TSM Verification Summary Report

Facility Information

Name of company	Vale
Name of facility	Sudbury Operations
Address	18 Rink Street Copper Cliff, ON P0M 1N0
Country of operation	Canada
Products/metals produced on site	Nickel powder, Nickel pellets, nickel oxide, Precious Metals residue, Nickel-cobalt carbonate, Sulphuric acid, Copper cathodes, Copper concentrate, Copper matte
Types of operations included in scope:	
Mining	☒
Milling	☒
Smelting	☒
Hydrometallurgical	☐
Refining	☒
Other (*please explain*)	Acid Plant
Types of infrastructure included in scope:	
Roads	☒
Rails	☒
Ports	☐
Other (*please explain*)	

Verifier and Verification Information

Verification firm	Rubinoff Environmental Inc.
Confirmation that all verifiers involved in the verification are accredited TSM verifiers	*Yes* *Dianne Rubinoff of Rubinoff Environmental Inc. is a Verification Service Providers (VSP) certified by the Mining Association of Canada and meets the Terms of Reference for Verification Service Providers established by the Mining Association of Canada.*
Date(s) of verification activities (dd/mm/yyyy – dd/mm/yyyy)	25/08/2025-28/08/2025
Verification period	Year prior to Verification end date
Summary of the verification methodology	All Protocols were verified for this operation. The Verification was completed in accordance with MAC's requirements for completing TSM Verifications, the Towards Sustainable Mining Verification Guide. Rubinoff Environmental conducted the assessment using standard techniques based on those outlined in ISO 19011 The Guidelines for Auditing Management Systems.
Summary of the verification activities	The activities undertaken during the verification process are summarized below: • Review of media scan and development of Verification Plan. Areas identified as higher risk either in the media scan or based on the Verifier's knowledge of the site were given additional verification time in the schedule. • Prior to the verification, copies of the facility's self-assessments and supporting documentation were made available and were reviewed • An opening meeting was held including an overview presentation made by the facility, followed by a site tour. • Evidence was collected through interviews with facility and corporate personnel, review of documents and some observations. • The information collected was assessed against the criteria set out in the performance standards protocols. • As per MAC guidance, the number of worker interviews were based on the square root of the number of workers on site. 60 individuals were interviewed. Interviews included formal interviews with subject matter experts as well as informal interviews with workers. Interviews with workers included

	attendance at line-ups followed by conversations with selected workers with a view to achieving diverse representation as well as individual random interviews. Some interviews were scheduled to follow-up on information provided by the subject matter experts. All interviews were conducted in a manner that allowed the interviewees to speak confidentially and comfortably with the Verifier.
	• A representative sample of COIs were interviewed virtually after the site visit. COI were selected by the Verifier using the stakeholder list and included Indigenous communities, municipal representatives, nearby educational institutions, members of the community liaison committee.
	• A debrief meeting was held daily and a closing meeting was held on the last day.
	• A verification report was produced.
