



cnwm

Our environment, Our duty, Our solution.

Central Regional Service Board
Department of Municipal and Community Affairs

2025 Annual Report

Submitted By:

Pam Preston
Chief Administrative Officer, CRSB
June 24, 2026

Executive Summary:

The Central Regional Service Board (CRSB) respectfully submits its 2025 Annual Report, in accordance with Sections 123–126 of the *Waste Management Act* and the requirements of the Department of Environment, Conservation and Climate Change Certificates of Approval. This report provides a comprehensive account of CRSB's waste management operations, environmental monitoring activities, financial performance, and regulatory compliance for the period January 1 to December 31, 2025.

During the reporting year, CRSB managed **76,898.20 tonnes** of municipal solid waste, construction and demolition material, recyclables, hazardous waste, and special waste across the Regional Waste Management Facility, and seven Municipal Waste Transfer Stations. Operations remained stable and compliant, with no reportable spills, upsets, or environmental incidents. All required surface water quality, groundwater, and environmental effects monitoring was completed, and the 2025 Englobe Environmental Report confirmed that CRSB met all monitoring and reporting obligations under its Certificates of Approval.

In fiscal year 2025, CRSB demonstrated exceptional financial stewardship and operational discipline, achieving a definitive financial turnaround. Total revenues scaled to **\$12.18 million**, an expansion driven by optimized collection and disposal yields, while operating expenditures were rigorously maintained at **\$11.11 million**. This generated an annual operating surplus of **\$1.06 million**, successfully reversing the prior year's operating deficit. Supported by strong top-line performance and aggressive working capital conversion, the organization closed 2025 in a highly liquid position, expanding its net financial assets by 55.4% to **\$2.68 million** and its total cash and cash equivalents to **\$4.12 million**.

CRSB advanced several operational and community engagement initiatives, including the launch of the inaugural **Central Clean Sweep** event in partnership with UOMA, Product Care, and EPRA recycling partners. The Board also expanded communication with municipalities, waste haulers, and the public through enhanced outreach, increased social media activity, and the introduction of **Voyent Alert!** for real-time service notifications. A new CRSB website is scheduled for launch in summer 2026 to further improve public access to information and services.

Environmental stewardship remained a central priority. CRSB continued to prepare for compliance assurance with new federal methane regulations, requiring the installation and operation of a landfill gas control system by **January 1, 2029**. Proactive surface emissions monitoring scheduled for spring 2026 will support system design and regulatory readiness.

Looking ahead, CRSB's focus for 2026 includes strengthening our financial planning, improving long-term asset management, and continuing to build the strong, skilled team that delivers waste management services across the region every day. We are also exploring opportunities to expand regional services beyond waste, where it is practical for municipalities and delivers greater value for residents. CRSB remains committed to environmental responsibility, strong partnerships, and delivering modern, reliable regional services for Central Newfoundland.

CRSB Board Composition:

The Board of Directors of the Central Regional Service Board (CRSB) is comprised of 12 representatives from the following wards:

WARD	REPRESENTATION*
One (1) member from each of the Regional Waste Management areas	7
One (1) member from the Town of Gander	1
One (1) member from the Town of Grand Falls-Windsor	1
One (1) member from the Norris Arm North LSD/ Town of Norris Arm South	1
One (1) member from the Direct Haul ward, except for the Towns that have representation on the board.	1
One (1) member representing the Town of Bishop Falls, Botwood, Lewisporte	1
TOTAL	12

** Members in the Norris Arm North LSD, Town of Norris Arm South, Town of Bishop Falls, Botwood, and Lewisporte are selected on a rotational basis.*

The Chairperson is appointed by the Province of Newfoundland and Labrador for a four-year term.

Unincorporated areas within the regional boundaries shall be represented by the board member appointed or elected for the applicable ward.

Section 1 – Certificate of Approval (COA) Overview:

Central Regional Service Board (CRSB) is required, by the Department of Environment, Conservation and Climate Change, to attain the following Certificates of Approval (COA) for operations of the Regional Site, seven Transfer Stations, and to report on the Town's of St. Brendan's and Change Islands (see attached).

Table 1.1 – Certificates of Approval

Approval No.	File No.	Term	Scope
WMS-17-04-001	839.CRS.001	Jan. 15, 2023 - Jan. 31, 2028	Approval to operate a Regional Waste Management Facility to serve the Central Newfoundland Region, and to accommodate incoming municipal solid waste from the Western, Northern Peninsula, Baie Verte/Green Bay and Coast of Bays Regions.
WMS-17-12-004	804.021.001	Feb. 17, 2024 - Dec. 31, 2028	Approval to operate seven (7) Municipal Waste Transfer Stations located at Buchan's Junction, Fogo Island, Gander Bay, Indian Bay, New World Island, Point Leamington, and Terra Nova
WMS-16-08-009	839-CRS-001	Jan. 19, 2024 – Dec. 31, 2028	Approval for CRSB to report on the Town of St. Brendan's Waste Recovery Facility.
WMS-16-08-008	839-CRS-001	Jan. 19, 2024 – Dec. 31, 2028	Approval for CRSB to report on the Town of Change Islands Waste Recovery Facility

Section 2 - Yearly Waste Tonnage: Scaled and Shipped

Table 2.1 - Type & Quantity of Waste (see attached)

Waste Type	2024 Tonnage	2025 Tonnage	YoY Change (Tonnes)	YoY % Change
Clear Garbage Bags (Note 1)	52592.39	52865.82	+273.43	+0.52%
Transparent Blue Bags	1857.28	2007.77	+150.49	+8.10%
C&D / Bulk (Sorted)	7438.77	10528.21	+3092.1	+41.58%
C&D / Bulk (Mixed)	7801.82	8438.17	+636.39	+8.16%
Metals (Note 2)	1110.01	1209.38	+99.01	+8.92%
Cardboard	1283.28	1285.92	+2.64	+0.21%
Household Hazardous Waste (HHW)	35.46	25.85	-9.61	-27.10%
Paint Waste (Note 3)	10.78	23.92	+13.14	+121.89%
E-Waste (Note 4)	65.09	52.75	-12.34	-18.96%
Tires (incl. oversized) (Note 5)	286.64	175.22	-111.42	-38.87%
Total Tonnage	72481.52	76613.01	4131.49	+5.70%

Note 1 - Clear Garbage Bags: CRSB: 23,469.27 Tonnes | WRSB: 29,123.12 Tonnes

Note 2 – Tonnage matches the 2024 reported total. See attached table of totals removed.

Note 3 - Tonnage is tracked by CNWM staff and reconciled with data from Product Care. See attached table.

Note 4 – Tonnage is tracked by CNWM staff and reconciled with data from EPRA. See attached table.

Note 5 – CRSB Collected and Transported 3193 MMSB Program Tires in 2024 and 2575 in 2025.

2 (a) Waste received at the CRSB Regional Site or at one of the seven (7) Transfer Stations was delivered by:

1. Contractors
2. CRSB Curbside Collections Program
3. Town's Collection Contractors
4. Town Employees
5. Individuals/residents

The origin of the waste:

1. Residential Solid Waste
2. Residential Construction, Demolition and Bulk Waste
3. Commercial Solid Waste
4. Commercial Construction, Demolition and Bulk Waste
5. WRSB – Clear Bag and Mixed Waste
6. Special Waste from around the province

2 (b) Materials Transferred to the Regional Site (see attached):

The attached spreadsheet shows the materials delivered to the Regional Site from (7) Transfer Stations. The transferred column indicated the tonnage transferred to the Regional Site with the following explanations:

1. Transferring the Clear Bag to the Regional Site also includes the C & D Mixed.
2. Transferring the Blue Bag to the Regional site also include cardboard.
3. The HHW, E-Waste, Paint Waste are collected by CRSB HHW Collection cube van.
4. Metals are collected by Newco.
5. Program Tires are collected by the MMSB Tire Program.
6. Other tires & sorted material are collected by CRSB and delivered to the Regional Site.

Table 2.2 - Special Waste (See attached)

Stream	2024	2025	Unit
Asbestos Waste	40.5	204.86	Tonnes
International Waste	112.2	80.33	Tonnes

Other special waste, such as animal carcasses, mortalities or roadkill, as identified by the Department of Forestry, Agriculture & Lands and Fisheries and Oceans Canada, are disposed of in a similar fashion as international waste, typically under the supervision of the Provincial/Federal Departments.

2 (c) Special Waste Collectors

1. Asbestos
 - PBO
 - T&K Services
 - Rock Construction
 - Emmanuel Construction
2. International Waste
 - PBO
 - Murphy Brothers

2 (d) Total Materials Recycled

Table 2.3 — Materials Recycled

Stream	Processor / Program	2024 Quantity	2025 Quantity	Unit
Metals	Newco	1110.01	1305.17	Tonnes
Paint Waste	Product Care	10.78	23.92	Tonnes
E-Waste	EPRA	42,514	52.74	Tonnes
Household Hazardous Waste	—	35.46	25.85	Tonnes
Cardboard	—	1283.28	1285.87	Tonnes
Blue Bag Recycling Material	HRI	1857.28	2007.70	Tonnes
TOTAL RECYCLED		4361.90	4701.25	Tonnes

2 (e) Blue Bag Materials Bailed Tonnage (See attached)

Table 2.4 — Tonnage Breakdown

Material Stream	2024 Bailed Tonnes	2025 Bailed Tonnes
Mixed Newsprint / Paper	707.09	693.47
OCC - Cardboard	1479.19	1504.04
PET	87.35	96.3
HDPE	53.96	55.04
Mixed Tubs / Lids	24.58	25.54
Steel	95.24	99.14
Aluminum	23.69	25.29
Tetra / Gable / Milk Cartons	42.68	43.43
Waste (residual) (Note 1)	(597.17)	(662.37)
TOTAL	2513.78	2542.25

Note 1 – Waste (residual): Residuals are landfilled and any metals are brought to the metals lay down area.

