Watershed-scale planning	A	Continue to engage with the Tuskent River Environmental Protection Association at East Kemptville and discussions with WIN regarding potential support for mercury monitoring near Separation Rapids.			
Water reporting and performance	A	Evaluate need for or opportunities to augment site water quality monitoring at sites with active water discharges. Report performance in annual Sustainability Reports where collected.			