Was a site visited conducted?	Yes
Did the facility provide advance notice of the verification to communities of interest?	Yes
Number and types of communities of interest interviewed to support the verification	2 representatives of Indigenous organizations, 1 local government official, 1 community liaison committee member, 2 educational institution representatives
Has the facility developed an action plan to address gaps to achieve Level A or Yes on any TSM performance indicators?	Facility has developed an Action Plan to address the gaps to achieve Level A for Climate Change Indicator #3

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
Biodiversity Conservation Management		
Interviews included: Environmental Advisor, Senior Corporate Environment Specialist		
Documents reviewed included: Vale Sustainability Policy, Guidelines and Processes for Biodiversity Management, Canada-EMS-Environmental Policy Statement, Vale Base Metals Standard for Closure, Garson Mine Closure Plan, Frood-Stobie Closure Plan, 2024 Annual Review of Closure Plans, Management Review April 2025,Copper Cliff Mine Waste Rock Storage Area Surveys 2024, Blanding Turtle Mitigation Plan – Whitson Water Line Culvert Replacement 2024, Lively Golf Course Desktop Species at Risk Review and Recommendations Plan 2024, New Employee Orientation, Environment Fridays Calendar, Open House 2024 Posters – Biodiversity Initiatives, EMS Awareness for Leaders presentation, Vale Supplier Newsletter – Biodiversity and its Essentiality for Life and Future of the Planet, Manager Environment Job Description, Environment Advisor Job Description, Superintendent Environment Job Description, Internal Verification/Review of TSM Performance November 2024, Water Stewardship External Audit December 2024, Cooperative Freshwater Ecology Unit (CFEU - Laurentian) Lakes, Fish, Wetlands and Peat Lands 2024 Annual Report, Contribution to City of Sudbury Biodiversity Recovery, Sudbury Soils Study webpage, City 30x30 Task Force Article, 2024 Annual Report Regreening Program, Environmental Permitting procedure, Regular Biological Monitoring Studies procedures, EEM Study Tracking 2023, ISO 14001 Certificate, Environmental Manual for Projects, Sudbury Risk Registry, Sudbury Environmental Aspect Registry, 2025 Environmental Objectives/Key Performance Indicators, Monthly Performance Meeting KPI tracking, Community Liaison Committee Minutes February 2025, Environmental Monitoring Team Update March 2025, Vale Integrated Report 2024 and ESG Data Book, Journey Together Report to the Community Sudbury Operations 2023-2024		
1. Corporate biodiversity conservation commitment, accountability, and communications	AAA	The Vale Sustainability policy includes a commitment to biodiversity. The Canadian EMS Environmental Policy Statement and the Closure Standard also include commitments relevant to biodiversity. The policy is supported by the Guidelines and Processes for Biodiversity Management which includes the application of the mitigation hierarchy. The commitments in these documents are consistent with MAC Biodiversity Framework. Commitment has been communicated to employees and COI. Responsibilities and resources have been assigned. .An internal audit on biodiversity was conducted in 2024. Vale's commitment includes a stated ambition of no net loss. Vale actively partners with other organizations and Vale personnel sit on these boards.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
2. Biodiversity conservation planning and implementation	AAA	Baseline data is available through project studies. Significant biodiversity aspects have been identified. The facility monitors biodiversity. Global and site-specific biodiversity objectives exist related to reduction of impacted land. The status is reported internally monthly. Biodiversity is integrated with business process and budgeting. An internal audit on biodiversity was conducted in 2024. The facility has made investments in research, is contributing to greater scientific understanding and encourages employee volunteerism in community-based initiatives.
3. Biodiversity conservation reporting	AAA	The facility reports on its biodiversity KPI monthly to management and to Vale corporate. This information is reported on an aggregate basis in the Vale Integrated Report. The biodiversity data in the Sustainability Report is externally verified. Biodiversity information is also included in the Report to the Community and presented at the Open House. COI feedback on reporting is sought at the Community Liaison Committee and at the Open House. Vale Integrated Report 0c82cdc2-0eee-aa5f-1777-cddc02bd917d Facility meets the requirements of Level AA.

Criterion	Rating *C, B, A, AA or AAA (unless otherwise indicated)*	Comments
Climate Change		
Interviews included: Technical Leader Decarbonization, Energy Management Lead		
Documents reviewed included: 2025 Base Metals Emissions spreadsheet, Sustainability Policy, 2024 Vale Integrated Report and ESG Databook, Credit 360 tracking of fuels and non-energy sources, Climate Vulnerability Risk Assessment Project Kick-off Presentation, Energy Organizational Chart., Management Review April 2025, Environmental KPI Tracker, Sample 5CP Forecast, Alert and Performance emails August 2025, Management of GHG procedure Appendix 1- GHG Simplified Calculation Tool, Vale Community Report: Sudbury Operations Update 2023-2024, Action Plan to Achieve Level A for Indicator #3		
1. Corporate climate change management	A	Data on Scope 1 and Scope 2 emissions are maintained. There is a demonstrated corporate climate change strategy documented in the Vale Integrated Report. Vale has a Chief Sustainability and Corporate Affairs Officer and a Board Sustainability Committee. Material climate-related risks are identified in the Vale Integrated Report.