2 (f) Used Oil & Containers, UOMA (See attached):

Table 2.5 – Used Oil and Containers Removed*

Stream	2024 Quantity	2025 Quantity	Unit
Used Oil (UOMA)	16436	8590	Litres
Oil Containers	880.95	806.97	Kg

2 (g) Household Hazardous Waste:

Table 2.6 – HHW Scaled (See attached)

Waste Dangerous Goods	2024 Quantity	2025 Quantity	Unit
Household Hazardous Waste (HHW)	35.46	25.85 (Note 1)	Tonnes

Note 1 - 17.57 T was removed from the site by GFL

HHW includes materials such as:

- Aerosol Cans
- Antifreeze
- Cleaning Products
- Fertilizers
- Fluorescent Light Bulbs
- Medications
- Motor Oil
- Paint
- Batteries
- Propane Tanks
- Herbicides/fungicides
- Insecticides/pesticides
- Kerosene
- Lighters with contents
- Sealants
- Solvents
- Pool chemicals

Section 3: Environmental Monitoring — Surface Water, Groundwater and Methane Compliance

2025 Environmental Monitoring Report

- A summary of the water quality data for the sedimentation pond, surface water, and ground water monitoring program
- Updated drawings with the location of monitoring wells, latest contours and groundwater flow pathways
- A review of the program by Englobe

In addition to water quality monitoring, CRSB is preparing for compliance with the new 2025 Federal Landfill Methane Regulations. Based on current waste volumes and methane generation estimates, the CNWM landfill is projected to exceed 1,000 tonnes of methane per year. As the site does not currently have a landfill gas (LFG) collection system installed, the regulations allow for a one-year grace period, extending CRSB's full compliance date from January 1, 2028, to January 1, 2029.

Beginning January 1, 2029, CRSB will be required to:

- Install and operate an LFG control system
- Conduct monthly monitoring of the LFG system
- Complete leak detection surveys three times per year
- Conduct surface emissions monitoring three times per year
- Submit an annual methane compliance report, with the first report due June 1, 2030

To prepare for these requirements, CRSB has initiated proactive surface emissions monitoring (SEM) in spring 2026, carried out by Comcor. This early SEM work will quantify current fugitive methane emissions and provide essential data for the design and sizing of the future LFG collection system. No additional SEM events are required until the regulatory schedule begins in 2029.

Collectively, the surface water quality program, groundwater monitoring network, and methane compliance planning ensure that CRSB continues to meet environmental obligations, while preparing for the next generation of federal regulatory requirements.

Reference: Attached Englobe Environmental Report — prepared by Englobe Corp. for the 2025 monitoring year.

Section 4: Financial Reporting – 2025 Audited Financial Statements

In fiscal year 2025, the Central Regional Service Board (CRSB) demonstrated exceptional financial stewardship and operational discipline, achieving a definitive financial turnaround. Total revenues scaled to \$12.18 million, an expansion driven by optimized collection and disposal yields, while operating expenditures were rigorously maintained at \$11.11 million. This generated an annual operating surplus of \$1.06 million, successfully reversing the prior year's operating deficit. Supported by strong top-line performance and aggressive working capital conversion, the organization closed 2025 in a highly liquid position, expanding its net financial assets by 55.4% to \$2.68 million and its total cash and cash equivalents to \$4.12 million.

Supported by strong top-line performance and aggressive working capital management, including a 22.2% reduction in net accounts receivable, the organization closed 2025 in a highly liquid position. CRSB expanded its net financial assets by 55.4% to \$2.68 million and its total cash and cash equivalents to \$4.12 million (comprising \$3.73 million in operational cash and \$385,097 in restricted reserves). Concurrently, the Board sustained its long-term infrastructure commitments, deploying \$2.83 million in capital acquisitions to advance fleet renewal, regional facility upgrades, and the ongoing development of the new Maintenance Garage and Wash Bay.

Overall, the 2025 figures demonstrate responsible financial stewardship and a continued commitment to maintaining a modern, efficient, and environmentally responsible waste management system for the Central Region.

Table 4.1 - Financial Position

Financial Indicator	FY 2024 Audited	FY 2025 Audited	Variance
Total Revenues	\$9,781,220	\$12,177,167	24.50%
Operating Expenses	\$10,719,947	\$11,113,009	3.70%
Annual Surplus/(Deficit)	-\$938,727	\$1,064,158	+2.00M
Net Financial Assets	\$1,725,291	\$2,681,610	55.40%
Total Cash Position	\$1,517,009	\$4,117,226	171.40%

Reference: Attached 2025 Audited Financial Statements – prepared by Jordan Penney, CPA Professional Corp

Section 5: Capital Projects Summary

Table 5.1 – Capital Projects Undertaken in 2025

Project Name	Description	Status	Est. Cost (\$)	Actual Cost (\$)
Regional Security & Infrastructure Upgrade	The project upgraded security and access systems across all CRSB facilities, improving safety, reducing unauthorized access, and supporting more efficient site monitoring.	Completed	\$100,000	\$84, 252
Regional Automated Payment Project	The project introduced automated payment technology across CRSB facilities, improving customer convenience, reducing manual processing, and modernizing how users' access and pay for services.	Completed	\$320,000	\$162,725
Regional Maintenance Facility & Wash Bay Upgrade	The project upgraded CRSB's maintenance facility and added a modern wash bay to improve fleet servicing, reduce downtime, and extend the life of critical equipment. The scope of the project was later expanded to include an on-site storage tank and high efficiency waste oil furnace. This strategic addition reduces environmental disposal liabilities, lowers heating expenditures, and reflects CRSB's progressive commitment to sustainable utility management.	Completed	\$5.7 M	\$3.4 M
CNWM Cell 4 Landfill Development	The project involves constructing a new engineered landfill cell to ensure continued capacity, environmental protection, and long-term compliance with provincial waste management standards. We are also incorporating tire derived aggregate (TDA) into this project, in collaboration with the MMSB. Using TDA in this project allows materials to be reused, reduces the need for imported aggregate, and aligns directly with the province's broader waste diversion and material reuse goals.	Pending	\$8.10 M	-

Section 6: Community & Municipal Engagement

In 2025, CRSB deepened its connection with communities, municipalities, and regional partners through expanded outreach, improved communication tools, and increased public education efforts. This year marked the launch of the Central Clean Sweep event partnered with Uoma, Product Care and EPRA. The event brought residents, and community groups together to promote environmental stewardship across the region. CRSB also participated in key provincial engagement forums, including Tomorrow's Towns (MNL) and

tradeshows hosted by MNL, PMA, and Chambers of Commerce, ensuring ongoing dialogue with residents, municipal leaders, businesses, and service partners.

Throughout the year, CRSB increased communication with municipalities, the business community, and waste haulers, while expanding its social media presence to deliver more frequent sorting guidance, safety messaging, and service updates. In December 2025, CRSB launched Voyent Alert! providing a modern, real-time notification system for service disruptions and public advisories. Additional engagement tools included the production of a new site tour video and the development of a new CRSB website, scheduled to launch in summer 2026, will further improve access to information and customer service.

Together, these initiatives reflect CRSB's commitment to transparent communication, community partnership, and ongoing public education in support of a cleaner, safer region.

Section 7: Policies, Staffing & Training

7 (a) Adopted new policies for:

- Early Return to Work
- No Idle
- Video Surveillance

7 (b) Staffing and Training

Staffing in 2025 includes the Chief Administrative Officer, Manager of Operations, Manager of Finance, Regional Outreach Coordinator, and Regional Drinking Water and Wastewater Operator. CRSB also employs 39 full-time and 10 part-time staff. Herbert's Recycling, who is contracted to operate the Material Recovery Facility, has 4 full-time and 19 part-time/call-ins.

7 (c) CRSB has provided and upgraded, where required, the following training programs:

- The Law and You
- W.H.M.I.S.
- Hazard Recognition Evaluation and Control
- Risk Assessment
- Safety Plan Awareness
- Standard First Aid/CPR A/AED
- WHSCC
- Transportation of Dangerous Goods Regulations
- Power Line Hazard
- A 40-hour Hazardous Waste Operations and Emergency Response Training
- Landfill Fire Fighting

Retraining in the following areas:

- W.H.M.I.S.
- First Aid/C.P.R./A.E.D.

- Power Line Hazard
- Transportation of Dangerous Goods
- Confined Space
- Fall Protection
- Landfill Fire Fighting

Section 8: Work in Progress (WIP)

1. Western Waste Annual Tip Fee Methodology

CRSB continues to work with ECCC and WRSB on a standardized template for establishing the Western Waste annual tip fee. A simplified and more transparent approach has been developed and is now being used on a go-forward basis. The model is designed for easy replication should CRSB add regions in the future.

Since the last update, MNP was engaged to review the previous methodology. Their recommendations were implemented, and the Board has formally adopted the new approach. Meetings are held with WRSB, as required, to address questions or items of interest.

Items Outstanding:

- The simplified method does not include an updated review of the capital reserve requirements for landfill equipment. The current contribution is still based on the 2017 calculations and only reflects four pieces of equipment. A full review is required to determine the true capital cost of operating the landfill and to ensure the reserve accurately reflects current and future needs.
- The simplified method does not incorporate long-term obligations related to interim capping, final cover, or cell closure activities. These are significant lifecycle costs that must be forecasted and incorporated into the tip fee model to ensure CRSB remains financially prepared for regulatory compliance and end-of-life cell management.
- CRSB will need to undertake a comprehensive review of both these areas to ensure the tip fee model fully captures the true cost of landfill operations and long-term asset stewardship.

2. Composting

CRSB looks forward to working with the province in the development of a composting strategy. The diversion of organics, the largest contributor to household waste in the province, would make a great contribution toward the reduction of materials going to the landfill by 50%. In addition, the program will have a positive effect in the environment monitoring programs.

3. Curbside Collection Program

The Curbside Collection Program continued to serve as the CRSB's largest and most visible regional service in 2025. This year, CNWM successfully onboarded the Town of Lewisporte, Birchy Bay, Loon Bay, and Comfort Cove–Newstead, expanding the program's reach and strengthening regional consistency in waste collection.

A full operations and financial analysis of the program is currently underway. Early findings highlight several structural challenges that are common across the province. CRSB's collection fleet has reached the end of its useful life, resulting in increased downtime, high repair costs, and greater reliance on outsourced mechanical services. Recruitment of qualified mechanics remains challenging, due to competitive wages offered by major industrial projects in the region, further increasing operating pressures.

These factors contribute to rising costs and reduced reliability, issues that must be addressed to ensure long-term sustainability. The Board continues to evaluate options, including modernized fleet planning, improved asset management practices, and the potential impacts of Packaging and Paper Products (PPP) Extended Producer Responsibility legislation. If implemented in Newfoundland and Labrador, PPP could significantly reduce the financial burden on the Curbside Collection Program by shifting some costs away from ratepayers and regional service boards.

4. Advancing Regional Consistency in Waste Management

CRSB believes that including the Coast of Bays and Baie Verte–Green Bay regions into the Central Newfoundland Waste Management service area would represent a significant opportunity to strengthen regional consistency and ensure that all communities benefit from modern, environmentally responsible waste management services. CRSB is ready to support this transition should it be implemented.

Across Newfoundland and Labrador, the execution of the Provincial Waste Management Strategy has progressed at varying rates. Some regions have not yet been required to close local waste disposal sites or adopt recycling programs, resulting in varying levels of service and environmental protection. This creates challenges when considering the transition of additional municipalities into a fully modernized regional system.

Meaningful progress in these regions will require clear leadership, and mandates that guided current CRSB communities through the closure of local dumps, the adoption of curbside recycling, and the development of modern waste management infrastructure. Without consistent direction, regions are at different phases of development and preparedness.

CRSB remains committed to working collaboratively with communities, regional partners, and the province. With coordinated effort and provincial guidance, the inclusion of Coast of Bays and Baie Verte–Green Bay could help advance long-term regional alignment and support the goals of Newfoundland and Labrador's Waste Management Strategy.

Section 9 – Incidents & Environmental Monitoring

9 (a) Incidents and/or Complaints

- No incidents or complaints to report
- CRSB did not experience any operational incidents with potential environmental implications.
- No illegal dumping at or near our site. Any reports made to CRSB from the region are forwarded to the Environmental Protection Officers of DGSNL (Gander or Grand Falls-Windsor).

9 (b) Special Waste

The report has attachments for all Special Waste including origins and carriers. CRSB had no deliveries of bulk waste, biosolids, fish/animal processing waste in 2025.

9 (c) Upsets or spills

No upset or spills to report at any of CRSB facilities.

9 (d) Environmental Monitoring Records

A full environmental monitoring report for 2025 has been provided with this report. Report was prepared by ENGLOBE CORP.

9 (e) Theft & Vandalism

In 2025 CRSB has experienced some vandalism and theft at the Regional Site and several of our Transfer Stations. CRSB incorporated card access, alarms, and video surveillance at all sites. This project was fully funded by the Board.

Please Note:

The following plans are on file with the Department of Environment, Conservation & Climate Change:

1. Operations and Maintenance Manual CNWM Facility 2013. (Reviewed February 2016). Under review 2017. (Revised 2017)
2. Construction and Demolition Waste Management and Operations Plan. (Reviewed February 2016). (Under Review 2017)
3. Proposed Surface and Ground Water Monitoring Program Plan. (Reviewed February 2016).
4. Household Hazardous Waste Management and Operations Plan. (Reviewed February 2016).
5. Central Regional Service Board Emergency Response Plan. (Reviewed February 2016).
6. CRSB Asbestos Plan. (Reviewed February 2013).
7. CRSB International Waste Emergency Response Plan. (Reviewed February 2016).
8. CRSB O & M Manuals Transfer Stations (Reviewed February 2016).
9. CRSB Public Education Plan.
10. CRSB proposed Decommissioning Plan. (January 2018)



**Government of Newfoundland and Labrador
Department of Environment and Climate Change
Pollution Prevention Division**

CERTIFICATE OF APPROVAL

Pursuant to the Environmental Protection Act, SNL 2002, Sections 16, 78 and 83.

Issued: January 15, 2023
Expiration: January 31, 2028

Approval No: WMS-17-12-001
File No: 839.CRS.001

Central Newfoundland Waste Management (CNWM)

P.O. Box 254
Norris Arm, NL A0G 3M0
Telephone: 709-653-2900
Facsimile: 709-653-2920

Attention: Mr. Ed Evans, C.A.O.

Re: Approval to operate a Regional Waste Management Facility to serve Central and Western Newfoundland Regions

Approval is hereby given for the continued operation of a Regional Waste Management Facility located at Norris Arm North, including an engineered lined landfill for the disposal of municipal solid waste; a permanent Household Hazardous Waste (HHW) depot; and a Construction and Demolition (C&D) landfill.

This approval does not release the holder from the obligation to obtain appropriate approvals from other concerned provincial, federal and municipal agencies. Approval from the Department of Environment and Climate Change (the Department) shall be obtained prior to any significant change in the design, construction, installation, or operation of the facility, including any future expansion of the works. This certificate shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the holder without obtaining written prior approval from the Minister.

This approval is subject to the terms and conditions attached hereto, as may be revised from time to time by the Department. Failure to comply with any of the terms and conditions may render this certificate of approval null and void, may require CNWM to cease all activities associated with this certificate of approval, may place the CNWM and its agent(s) in violation of the *Environmental Protection Act*, SNL, 2002, c. E-14-2, and will hold the CNWM responsible for taking such remedial measures as may be prescribed by the Department. The Department reserves the right to add, delete, modify or revoke this approval at any time.


For MINISTER

General

1. The Central Newfoundland Waste Management Facility (CNWM) is intended to serve the municipal solid waste management of the Central, Western, Northern Peninsula, Baie Verte Green Bay and Coast of Bay Regions of the Province.
2. Copies of all environmental standards/guidance documents are posted to the Department's website. www.env.gov.nl.ca/env/env_protection/waste/index.html
3. If different from the terms and conditions set out in the Department's environmental standards, those directly stated in the Certificate of Approval (Approval) shall apply.
4. A copy of this Approval shall be kept on site at all times.
5. All responsible personnel who are directly involved with operation and maintenance of the facility shall be provided copies of this Approval and shall be fully aware of the terms and conditions pertaining.
6. Separate approvals or an amendment to this Approval will be required for other waste management activities and/or facilities at this site.
7. Through a Memorandum-of-Understanding the Department has authorized the Department of Digital Government and Service NL (DGSNL) to act on its behalf in inspecting and/or auditing the operation of waste management facilities, for compliance under this approval and all applicable provincial Acts and Regulations. The Regional DGSNL Office may be used as the local point of contact in all cases. DGSNL may contact the Department as necessary for review and consultation on monitoring results, inspections, reports, and changes or amendments to the Approval.
8. The CNWM shall advise the Department or DGSNL of any new participants joining or proposing to leave the regional waste management facility.
9. The CNWM shall develop and keep up to date a Municipal Solid Waste Management and Public Education Plan. Information regarding the education plan and advances in this regard shall be included in the annual report for the facility, and updates provided as changes and advancements are made
10. The CNWM shall immediately notify the Department or DGSNL in writing of any change in the legal name, address, ownership, or facility operator's associated with the site.
11. Any proposed development within 3.0 km of the site shall be referred to the Department for review.
12. Notwithstanding the content of this Certificate of Approval, where options for waste treatment/disposal are limited, the Department shall be consulted regarding accommodation of the waste.

Financial Assurance

13. The CNWM is responsible to ensure that appropriate and adequate financial assurances and/or environmental impairment liability and/or pollution abatement assurance and automotive insurance policies are in place for all operators contracted to support the operations of this waste management facility.

Application Submissions

14. The Central Regional Service Board submitted the following in support of this approval:
- a. E-mail communication December 22, 2022.
 - b. 2021 Annual Report and Environmental Monitoring Report submitted February 28, 2022.