2. Facility climate change management	A	The Sustainability Policy commits to demonstrating leadership in low carbon mining. Significant sources of energy and non-energy sources are identified and data is collected and monitored. Job descriptions show clear roles and responsibilities. Operators are informed of 5CP days and have awareness of parameters influencing energy performance. A climate vulnerability and risk assessment has been completed. A climate change video has been prepared to promote awareness. Climate change as been presented and discussed at the Community Liaison Committee.

Criterion	Rating *C, B, A, AA or AAA (unless otherwise indicated)*	Comments
3. Facility performance targets and reporting	B	Vale has set corporate targets for GHG reductions (33% by 2030) and for zero-net GHG emissions by 2050. There are also Sudbury level forecast targets. The facility has demonstrated progress towards the performance targets, achieving the forecast targets in 2024. There are short-term and long-terms actions developed. There is annual public reporting in the Vale Integrated Report. Vale does not meet the criteria "Is Information on the facility's assessment of potential climate impacts and plans or actions to manage the associated risks shared publicly and updated as assessments or plans are updated" as required by Level A. Other Level A criteria have been met. There is an action plan to achieve Level A.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
Crisis Management and Communications Planning – Facility (Indicate YES or NO)		
Interviews included: Manager Safety, Health and Risk & Disability Management, Superintendent HSR Processing Plants, Health, Safety and Risk Analyst, Operational Risk Specialists, Documents reviewed included: Hazard Identifications and Risk Assessment (HIRA) for Material Unwanted Events (MUEs) procedure, MUE Loss of Containment of Carbonyl and CO from Process Area Piping and Process, Copper Cliff Mine North Side Fire procedure, Base Metals Severity Matrix, Ontario Business Support Team (BST Team) membership, Ontario Crisis Management Plan and document revision/review records, Ontario Crisis Management Plan Profile Packs, Job Description Community Affairs Specialist, Sudbury Stakeholder List, Greater Sudbury Emergency Management Advisory Panel (GSEMAP) meeting September 2023, Report for Full-scale simulation drill – SO2 release, Report for Tabletop Exercise March 2023 – Level 2 Ammonia Release at CCNR, Report for Tabletop Exercise 2024 – Garson Mine underground fire		
1. Crisis Management and Communications Preparedness	YES	The Hazard Identification Risk Assessment (HIRA) identifies Material Unwanted Events (MUE) as credible threats. Emergency Plans exist to respond. EMQnet is used to manage the crisis including Ontario Crisis Management Plan and roles and responsibilities of the Business Support Team (BST). EMQnet allows remote access; and the Maple Conference Room at the North Atlantic Operations Centre (NAOC) is designated as a crisis room. Location specific documents on EMQnet include stakeholder lists and media lists. Facility meets regularly with local emergency response authorities.
2. Review	YES	EMQnet acts as a document control system for crisis documents. The facility's plans are shared with corporate through EMQnet. The notification system was tested. Records indicate all crisis team members are familiarized with the plan either through EMQnet modules, facilitated training or participation in an exercise.