Legislation Standards and Guidelines

15. The activities associated with this facility may involve, but not be limited to, the following provincial Acts and Regulations as amended:
- *Environmental Protection Act RSNL, 2002*
 - *Air Pollution Control Regulations, 2022*
 - *Storage and Handling of Gasoline and Associated Products Regulations, 2003*
 - *Used Oil and Used Glycol Control Regulations, 2018*
 - *Halocarbon Regulations, 2005*
 - *Pesticides Control Regulations, 2007*
 - *Water Resources Act, 2002 as amended*
 - *Environmental Control Water and Sewage Regulations, 2003.*
 - *Occupational Health and Safety Act RSNL, 1990*
 - *Dangerous Goods Transportation Act, 2006*
 - *Municipalities Act, 1999*
 - *Regional Service Board Act, 1990*
 - *Transportation and Works Act, 1995 (and Highway specifications as amended)*
16. The activities associated with this facility may involve, but not be limited to, the following Federal Acts and Regulations as enforced by the respective regulatory agencies:
- *Canadian Environmental Protection Act and Regulations*
 - *Transportation of Dangerous Goods Act and Regulations*
 - *Fisheries Act*
 - *National Fire Code*
 - *Health of Animals Act*
 - *Fertilizers Act*

Quality Control/Quality Assurance

17. Facility design, construction and operation must incorporate acceptable quality control/ quality assurance (QC/QA) protocols and provide for changes if necessary to maintain and improve performance. Appropriate protocol will include testing and inspection procedures and reports, with a deficiency summary, itemized corrections and any other information requested by the Department. Consideration shall be given to implementation of an environmental management system following the "Plan- Do- Check- Revise where necessary" scheme with a view to continual improvement.

Site and Facility Construction/Maintenance

18. Environmentally sound practices are required in all aspects of construction and ongoing maintenance activities, including facility construction and landscaping. This includes: appropriate storage, recycling and disposal of litter, debris, hazardous or special waste material, waste dangerous goods and other waste associated with construction and ongoing maintenance activities.
19. Erosion and sediment control measures are to be installed and maintained as required, such that watercourses or water resources adjacent to and downstream of the site are protected from siltation. The

Environmental Protection Act prohibits release of a material that may cause an adverse effect.

20. All areas exposed during construction, and any temporary diversion or control structures such as berms, ditches, etc., shall be stabilized as soon as practical.
21. When dewatering of construction areas is required, the water must not be discharged directly to a watercourse or water resource, nor to a conveyance (a ditch, culvert, manhole) that may lead to a watercourse or water resource without confirmation to meet discharge limits.
22. Grubbing and excavated material shall be used for ongoing site rehabilitation, or stored for future use in a manner that will not result in sedimentation of adjacent and downstream watercourses or water resources.
23. Sufficient area at the weigh scales, for incoming materials and for safe movement and queuing of vehicles and equipment shall be maintained throughout the site.
24. Site access roads shall be maintained to minimize dust generation. The use of dust suppressants other than water or calcium chloride shall require approval of the Director. CNWM shall use best management practices when applying calcium chloride or any other approved dust suppressant.
25. The Department reserves the right to require the installation of infrastructure for further treatment of releases to the environment where the discharge limit(s) is/are exceeded.
26. All necessary engineering documentation/facility plans, drawings and specifications shall be submitted to and approved in writing by the Department, prior to the construction, modification or expansion of 1) additional containment cells, 2) landfill gas management systems, 3) sludge handling facilities, 4) leachate treatment systems, 5) facilities for processing recyclables or managing organics, 6) storage of waste including household hazardous waste, 7) special waste disposal cells/locations, or any other construction activity at the facility.

Operation and Maintenance of a Regional MSW Landfill

27. Unsupervised landfill disposal is not permitted. Incoming waste shall be routinely scrutinized to ensure unacceptable waste is not received at the site.
28. Regular and uniform compaction of waste is recommended to maximize utilization of air space and minimize voids.
29. The CNWM shall ensure that all exposed waste disposed to containment cells is covered with a minimum of 150 mm of clean soil (or alternate daily cover that has been pre-approved in writing by the Department), as a minimum, at the end of each operating day.
30. Intermediate cover, which is placed when a cell is filled, shall consist of at least 450 mm depth of soil and shall be enhanced to the standard for final cover if not overfilled within one year of placement.

Operation and Maintenance of a Construction and Demolition Landfill

31. Compliance with the Environmental Standards for Construction and Demolition (C&D) Waste Disposal (GD-PPD-050.3) is required [env-protection-waste-guidancedocs-gd-ppd-050.3-environmental-standards-for-construction-and-demolition-waste-disposal-sites.pdf \(gov.nl.ca\)](https://www.gov.nl.ca/env-protection-waste-guidancedocs-gd-ppd-050.3-environmental-standards-for-construction-and-demolition-waste-disposal-sites.pdf).
32. Only inert C&D debris may be disposed at the site. Where a waste material presents a management problem, consultation with the Department is required.
33. Incoming waste shall be routinely scrutinized to ensure unacceptable waste is not received at the site. Unacceptable waste includes C & D debris that is clearly contaminated with municipal solid waste, organic waste or potentially hazardous waste, and it shall be redirected to an appropriate part of the waste management facility, or as recommended in the facility contingency plan; or as determined in consultation with the Department and other responsible agencies as applicable.
34. CNWM shall provide supervision when any material is being disposed at the C & D facility including areas for temporary storage for materials management and recyclables.
35. Storage of material for reuse or recycling may be conducted in a safe manner as long as the material remains in usable condition. Details of on-site storage inventory and of transfer or processing shall be provided to the Department as part of the annual report.
36. Temporary stockpiling of incoming material shall be restricted to levels considered safe for pile stability, occupational health and safety considerations and to minimize fire risk.
37. C & D waste shall be compacted in cells separated by layers of cover material at least every three months for every 1000 cubic metres of material. Waste placement and covering shall take place so that exposed surface area does not exceed 200 square metres at any one time. Guidelines with respect to intermediate and final cover apply where utilization of the site may be interrupted.
38. Debris containing drywall is not to be used for landfill cover to avoid production of hydrogen sulfide under wet anaerobic conditions.
39. A "special waste" disposal area may be designated for the disposal of demolition debris that could present an occupational health and safety hazard due to airborne contaminants if containment is disrupted. Material of this nature may be contaminated with among other things, lead based paint, dust, fibreglass and asbestos containing material. The debris shall be secondarily contained by wrapping in uncompromised six mm polyethylene. Signage and precautions shall be put in place to permanently demark this area and prevent re-excavation.
40. An environmental monitoring program specific to the C & D storage area for recyclables shall be submitted for approval by the Department as part of the annual report for the facility.
41. Additional storage and management practice requirements are contained in Appendix A of this approval.

Operations and Maintenance of a Household Hazardous Waste Depot

42. CNWM has designated a management and collection site for household hazardous waste (HHW) which accepts hazardous materials from area residents for appropriate containment, storage, packaging and secure transport by a licensed transporter to an approved recycling or final disposal facility. Appropriately trained staff oversee all waste received at and shipped from the site.
43. Compliance with the Department's most recent version of the Environmental Standards for Permanent Household Hazardous Waste Depots (GD-PPD-059) is required [env-protection-waste-guidancedocs-gd-ppd-59.3-hhw-permanet-depots.pdf \(gov.nl.ca\)](https://www.gov.nl.ca/env-protection-waste-guidancedocs-gd-ppd-59.3-hhw-permanet-depots.pdf) .
44. Separate approvals or an amendment of this approval is required for additional storage, management or processing of waste at this site.
45. Staff shall be trained in the handling of hazardous waste, and the associated workplace hazards; shall be properly equipped and trained in the use of Personal Protective Equipment; shall abide by applicable occupational health and safety guidelines and legislation at all times; and , shall be familiar with environmental health, safety and emergency contingency plans, spill or accidental release response protocols, equipment and contact information.
46. Clear signage shall be in place, and information shall be made available to the public on safe containment, segregation and disposal practices for hazardous household products and waste materials.
47. Only hazardous waste from residential households, or residential in origin may be accepted for management and transfer to appropriate disposal at this site. Only HHW which can be safely stored and appropriately recycled or disposed is to be accepted.
48. Detailed records of hazardous waste materials that are redirected or rejected shall be maintained.
49. Sufficient area shall be maintained for safe movement of vehicles and operation of equipment.
50. CNMW shall provide supervision when any material is being disposed to or remove from the facility to ensure unacceptable waste is not received at the site.
51. A written policy on waste acceptance including a list of acceptable and unacceptable hazardous waste by category, volume, and means of containment must be established. This will include provision to redirect or reject excluded waste. The facility contingency plan shall address waste redirection.
52. Questions regarding the acceptability of a waste material shall be directed to the regional DGSNL office or to the Department. Due to the hazardous nature of materials stored at the depot, the "precautionary principle" shall prevail.
53. Where it is considered reasonably safe to do so, established methods and procedures shall be adhered to determine the hazardous nature of waste materials of unknown origin or mixtures. Only adequately trained personnel shall conduct these established methods and procedures.
54. The following shall NOT be accepted at the HHW depot:
 - a. Biomedical waste;

- b. Sharps;
- c. Asbestos containing material;
- d. Radioactive material (including low level radioactive material or naturally occurring radioactive material (NORM) waste); with the exception of residential household smoke detectors;
- e. Organic waste;
- f. Special waste;
- g. International waste;
- h. Unidentifiable or unclassifiable materials.

55. Storage structures must comply with national and municipal fire codes and building codes.

56. All holding tanks for used oil shall be approved by DGSNL as per regulations.

57. Spill containment areas must be designed to keep incompatible materials separated and be constructed of materials that are compatible with the stored waste. The secondary containment areas must have the capacity for the total volume of waste storage capacity plus 10%.

Operations and Maintenance Manuals/Plans

58. The CNWM shall develop and maintain Operations and Maintenance Manuals/Plans in accordance with the Department's General Environmental Standards for MSW Management Facilities/Systems specific to each facility associated with the Regional Site/System.

59. All site operations are to be conducted in accordance with up-to-date Facility Operations Plans approved by the Department. Changes to operations shall be noted in the facility annual report and updates filed with the Department as appropriate. The goal is to always maintain a high level of operational efficiency with minimal adverse environmental impact. A non-exhaustive list of operations and maintenance manual inclusions is provided in the applicable Department environmental standards documents as posted on the Departmental website. The purpose of the Facility Operations Plan is to ensure facility operators and employees are trained and are clear on how daily operations proceed, that routine maintenance is conducted, and that contingency plans are appropriately enacted.

Landfill Gas Management

60. Landfill gas collection work and equipment, if and when installed, shall be in accordance with the latest versions of the Code for Digester Gas and Landfill Gas Installations CAN/CGA-B105-M93 and CAN/CSA-B149.3.

Surface Water Management

61. The CNWM shall ensure that site run-on is minimized by appropriate drainage ditching and sloping; and that run-off from the site does not detrimentally impact off-site receptors.

62. The CNWM shall ensure that surface water at the site that has not been in contact with leachate or solid waste, bypasses the leachate collection-storage-treatment system, and is directed to the engineered wetland or the storm sewer drainage system from the site. Any water discharged from the site shall meet discharge water criteria.

63. Side slopes of disposal areas shall be properly stabilized and maintained to limit erosion; and any final cover applied shall be sloped to ensure positive drainage and prevent pooling of water on the surface.

64. No authority is granted by this Approval to enable the discharge of surface water beyond the property boundary and onto adjoining lands without the authorization of the affected landowner(s). It is the responsibility of the CNWM to ensure that the authorization of said landowner(s) is current and valid. Failure to retain said authorization may result in this Approval being null and void.
65. The Department shall be advised where it is necessary to construct a sedimentation pond to treat run-off from the site.
66. Sampling sites for discharge of surface water runoff shall be approved by the Department, and shall not be moved, relocated or otherwise altered without written permission.
67. The Department reserves the right to require changes to the sampling program where deemed necessary.
68. The CNWM shall be required to mitigate significant adverse impacts to receiving watercourses which are impacted as a result of point source and non-point source discharges attributed to the facility.

Leachate System Management

69. Any changes or alterations to the leachate collection system shall be submitted to the Department for review and prior approval.
70. The leachate collection system shall be capable of maintaining a maximum head of 300 mm above the liner excluding the leachate sumps, during routine operations and be sloped to allow the leachate to drain.
71. The leachate collection system shall:
- a. be of suitable infrastructure to handle storage, treatment, and discharge volumes anticipated for the site;
 - b. be hydraulically separate from the facility's storm water system;
 - c. function year round;
 - d. function effectively throughout the lifespan of the landfill;
 - e. be equipped to record instantaneous and total flows;
 - f. have storage capacity to accommodate a 100 year storm event for the drainage basin;
 - g. be chemically compatible with the waste and leachate characteristics;
 - h. provide access for inspection, monitoring flow and head; controlling flow and cleaning;
 - i. function effectively under dynamic and static loading events for all development phases;
 - j. use geosynthetic fabrics specified for leachate generation/ flow into post-closure phase; and
 - k. be designed to prevent the passage of fine sediment into and any blockage of piping systems.
72. Daily visual inspection of the leachate system shall be conducted as well as annual testing.
73. Provision shall be made to characterize and address leachate quality that may exceed the installed wetland treatment capacity. The Department may be consulted on this issue to ensure that discharge water quality criteria are adhered to.

Discharge Water Quality

74. Water discharged from the site shall meet criteria limits as set out in the *Environmental Control Water and Sewage Regulations, 2003*.

75. Effluent discharge criteria are defined in the following table, Table 1. Discharge water not meeting these criteria shall be treated to meet criteria limits prior to discharge.

Table 1: Effluent Discharge Criteria (all units are mg/L unless otherwise noted)			
Parameter	Maximum Allowable Range	Parameter	Maximum Allowable Range
Biological Oxygen Demand	20		
Total Dissolved Solids (TDS)	1000	Mercury	0.005
Total Suspended Solids (TSS)	30	Nickel	0.5
Total Petroleum Hydrocarbon (TPH)	15	Nitrates	10
Arsenic	0.5	Ammonia	2.0
Barium	5.0	Phenols	0.1
Boron	5.0	Phosphates (total as P ₂ O ₅)	1.0
Cadmium	0.05	Selenium	0.01
Chromium	1.0	Sulfides	0.5
Copper	0.3	Silver	0.05
Cyanide	0.025	Zinc	0.5
Iron	10	pH	5.5 – 9.0 pH units
Lead	0.2	Radium 226	0.37Bq/L

Effluent Monitoring Program

76. CNWM shall perform an Effluent Monitoring Program as per the schedule listed in Table 2 below. Analytical results shall be submitted as per the Reporting section.

Table 2: Effluent Monitoring Schedule		
Location	Parameters	Frequency
SW-9 (Final discharge point)	pH, TSS, nitrate, phosphorous, BOD	Monthly
	WCA	Quarterly
Influent from Landfill	pH, TSS, nitrate, phosphorous, BOD	Quarterly
Effluent from landfill	pH, TSS, nitrate, phosphorous, BOD	Quarterly
Lift Station	pH, TSS, nitrate, phosphorous, BOD	Quarterly

Water Chemistry Analysis (WCA)

77. Four times per calendar year and not less than thirty (30) days apart, CNWM shall perform Water Quality Analysis as per Table 3. Refer to Table 3 for the locations and required parameters. Analytical results shall be submitted as per the Reporting section. Sampling shall commence as soon as sites become accessible.

Table 3: Water Chemistry Analysis Program		
Ref No:	Location	Parameters
	847-SW1-Background	General Parameters: temperature, dissolved oxygen (DO), nitrate + nitrite, nitrate, nitrite, pH, TSS, colour, sodium, potassium, calcium, sulphide, magnesium, ammonia, alkalinity, sulphate, chloride, turbidity, reactive silica, orthophosphate, phosphorous, DOC, conductance, TDS (calculated), phenolics, carbonate (CaCO ₃), hardness (CaCO ₃), bicarbonate (CaCO ₃)
	SW1 to SW9	
	MWH to MWL	
		Metals Scan: aluminium, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium,

		chromium, cobalt, copper, iron, lead, manganese, molybdenum, mercury, nickel, selenium, silver, strontium, thallium, tin, titanium, uranium, vanadium, zinc
		Note that TSS, temperature and dissolved oxygen are not required for groundwater i.e. MW locations.

Sampling, Laboratory Analysis and QA/QC

78. Unless otherwise approved by the Department, surface, groundwater and leachate sampling shall be conducted, as a minimum, according to methods described in ***Sampling of Water and Wastewater-Industrial Effluent Applications GD-PPD-066***.
79. Unless otherwise stated herein, all liquid and solids analysis performed pursuant to this Approval shall be done by a contracted commercial or in-house laboratory as per the ***Accredited Laboratory Policy (PD:PP2001- 01.02)***.
80. The exact location of each sampling point shall remain consistent over the life of the monitoring programs. Using a GPS or similar device, the northing and easting of each sampling location shall be recorded and submitted to the Department.

Monitoring Alteration

81. The Department has the authority to alter the monitoring programs or require additional testing at any time when:
- a. pollutants might be released to the surrounding environment without being detected;
 - b. an adverse environmental effect may occur; or
 - c. it is no longer necessary to maintain the current frequency of sampling and/or the monitoring of parameters.
82. The CNWM may, at any time, request that the monitoring program or requirements of this Approval be altered by:
- a. requesting the change in writing to the Director; and
 - b. providing sufficient justification, as determined by the Director.
83. The CNWM shall bear all expenses incurred in carrying out environmental monitoring required under the terms and conditions of this Approval.
84. Any new and relevant information respecting any adverse effect that results or may result, from any activity to which the Approval relates, and that comes to attention after the issuance of the Approval shall be submitted to the Department in a timely manner.
85. The requirements of this Approval shall remain in effect until altered, in writing, by the Department.

Non-Compliance

86. The Department and/or DGSNL shall be notified immediately of any incidents of non-compliance with this Approval.

Further Assessment

87. The Minister may at any time, with reasonable notice, require the CNWM to conduct or have conducted

environmental studies, site assessments, sampling, testing, or investigations where, based upon reasonable and probable grounds, the Minister is of the opinion that the waste management facility may have had, or has the potential to have, an adverse effect on the environment.

Environmental Emergency Health and Safety Contingency (EHS)

88. The CNWM shall maintain a contingency plan for environmental and health and safety emergencies on file with DGSNL and the Department and provide annual updates. An updated copy of the contingency plan shall be kept on site at all times.
89. For after-hours emergencies and spill reports call: **1-800-563-9089**.
90. All appropriate operations training and health and safety procedures shall be constantly maintained at the site in accordance with applicable legislation and the Department's environmental standards for the waste management facility in question.
91. Incidents that could occur and would require specific response planning include: contingency for unacceptable waste; equipment failure; waste or hazardous materials incidents/ spills; fire; air quality or odour problems, vector infestation. In the event of problems with wildlife encounters (e.g. black bears); the district office of the Department of Justice & Public Safety should be contacted at (709) 729-8377 for encounters east of the Bay D'Espoir Highway. For wildlife encounters west of the Bay D'Espoir Highway, contact (709) 637-4068. These numbers are operated on a 24/7 basis.