3. Training	YES	A tabletop drill was conducted in March 2023 for a Level 2 Ammonia Release at CCNR. A 2024 tabletop drill was conducted for an underground fire at Garson Mine. A full crisis simulation drill was conducted in October 2022 for an SO2 release at Port Colborne**. A full scale simulation drill for tailings is planned for Fall 2025.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
Indigenous and Community Relationships		
Interviews included: GM Indigenous and Community Relations, Specialist Indigenous Relations, Specialist Community Relations. 2 representatives of Indigenous organizations, 1 local government official, 1 community liaison committee member, 2 educational institution representatives Documents reviewed included: Vale's Social Performance Policy, Listening and Response Mechanism, Health, Safety, Environment, Community and Operational Event Management procedure, Vale SDI (Stakeholders Demands and Issues) System, Greater Sudbury Stakeholders List, Sudbury Stakeholder Map, Sections of Sagamok Anishnawbek First Nation Totten Mine IBA, Sections of Wahnapitae First Nation Engagement Agreement, Sections of Atikameksheng Anishnawbek First Nation Relationship Agreement, Community Liaison Committee (CLC) Terms of Reference, CLC Members List, Open House Poster presentation and pictures, ACT information, Indigenous Relations Specialist job description, Community Relations Specialist job description, Indigenous Foundations training, Stereotypes, Bias and Reconciliation training, Ontario Leadership Meeting to Review Indigenous and Community Matters – July 2025, Journey Together Report to the Community 2023-2024, Copper Cliff CAN March 2025 presentation, Environmental Monitoring Team Update presentation March 2025, Base Metals Monthly Performance Meeting Concerns Tracker, Superstack community consultation, communications plan, Vale.com Indigenous Peoples and Traditional Communities webpage, N'Swakamok Pow Wow sponsorship, Invite to all employees for National Indigenous Peoples History Month webinar, Sagamok Ceremony at Totten pictures, Engineering Standards Community Relations Manual for Capital Projects, Vale Concerns Line Protocol, CTA Project Road Sign with Community Concerns phone number, Whistle Blower Channel & Re-education Campaign, Community Investing Criteria, Sudbury news: Steelworkers and Vale fundraise big for United Way, Sudbury Star: Vale donates equipment to College Boreal, 2025 Box of Giving calendar, Cambrian College Electric Vehicle Lab – Gift Agreement, Edgar Burton Food Drive Wrap-up Dec 2024		
1. Community of Interest (COI) Identification	AAA	Communities of Interest are identified and documented on the Greater Sudbury Stakeholders List. There is a documented process in place for COI identification and is described in corporate documents. The Community Liaison Committee (CLC) includes a broad scope and spectrum of COI. Terms of Reference provides guidance and the CLC provides input into how the facility identifies COI. The Terms of Reference and Committee membership are annually reviewed with the CLC. The Sudbury Stakeholder list and map are updated regularly.

Criterion	Rating *C, B, A, AA or AAA (unless otherwise indicated)*	Comments
2. Effective COI Engagement and Dialogue	AAA	The facility provides assistance to ensure COI are able to participate. Reporting on engagement and dialogue takes place at monthly leadership performance meetings. Engagement requirements are included in the formal agreements with First Nations and Metis and in the CLC Terms of Reference. The agreements were co-developed with the COI and annual reports summarize the effectiveness of the engagement. Communications are bilingual (English/French) as appropriate. Information on engagement, including feedback, is included in the Vale Sudbury Community Report.
3. Effective Indigenous Engagement and Dialogue	AAA	There is demonstrated senior management commitment to Indigenous engagement consistent with the TSM Frameworks as evidenced by the site engagement with the Indigenous community (e.g., CLC, Impact Benefit Agreement, Engagement Agreement and Relationship Agreement). The Terms of Reference of the CLC and these agreements outline the engagement process. All Ontario personnel are required to take the Stereotypes, Bias and Reconciliation training module. The training was developed with the Indigenous communities. Specific training was given to procurement managers and the COO. Vale Sudbury works with these groups to identity opportunities for collaboration including on mutually identified objectives (e.g., employment, procurement). On-site cultural activities occur and community events are supported. Traditional practices are integrated into business practices.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
4. Community Impact and Benefit Management	AAA	Vale's Sustainability Policy commits to contributing to local development. Social impacts were identified through a Human Rights Impact Assessment. Vale contributes to a number of organizations to benefit a broad spectrum of the community. Contributions are discussed in the CLC. Specific gifting (e.g., food bank requirements or monthly Box of Giving) are decided collaboratively. Benefits are included in the agreements and include consideration of procurement and employment. These contributions are noted in the Report to the Community.