Environmental, Aesthetic, Nuisance, and Housekeeping

92. Existing tree screens, outside the firebreak, that may conceal the site from public view are to be maintained.
93. Access roads to the site shall be kept free of waste material and litter shall be controlled at all times.
94. Supervision shall be provided for all reception, placement, managing and, where applicable covering of waste at the facility.
95. There shall be signs placed strategically throughout the site indicating "No Scavenging".
96. The waste material disposal area shall be fenced to contain wind-blown debris and litter accumulations shall be cleared regularly from the fencing and the surrounding area.
97. All vehicles transporting waste and debris to, from, or on-site shall be enclosed, or covered with close fitting tarpaulins to prevent waste and debris from spilling, and that they have tailgates and boxes that are sealed against leakage.
98. A program to manage and control vectors, rodents, birds and wildlife that may scavenge or develop populations associated with the waste management facility shall be developed.

Prohibitions and Restrictions

99. Prohibitions refer to materials that shall not be accepted for disposal at this waste management facility. Materials are banned from disposal when they have characteristics that make them a risk to workers or to

the environment. Materials are banned for disposal when suitable waste diversion services are available which include re-use, recycling, and reduction of the amount of material that goes to landfill. It is the responsibility of site managers and staff to decline acceptance of material when unacceptable material is openly visible and identifiable.

It is not expected that site managers, inspectors or staff would search through MSW where banned material is suspected but not openly visible and identifiable, since this could create potential risks to worker health and safety.

Materials banned for landfill disposal may be handled or stored in designated areas of the facility where protocols for safe handling and storage are defined and approved by the Department in separate Certificate of Approvals (e.g., C&D waste, HHW).

100. Operational restrictions ensure that modern waste management practices are implemented. Similar to disposal bans, they aim to minimize adverse environmental effects, enhance worker health and safety, and implement best practices in modern waste management.

101. **Prohibitions – Disposal Bans:** The following material **shall NOT be accepted** for disposal.

- a. Beverage Containers suitable for reuse and recycling as defined by MMSB programs.
- b. Used tires covered by MMSB 'Used Tire Recycling Program'
- c. Waste Paint as covered by MMSB Programs
- d. Electronic goods covered by a stewardship program shall not be disposed to landfill. This material may be collected on behalf of the organization responsible, or redirected to an approved collection point. Contact information, a list of accepted products and service providers in NL is provided at <http://www.mmsb.nl.ca/recyclingprograms/electronic-waste/>. Electronic waste that is damaged (e.g. broken monitors and cathode ray tubes), or dismantled to potentially expose hazardous constituents, is considered to be hazardous waste.
- e. Bulk liquids of any kind. [With the exception of used oil, which may be accepted where a registered and approved used oil storage tank system is in place.]
- f. Household Hazardous Waste
- g. Biomedical Waste
- h. Specified Risk Material as defined in Waste Management Strategy guidance documents Appendix D (http://www.env.gov.nl.ca/env/env_protection/waste/appendix_d_definitions.pdf). It includes the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord, and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older, and the distal ileum (portion of the small intestine) of cattle of all ages. These cattle tissues, if infected are capable of transmitting bovine spongiform encephalopathy (BSE), or mad cow disease if added to animal feed, pet food or fertilizer.
- i. Refrigeration, air conditioning and fire extinguishing equipment which contain regulated substances, as defined in the *Halocarbon Regulations* Schedules A-E. These materials may be acceptable when protocols are in place, as detailed in the following section.
- j. Fuel Storage Tanks except when protocols are in place for proper handling, storage, and disposal; as detailed in the following section.
- k. Naturally Occurring Radioactive Material (NORMs). NORMS might be found in drilling or excavating materials.
- l. Radioactive material is banned from disposal and is separately regulated by the Canadian Nuclear

- Safety Commission. Radioactive material is found in household material such as smoke detectors.
- m. Recyclable material destined or suitable for recovery at the Material Recovery Facility.
 - n. Any mixture or combination of the above restricted waste is also restricted or prohibited.

102. Non-compliant material

Details of any non-compliant material brought to any part of the facility and removed at the inspection/holding area shall be recorded including: date of delivery, material type and quantity, origin and owner, name of transporter, transport vehicle identification and contact information. A contingency plan shall be in place to ensure that non-compliant material is refuse and appropriately redirected.

103. Operational Restrictions:

- a. There shall be no incineration or open burning of any kind.
- b. Only waste from the area of service identified in the approval may be received at the facility unless specifically authorized by DGSNL and approved by the CNWM.
- c. All waste transporters and vehicles utilizing the waste management facility must cover or tie down waste in accordance with the *Cargo Securement Regulations (CSR)* under the *Highway Traffic Act*.
 - i. All vehicles entering CNWM facilities shall adhere to the *CSR*.
 - ii. The CNWM shall establish and implement a program to educate waste transporters on the requirements of the *CSR*.
 - iii. The CNWM shall work with the Department to develop a plan for compliance with the *CSR*, which may include such measures as denying access to non-compliant vehicles.
 - iv. The CNWM may be required to report non-compliance with the *CSR* to regional enforcement agencies, subject to the provisions of the plan established under iii).

104. Exceptions to disposal bans where management protocol apply:

- a. All non-program tires shall be accepted for disposal at the Construction and Demolition Landfill. Non program tires include all-terrain (ATV), or off the road (OTR) vehicle tires, tires used on rolling stock equipment used in the agricultural, forestry, industrial/construction and mining industries. These tires are not collected under the Used Tire Recycling Program by the MMSB. If not approved for specific recycling applications, disposal to landfill is acceptable.
- b. An exception may be made for the collection and storage of small quantities of smoke detectors that contain radioactive material. This material can be accepted at household hazardous waste depots only with prior approval from the Department.
- c. Special waste is defined by Appendix D <https://www.gov.nl.ca/ecc/files/env-protection-waste-appendix-d-definitions.pdf> of waste management strategy guidance documents as any waste material that requires special treatment or disposal precautions, due to its nature, quantity, volume, potential to react and/or potential to produce an adverse effect. Examples include, animal carcasses/ mortalities or road kill, asbestos containing material, fish plant waste, commercial or industrial waste streams etc. Special waste shall be accepted only upon prior approval from DGSNL. DGSNL will define the safe handling and disposal guidelines, technical recommendations, and roles of other regulatory agencies which shall be adhered to in all cases.
- d. Asbestos containing material (ACM) containing friable asbestos, accepted for disposal at the facility, shall be directed to the Construction and Demolition Landfill and handled by personnel who are trained and properly equipped with personal protective clothing and respirators. ACM shall be managed in accordance with the guidance document entitled: Asbestos Waste Disposal (GD-PPD-033.1).

http://www.env.gov.nl.ca/env/env_protection/waste/guidancedocs/asbestoswastedisposal.pdf

- e. Acceptance of tires under the Used Tire Recycling Programs for temporary storage is limited to 100 tires per site with the prior approval of the Department. The MMSB provides a collection service and shall be contacted at 1-800-901-6672. Additional information on tire storage can be found on the Departmental website. Storage by MMSB of surplus used tires is regulated under a separate certificate of approval.
- f. Vehicle wrecks and scrap metal shall be directed to recognized metal salvage and recycling operations.
- g. White metal wastes, ensuring compliance under the Halocarbon Regulations, such as freezers, refrigerators and stoves may be appropriately stockpiled in a separate area, pending at least semi-annual transport to a recycling operation. Metals shall be stockpiled in a neat and tidy fashion and not exceed 90% storage capacity. Additional information is found in the appendix of the Environmental Standards for Transfer Stations.
http://www.env.gov.nl.ca/env/env_protection/waste/transfer_stations_july2010.pdf
- h. Equipment containing regulated substances such as halocarbons, can be stored for recycling at a waste disposal site if the regulated substance (s) is (are) recovered by a person approved under the Halocarbon Regulations and shall be labelled "Halocarbon Free".
- i. Fuel storage tanks (commercial or residential) must be drained of product prior to entering the site and shall only be accepted at the metal storage area. The CNWM must submit a plan if draining of any fluids is undertaken and stored on site. If deemed unacceptable for recycling, prior to landfilling, fuel tanks and drums shall have confirmation that they have been purged of product, tank bottom sludge and vapour. The tank must also be cut in half or sufficient openings cut in the tank to prevent the accumulation of vapour and to accommodate visual inspection. If CNWM would like to develop a fuel storage tank management program, the Department shall be contacted to amend or issue an approval.
- j. The Department reserves the right to amend this approval, to ban disposal of waste streams where and when recycling and diversion programs exist as per amendments to the *Waste Management Regulations* and the *Waste Diversion Regulations*. Any recyclable or waste material that is banned from landfill disposal shall be appropriately redirected.
- k. Notwithstanding all of the above where options for waste treatment/ disposal are limited, the Department shall be consulted regarding accommodation of the waste.