5. COI Response Mechanism	AAA	A Community Concerns Hotline is in place supported by a documented Response Protocol. Concerns from the hotline are documented and followed-up and tracked. There are also dispute resolution sections in the formal agreements. Reports on concerns are provided monthly to the Leadership Performance Meeting. COI are proactively informed on how to access the response mechanism. The response mechanism is reviewed and a decision was made recently to switch to another platform for tracking.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
Preventing of Child and Forced Labour (Indicate YES or NO)		
Interviews included: Talent Acquisition Manager, Corporate Sustainability Analyst Documents Reviewed Included: Human Rights Policy, Principles of Conduct for Third Parties, Copper Mark – Joint Due Diligence Standard for Copper, Lead, Molybdenum, Nickel and Zinc, Vale Base Metals Standard for Responsible Sourcing of Minerals, Responsible Sourcing Policy Statement for Vale Canada Limited		
1. Preventing Forced Labour	YES	Vale's Human Rights Policy states, "Vale prohibits the use of any kind of employment practice that may be interpreted as equivalent to forced or modern slavery labour", and "Vale requires through contractual clauses, that its suppliers prohibit any type of employment practice that may be interpreted as equivalent to forced or modern slavery." Vale's Principles of Conduct for Third Parties states that Vale expects third parties to be familiar with Vale's Human Rights Policy and adopt standards in line, including the prohibition of modern slavery and forced labour. Vale Base Metals' Standard for Responsible Sourcing on Minerals requires an assessment of risk related for forced labour and the Responsible Sourcing Policy Statement for Vale Canada indicates forced labour will not be tolerated. Vale is registered to Copper Mark and supply chain related to forced labour has been audited.

Criterion	Rating *C, B, A, AA or AAA (unless otherwise indicated)*	Comments
2. Preventing Child Labour	YES	Federal regulation prohibits children under the age of 17 from working in an underground mine. Various Provincial regulations (including Ontario, Manitoba and Newfoundland & Labrador) prohibit children under the age of 18 from working in an underground mine. Vale's Human Rights Policy states, "Vale prohibits the use child labour", and "Vale requires through contractual clauses, that its suppliers prohibit the use of slave labour." Vale's Principles of Conduct for Third Parties states that Vale expects third parties to be familiar with Vale's Human Rights Policy and adopt standards in line, including the prohibition of child labour. Vale Base Metals' Standard for Responsible Sourcing on Minerals requires an assessment of risk related for child labour and the Responsible Sourcing Policy Statement for Vale Canada indicates child labour will not be tolerated. Vale is registered to Copper Mark and supply chain related to child labour has been audited

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
Safety and Health		
Interviews included: Manager Safety, Health and Risk & Disability Management, Superintendent HSR Processing Plants, Health, Safety and Risk Analyst, Operational Risk Specialists, Learning and Development (L&D) Supervisor, L&D Superintendent – Mines, Occupational Health Superintendent Documents Reviewed Included: Sustainability Policy, Ontario Operations Health and Safety Policy, Roles and Responsibilities procedure, OHSMS Summary Report March 2025, Incident – Creighton Mine Seismic Event Jan 2024 Report, Health, Environmental and Community Events Management procedure, Daily Events Report, Supervisor Training IRIS/SAP-IM/CRM, Surface Plant (General) Supervisor Induction Program, CCNR Flange Assembly procedure, Coleman Jaw Crusher procedure, JHSC Garson Mine Calendar 2024, Work Inspection procedure, Workplace Inspection Shaft Station 200-2000 Level March 2025, Zero Energy State (ZES) program and modules, HSER Initiatives Gant Chart, Field Level Hazard Analysis Garson Mine Toyota Bed Swap, Job Hazard Analysis (JHA) Upright Vac Truck, JHA Chromite Dip, JHA Creighton Mine Local Development Blasting, Hazard Identification and Risk Analysis (HIRA) Material Unwanted Event (MUE) Loss of Containment of Carbonyl and CO from Process Area Piping and Process with critical control