Site Security and Signage

- 105. Unauthorized access to the waste management site shall be controlled. Measures may include fencing (wire mesh with a maximum opening of 20 cm), and shall include a secure gate or barrier at the site entrance (minimum opening of 8.5 m) with appropriate, highly visible signage to inform the public of acceptable waste materials, hours of operation, telephone number for contact and containing a "No Scavenging" stipulation.
- 106. An operator shall be kept on duty when and if the site is open to the public. The gate must be locked shut when the operator is not in attendance.
- 107. Areas shall be allocated and signs posted designating separate areas for the transfer, temporary storage and recycling or disposal of construction debris, white goods, municipal solid waste, and other approved waste as applicable.
- 108. A firebreak may be required around the perimeter of the site, please check with the authority having

jurisdiction.

Noise

109. The CNWM shall manage noise levels at the facility so as to comply with recommended guidelines under the *Occupational Health and Safety Act*.
110. Complaints about noise from nearby area residents (off-site) shall be responded and details recorded.
111. If complaints regarding noise from facility operations on or off the site are received, monitoring of sound levels may be required by the Department, and mitigation measures may be required.

Air Emissions

112. Any kind of incineration or open burning is strictly prohibited. The CNWM shall comply with the *Air Pollution Control Regulations, 2022* at all times.
113. Schedule A of these regulations provides the standard for ambient air quality, particulate matter and airborne contaminants.
114. Dust generation shall be minimized on site.
115. Odour control measures shall be incorporated into the facility.
116. Numerical or quantitative limits on odour may be established at the discretion of the Department if odour impacts beyond the property boundaries are deemed to be excessive.
117. Standard procedures to address odour complaints associated with the facility shall be established as part of the Operations Manual and would include:
 - a. Immediately investigate the cause of the complaint and undertake immediate and appropriate action, if necessary, to correct the problem.
 - b. Record all odour complaints and document the date, time, name, address and telephone number of the individual lodging the complaint. The record shall also state any cause of the odour and the action taken to correct the problem.
 - c. Record wind direction, wind speed, temperature, humidity and other atmospheric conditions at the time of the occurrence which resulted in a complaint.
 - d. Records of odour complaints shall be made available to the Department upon request.
118. A plan to reduce or cease odour generation shall be submitted at the request of the Department.

Hazardous Materials Incident/Spill Prevention

119. A separate approval, and facility-specific Environmental Health and Safety Contingency Plan, is required for the operation of a Permanent Household Hazardous Waste Depot. The Department's Environmental Standard for Permanent Household Hazardous Waste Depots shall apply.
120. All holding tanks for used oil shall be approved by DGSNL as per the *Used Oil and Used Glycol Control Regulations*.

Reporting

121. Monthly reports containing the environmental compliance monitoring and sampling information required in this Approval shall be received by the Department in digital format within 30 calendar days of

the reporting month. All related laboratory reports shall be submitted with the monthly report in Extensible Markup Language (XML) format and Adobe Portable Document Format (PDF). Digital report submissions shall be uploaded through the EDMS web portal.

122. Each monthly report shall include a summary of all environmental monitoring components and shall include an explanation for the omission of any requisite data. The monthly summary reports shall be in Microsoft Word or Adobe PDF and shall be uploaded through the EDMS web portal with the data submissions.

123. The annual report shall be submitted to the Department by February 28th, each year summarizing facility activities of the previous year. The information to be submitted is described in the Department's Environmental Standards and includes as follows and where applicable.

- a. quantity, type, source (origin) and carrier of waste received;
- b. quantity and type of materials recycled;
- c. quantity of residual material received at or transferred to the regional landfill
- d. quantity and type of waste dangerous goods removed and the final disposal site;
- e. records of any waste diversion;
- f. a summary of the water quality monitoring results for the sedimentation pond, surface water, and groundwater monitoring program, if applicable. Data must be tabulated in spreadsheet format and include a comparison to relevant guidelines;
- g. updated drawings showing the monitoring well locations, latest contours and groundwater flow direction;
- h. an assessment, where applicable, of the environmental effects monitoring program by a qualified consultant;
- i. a summary of any upsets or spills at the facility;
- j. any changes in procedure or operations;
- k. any changes or updates with respect to staffing and training;
- l. a summary of all education programs implemented or initiated; and
- m. any other information deemed necessary by the Department.

124. The annual report shall also include:

- a. A discussion and evaluation of incidents, complaints, actions, results, residual impact and path forward.
- b. Disposal Records for: special waste including the origin and description for; bulk liquids; biosolids, fish/animal processing waste, Asbestos Contaminated Waste; potentially hazardous waste and International Waste.
- c. Environmental monitoring records including:
 - i) Dates and results of all sampling conducted at the facility; and confirmation of calibration of field equipment used at the facility, before and after each sampling event, or as considered reasonable by the department, the CNWM and the equipment manufacturer.
 - ii) An evaluation and discussion of surface water and groundwater monitoring results as they may be affected by hydrogeology, landfill leachate and/or surface water runoff from the site, and potential/ resultant impacts, and mitigation of impacts.
 - iii) An evaluation of environmental monitoring results, comparing results from the previous and current calendar years and historical records, and making recommendations for future monitoring, groundwater well installation or other work at the facility.

- iv) All analyses, review and reports shall be completed by a professional engineer or geoscientist (qualified professional).

125. Any operational difficulties with potential environmental implications must be immediately reported to DGSNL. The nature of the operational difficulty as well as the mitigation measures shall be included in the yearly report.

126. All incidents of:

- Contingency Plan implementation;
- non-conformance of any condition within this approval;
- spillage or leakage of a regulated substance;
- leachate or wastewater discharge suspected to have exceeded criteria limits
- verbal/written complaints of an environmental nature from the public, any response, mitigation or corrective action e.g. due to air quality, odour or noise.
- any incidence of vandalism or illegal dumping at or near the site.

shall be immediately reported, within one working day, to a person, message manager or facsimile machine at DGSNL by phoning or faxing.

Central Region – DGSNL (Gander)

P.O. Box 2222

A1V 2N9

Telephone (709) 256-1420

Facsimile: (709) 256-1438

127. A written incident report including a detailed description of the incident, summary of contributing factors and an action plan to prevent future incidents of a similar nature, shall be submitted to the respective Regional Director of DGSNL. The action plan shall include a description of actions already taken and future actions to be implemented, and shall be submitted within thirty days of the date of the initial incident.

Certificate of Completion

128. Seven days after completion of any new facility, a signed and stamped letter from a Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL) registered engineering company shall be submitted to the Department verifying that the facility was constructed as per the engineering as-built plans and specifications. The Department shall also be notified at least two weeks in advance of commissioning of each facility and before the Regional Facility is open to the public to allow for inspections to be arranged.

Decommissioning

129. An approved alternative disposal or transfer location must be identified prior to closure and decommissioning.

130. A detailed decommissioning plan must be submitted to the Department six months prior to the planned date of final site closure. Details must address site security, the removal of remaining material and on-site infrastructure, and financial arrangements for any future environmental monitoring requirements, and outline potential future uses for the site.

Expiration

131. This approval expires on January 31, 2028.

132. Should the CNWM wish to continue to operate beyond this expiry date, a written request shall be submitted to the Department for the renewal of this approval. Such request shall be made at least three months prior to expiration.

c.c. Robert Locke, Director
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Attachment: Appendix A – C & D debris- management of specific waste streams

Appendix A
Construction and Demolition (C&D) Debris – management of specific waste streams

1. Bulky household items including mattresses and chesterfields are permitted but those that might retain a lot of water shall be separated from other C & D waste, particularly drywall/gypsum. This will reduce the possibility of hydrogen sulfide formation due to water transfer.
2. Rigid plastic pipes and buoys are permitted but should be segregated from other C & D waste to reduce risk of burning in the event of a fire.
3. Mixed waste from housing demolition may only be disposed to the C & D landfill if a hazardous waste risk assessment has been completed and any hazardous materials such as asbestos containing materials, fluorescent lighting ballasts and paint with high levels of lead, have been removed in advance.
4. With the exception of treated wood from residential sources, commercial generators of treated wood are required to conduct testing per the guidance document "Treated Wood Waste Disposal" GD-PPD-075.1 at the link below. If there are no exceedances for the specified criteria in the guideline the treated wood may be disposed of. If there are exceedances further consultation is required with the Department. Appropriate reuse of treated wood is recommended where possible. All creosote treated wood must be disposed of into the lined landfill. [env-protection-waste-guidancedocs-gd-ppd-075.1treated-wood-waste-disposal-.pdf \(gov.nl.ca\)](#)
5. Any sharp objects like nails, small pieces of metal, glass, plastics, litter and other wind-blown debris shall be collected daily and controlled at the site to maintain a safe environment.
6. Metals shall be redirected to licensed metal salvagers where facilities exist.
7. Other "contaminants of concern" may include mercury (Hg) vapours associated with fluorescent light fixtures and PCBs in older lighting ballasts. Normally these items would be identified as hazardous materials and removed prior to a demolition, but if identified in waste streams, they must be removed to a hazardous materials storage area for appropriate recycling and/or disposal.
8. Reusable and recyclable material such as: uncoated wood, wallboard, asphalt shingles, metal, cupboards, carpets, countertops and other homogenous waste streams may be stockpiled in separate locations to facilitate reuse and recycling where options exist.
9. Acceptable recycling options for wood include: mulching/chipping of organic material for landscape purposes, or bulking agents for compost, or for fuel.
10. Asphalt shingles may be chipped and used as a road amendment at the site, and/or processed into asphalt grit and asphalt flake where the recycling option exists.