identification and verification, HIRA Summary MUE and Critical Controls Report, Creighton Mine Safety Booklet – Pre-Task Assessment, Annual Monitoring Plan, Quantitative Occupational Exposure Monitoring Program, Designated Substance Program, WHIMS Program, Hearing Conservation Program, Clarabelle Mill 2024 Sampling Status Report, Quantitative Exposure Assessment Decision Tree, HSR Organizational Chart, New Employee Orientation Training Itinerary, New Employee S&H Orientation, Equipment Training Syllabus – Bolting, Instruction Training Syllabus, Health and Safety Budget, August 2025 Calendar for Safety Line-ups, 9 Positive Mental Health Habits, Mine for Minds, Copper Cliff Mine Safety Board monthly safety stats wheel, Management Review NA HSR 2024, Monthly HS Deep Dive Meeting, Weekly HSER Meeting, HSER Bulletin New Ontario Safety Plan Dashboard, CIMM Benchmarking report, Vale Integrated Report and ESG Data Book, Vale Community Report: Journey Together 2023-2024		
1. Commitments and Accountability	AA	The Sustainability Policy and the Ontario Health and Safety Policy define the policy commitments. The Policy has been communicated to employees and contractors. The Manager HSR is accountable for safety and health in Ontario and roles and responsibilities have been assigned. An internal OHSMS audit was conducted in March 2025.
2. Planning and Implementation	AA	A formal Safety and Health Management System is in place including objectives, risk assessments, critical control verification, workplace inspections, defined roles and responsibilities, maintenance of records. Critical controls have been identified and verified. The facility is working towards ISO 45001 certification. The industrial hygiene program is overseen by a qualified hygienist. An internal OHSMS audit was conducted in March 2025.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
3. Training, Behaviour and Culture	AAA	A robust training system is in place. Senior leadership demonstrates a commitment and a safety-based culture is encouraged. Trainees are assessed for competency and trainers are qualified and evaluated for effectiveness annually. The facility promotes health and wellness with programs to support worker mental heath. The commitment to safety and health is visibly embedded and management demonstrated the commitment through one-on-one interactions.
4. Monitoring and Reporting	AA	Safety and health metrics are monitored and reported including leading and lagging indicators. Leadership reviews performance weekly. Safety information is communicated to employees through town halls. Safety and Health data is publicly reported in the Vale Integrated Report. An internal OHSMS audit was conducted in March 2025. Critical controls are verified with thresholds implemented. Vale Integrated Report 0c82cdc2-0eee-aa5f-1777-cddc02bd917d
5. Performance	AA	Targets are set for leading and lagging indicators and performance is regularly reviewed and communicated. Targets include contactors. Facility benchmarks its performance against its peers.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
Tailings Management		
Interviews included: Manager Ontario Tailings, Responsible Tailings Facility Engineer (M and P areas), Responsible Tailings Facility Engineer (A, R and Upper Pond areas), Responsible Tailings Facility Engineer (Ontario Inactive Sites), MAC Vice President, Science and Environmental Management, MAC Director Towards Sustainable Mining Documents reviewed included: External Audit of Tailings Management System Performance of the CTA Tailings Management Area in Ontario June 2024 ,External Audit of Tailings Management System Performance of the Shebandowan Tailings Management Area in Ontario June 2024, External Audit of Tailings Management System Performance of Frood-Stobie Emergency Tailings Area in Sudbury July 2024, External Audit of Tailings Management System Performance of the Levack Mine Complex in Ontario June 2024		
1. Tailings management policy and commitment	AAA	External Audits of Tailings Management System Performance of the active and inactive tailings areas (CTA Tailings Management Area, the Shebandowan Tailings Management Area, the Frood-Stobie Tailings Area and the Levack Complex) were conducted in 2024. The external audit confirmed MAC requirements were met and deemed the tailings management policy and commitment effective.
2. Assigned accountability for tailings management	AAA	External Audits of Tailings Management System Performance of the CTA Tailings Management Area, the Shebandowan Tailings Management Area, the Frood-Stobie Tailings Area and the Levack Complex were conducted in 2024. The external audit confirmed MAC requirements were met and deemed the assigned accountability for tailings management to be effective.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
3. Tailings management system and emergency preparedness	AAA	External Audits of Tailings Management System (TMS) Performance of the CTA Tailings Management Area, the Shebandowan Tailings Management Area, the Frood-Stobie Tailings Area and the Levack Complex were conducted in 2024. The external audit confirmed MAC requirements were met. The external audit concluded that the Vale generally has an effective TMS but noted that there were opportunities for improvement and assessed Vale as AA. As part of the verification, discussion was held with MAC representatives and it was concluded that the existence of opportunities for improvement did not prevent Vale from being AAA.
4. Operation, maintenance, and surveillance (OMS) Manual	AAA	External Audits of Tailings Management System Performance of the CTA Tailings Management Area, the Shebandowan Tailings Management Area, the Frood-Stobie Tailings Area and the Levack Complex were conducted in 2024. The external audit confirmed MAC requirements were met. The external audit concluded that the Vale generally has an effective TMS but noted that there were opportunities for improvement and assessed Vale as AA. As part of the verification, discussion was held with MAC representatives and it was concluded that the existence of opportunities for improvement did not prevent Vale from being AAA.
5. Annual tailings management review	AAA	External Audits of Tailings Management System Performance of the CTA Tailings Management Area, the Shebandowan Tailings Management Area, the Frood-Stobie Tailings Area and the Levack Complex were conducted in 2024. The external audit confirmed MAC requirements were met. The external audit concluded that the Vale generally has an effective TMS but noted that there were opportunities for improvement and assessed Vale as AA. As part of the verification, discussion was held with MAC representatives and it was concluded that the existence of opportunities for improvement did not prevent Vale from being AAA.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
Water Stewardship		
Interviews included: Environment Advisors Documents reviewed included: Sustainability Policy, Water and Water Resources Policy, Management of Water Resources and Effluents Procedure, Canadian EMS Environmental Policy Statement, Health, Safety, Environment, Community and Operational Event Management procedure, July 2025 Copper Cliff Waste Water Treatment Plant Stormwater Retention Pond By-Pass event documentation, Superintendent Environment job description, Environment Advisor job description, Management Review April 2025, New Employee Orientation, Nolin Creek Water Treatment Plant and Water Management System Operating Manual, Hazard Identification and Risk Assessment (HIRA) Material Unwanted Event (MUE) Copper Cliff Waste Water Treatment Plant – Release of Off-spec Water to the Environment and associated critical control verifications, HIRA MUE Coleman Mine Failure to Capture Groundwater Leading to Downstream Impacts and associated critical control verifications, Environmental Aspects Registry, Budget, Copper Cliff South Mine Closure Plan, Internal Verification/Review of TSM Performance December 2024, Water Stewardship External Audit December 2024, Ontario Operations Summary of Nonconformances and OFIs, Monthly Performance Meeting KPI Charts, Monthly Water Balance, Water Balance PIFC Water Flow Monitoring and Water Balance, GRI Water Indicator Regulatory and PTTW Reporting procedure, Water Quality Management Plan Central Area Water Management System (CAWMS) Hydrological Model Report – Central Area Water Management System 2023, Environmental Monitoring Plan for Surface Water and Groundwater procedure and monitoring results, Copper Cliff Wastewater Treatment Plant ERP, Nolin Creek Wastewater Treatment Plant ERP, Competence and Awareness procedure, 2025 Environmental Objective record, Environmental Training Matrix, Spanish and Vermilion Rivers Water Management Plan (SVRWMP) 2024, SVRWMP Annual Report 2023/2024, EEM Study 7th Biological Monitoring Interpretive Report, 2024 Vale Integrated Report and ESG Data Book		
1. Water Governance	AAA	There is demonstrated senior management through the Sustainability Policy and the Water and Water Resources Policy consistent with the MAC Water Stewardship Framework. The commitment is communicated through Tool Talks. Roles and responsibilities are defined in the Management of Water and Water Resources document and in job descriptions. Risks are identified in the HIRA and the Environmental Aspects Registry and integrated into business planning and budgeting. An internal audit was conducted by Sudbury personnel in November 2024. An external audit was conducted by WSP in December 2024.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
2. Operational Water Management	AAA	The site has identified facility-level risks related to surface water and ground water. water with critical controls identified and verified. A water balance was prepared. Processes are established to monitor water performance for both surface water and groundwater. Groundwaters is modelled. Records of water quality and quantity are maintained. The site has a systematic approach to operational water management described in the Water Quality Management Plan (WQMP). Processes are established to monitor water performance for both surface water and groundwater. Records of water quality and quantity are maintained. Response and contingency plans have been established for water related risks and incidents (ERP, SPCP). Relevant employees and contractors have been provided with appropriate training (peer-to-peer training on discharge, review of ERP in safety meetings, Class III operators for potable water). The facility has a site wide water balance that is reviewed regularly and includes potential variability from climate change. An internal audit was conducted by Sudbury personnel in November 2024. An external audit was conducted by WSP in December 2024 and the resulting opportunities for improvement are being tracked. Long-term water management consideration have been incorporated into closure plans.

Criterion	Rating C, B, A, AA or AAA (unless otherwise indicated)	Comments
3. Watershed-scale Planning	AAA	Vale has identified watersheds in the Water Quality Management Plan and in the Spanish and Vermillion Rivers Water Management Plan (SVRWMP). Relevant COI have been identified. Responsibility of water-shed planning is documented in the Management Plans. Engagement with Sagamok FN, Atikmeshing FN happen on a regular basis as outlined in agreements and in the permitting process. Vale participates in watershed governance groups (SVRWMP, Junction Creek). The Environmental Effects Monitoring Studies allow the facility to assess its contribution to cumulative effects in the watersheds. Vale has engaged with various inter-ministerial agencies to set priorities in the SVRWMP. Vale communicates with relevant COI through FN agreement committees and through open houses. The SVRWMP involves collaborative monitoring with Domtar, Conservation Sudbury and government agencies.
4. Water Reporting and Performance	AAA	Vale's water performance target is documented on the Vale website. Progress is reported in the monthly HSER meeting. Facility met its 2024 water targets. Public reporting of performance against target is included in the Vale Integrated report. The data in the Integrated report was independently verified. The Sudbury target was not met in the reporting year; however, study work is ongoing to identify opportunities. Site level MDMER results are published. Vale Integrated Report 0c82cdc2-0eee-aa5f-1777-cddc02bd917d

Statement of Verification

Statement of Verification	
The external verification was conducted in accordance with the *Terms of Reference for Verifiers* and, accordingly, consisted primarily of interviews, data analysis, and examination (on a sample basis) of other evidence relevant to management's assertion of conformance to the requirements of the TSM performance indicators.	☒ The external verification was conducted in accordance with the *TSM Verifier Terms of Reference*.
The scores indicated in this report are verified as being accurate based on the evidence reviewed during the external verification of this facility.	☒ The scores in this report are considered accurate based on this verification.
Limitations	none
Additional comments	Vale and Sudbury Operations demonstrated a strong commitment to the MAC TSM program. Personnel were well prepared for the verification process. The self-assessments were comprehensive. Excellent, professional support was received throughout the verification.
Name of lead verifier	Dianne Rubinoff, P.Eng.
Date of statement of verification	25/09/2025
Signature of lead verifier	*Dianne J. Rubinoff*