11. Treated wood from residential sources shall be disposed at the MSW engineered lined landfill. Commercial generators are required to conduct testing as per the GD-PPD-075.1 Treated Wood Waste Disposal, August 2013. [env-protection-waste-guidancedocs-gd-ppd-075.1-treated-wood-waste-disposal.pdf \(gov.nl.ca\)](https://www.gov.nl.ca/ecc/files/env-protection-waste-guidancedocs-gd-ppd-075.1-treated-wood-waste-disposal.pdf)
12. Wallboard may be added in limited quantities to compost.
13. All non-program tires shall be accepted for disposal at the C & D landfill. Non-program tires include all-terrain (ATV), or off-the-road (OTR) vehicle; tires used on rolling stock equipment used in agriculture, forestry, industrial/ construction and mining industries. These tires are not collected under the Used Tire Recycling Program by the Multi-Material Stewardship Board (MMSB). If not approved for specific recycling applications, disposal to landfill is acceptable. [env-protection-waste-guidancedocs-g-doc-41.3-otr-tires.pdf \(gov.nl.ca\)](https://www.gov.nl.ca/ecc/files/env-protection-waste-guidancedocs-g-doc-41.3-otr-tires.pdf)
14. Any asbestos containing material (ACM) shall be appropriately handled by trained staff and disposed according to GD-PPD-033.1 Asbestos Waste Disposal, amended October, 6, 2016. <https://www.gov.nl.ca/ecc/files/env-protection-waste-guidancedocs-gd-ppd-033.-1-asbestos-waste-disposal-amended-2016.pdf>
15. There is an exemption to allow landfill disposal of leaded paint debris from residential sources. For commercial or industrial sources, where a hazardous materials assessment has been completed prior to the demolition of structures, the departmental policy on sampling, analysis and subsequent disposal of lead based paint and painted debris shall be followed. Any questions can be referred to the regional DGSNL or to the Department.
16. The Department reserves the right to update disposal bans for waste streams when and where recycling and diversion programs exist. Any recyclable or waste material that is banned from landfill disposal shall be appropriately redirected. <https://www.gov.nl.ca/ecc/files/GD-PPD-022.4-Landfill-Bans-Special-Wastes-and-Diversion-Programs-1.pdf>
17. Notwithstanding all of the above, where options for waste treatment/recycling/disposal are limited, the Department shall be consulted regarding management of the waste.



Department of Environment & Climate Change
Government of Newfoundland and Labrador
Pollution Prevention Division

CERTIFICATE OF APPROVAL

Pursuant to the *Environmental Protection Act, SNL 2002, Sections 16, 78 and 83.*

Issued:	February 13, 2024	Approval No.:	WMS-17-12-004
Expiration:	December 31, 2028	File No.:	804.021.001

Approval holder: **Central Regional Service Board**
P. O. Box 254
Norris Arm, NL
A0G 3M0
Tel: (709) 653-2900
Fax: (709) 653-2920

Attention: **Mr. Ed Evans, C.A.O.**

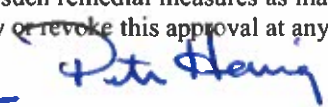
Re: **Approval to operate seven (7) Municipal Solid Waste Transfer Stations**

Approval is hereby given for the continued operation of Municipal Solid Waste Transfer Stations located at Buchans Junction, Fogo Island, Gander Bay, Indian Bay, New World Island, Point Leamington and Terra Nova for non-hazardous, non-special waste transfer to the Regional site.

Permission is also granted to securely transport hazardous household waste (HHW) collected at the transfer stations to the regional waste management facility at Norris Arm North. From there, the licensed hazardous waste transporter under contract to the Board will consolidate shipments of HHW to approved final recycling and disposal facilities.

This approval does not release the holder from the obligation to obtain appropriate approvals from other concerned provincial, federal and municipal agencies. Approval from the Department of Environment and Climate Change (the Department) shall be obtained prior to any significant change in the design, construction, installation, or operation of the facility, including any future expansion of the works. This certificate shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the holder without obtaining written prior approval from the Minister.

This approval is subject to the terms and conditions attached hereto, as may be revised from time to time by the Department. Failure to comply with any of the terms and conditions may render this certificate of approval null and void, may require the approval holder to cease all activities associated with this certificate of approval, may place the approval holder and its agent(s) in violation of the *Environmental Protection Act, SNL., 2002, c. E-14-2*, and will hold the approval holder responsible for taking such remedial measures as may be prescribed by the Department. The Department reserves the right to add, delete, modify or revoke this approval at any time.


For MINISTER

Administrative and General

1. The municipal solid waste (MSW) transfer stations shall comply with the most current versions of the following Environmental Standards:
GD-PPD – 046 Environmental Standards for Municipal Solid Waste Transfer Stations
GD-PPD– 063 General Environmental Standards for Municipal Solid Waste Facilities/Systems
Copies of all environmental standards/guidance documents and applicable appendices are posted to the Department of Environment and Climate Change website.
www.env.gov.nl.ca/env/env_protection/waste/index.html
2. If different from the terms and conditions set out in the Department's Environmental Standards, those directly stated in the Certificate of Approval shall apply.
3. Separate approvals or an amendment to this approval will be required for other waste management activities and/or facilities at this site.
4. The approval holder shall immediately notify the Department in writing of any change in the legal name, address, ownership, or facility operators associated with the site.

Financial Assurance

5. The approval holder is responsible to ensure that appropriate and adequate financial assurances and/ or environmental impairment liability and/ or pollution abatement assurance and automotive insurance policies are in place for all operators contracted to support the operations of this waste management facility.

Legislation Standards and Guidelines

6. The activities associated with this operation may involve, but not be limited to, the following provincial Acts and Regulations as amended:
 - *Environmental Protection Act RSNL, 2002*
 - *Air Pollution Control Regulations, 2022*
 - *Storage and Handling of Gasoline and Associated Products Regulations, 2003*
 - *Used Oil and Used Glycol Control Regulations, 2018*
 - *Halocarbon Regulations, 2005*
 - *Pesticides Control Regulations, 2012*
 - *Water Resources Act, 2002*
 - *Environmental Control Water and Sewage Regulations, 2003.*
 - *Occupational Health and Safety Act RSNL, 1990*
 - *Dangerous Goods Transportation Act, 2006*
 - *Municipalities Act, 1999*
 - *Regional Service Board Act, 1990*
 - *Transportation and Works Act, 1995 (and Highway specifications as amended)*
7. The activities associated with this operation may involve, but not be limited to, the following federal Acts and Regulations as enforced by the respective Federal Regulatory Agencies

- *Canadian Environmental Protection Act and Regulations*
- *Transportation of Dangerous Goods Act and Regulations*
- *Fisheries Act*
- *National Fire Code*

Quality Control/Quality Assurance

8. Facility design, construction and operation must incorporate acceptable quality control/quality assurance (QC/QA) protocols and results and provide for changes if necessary to maintain and improve performance. QC/QA protocols shall be submitted to the Department for review confirming adherence to Departmental and/or industry standards. The report shall include copies of testing and inspection procedures and reports, with a deficiency summary, itemized corrections and any other information requested by the Department. Consideration shall be given to implementation of an environmental management system.

Operation of the MSW Transfer Station

9. Site access roads shall be maintained to minimize dust generation. The use of dust suppressants other than water or calcium chloride shall require approval of the Director. Operators are encouraged to use best management practices when applying calcium chloride or any other approved dust suppressant.
10. A copy of this Approval shall be kept on site at all times at each location.
11. All responsible personnel who are directly involved with operation and maintenance of the processing system shall be provided copies of this Approval and shall be fully aware of the terms and conditions pertaining.
12. All necessary engineering documentation / project plans, drawings and specifications for any other activities at these sites shall be submitted to the Department prior to construction.
13. The Department reserves the right to require installation of infrastructure for further treatment of transfer station wastewater where the criteria for wastewater quality at the point of discharge to the environment, as set out in the *Environmental Control of Water and Sewage Regulations, 2003 (ECWSR)* are exceeded, and/or groundwater or surface water quality may be adversely impacted.
14. Weigh scales shall be maintained for incoming materials and for queuing vehicles
15. The approval holder shall provide supervision when any material is being disposed at the facility. Unsupervised disposal is not permitted.
16. Incoming waste shall be routinely scrutinized to ensure unacceptable waste is not received at the site.
17. Maximum storage time for municipal solid waste shall not exceed 2 consecutive days in the summer (April -October) and 1 week in the winter (October – April).

18. Municipal solid waste shall be stored inside the MSW transfer station or in sealed containers.
19. All floors of receiving and storage areas shall be impermeable and inspected regularly to ensure there is no compromise in the storage area that could potentially release substances or waste materials into the environment.
20. All waste shall be received and transported in sealed, leak-proof vehicles and contained at all times on the site.
21. The approval holder shall not bury any material at the transfer stations. This condition may be amended for inert concrete rubble and soil materials where a written proposal is sent to the Department for review.

Household Hazardous Waste Facility

22. The siting requirements shall comply with municipal and national fire codes and building codes for separation between property lines and buildings.
23. The HHW storage container shall be on a stable and impermeable surface that meets the requirements of the Department and shall provide adequate space for ingress and egress.
24. Only personnel trained in the handling of hazardous waste shall be utilized for the handling/processing of the hazardous waste.
25. Manifesting documentation (import and export of hazardous waste), volumes, sources, types and disposal locations of wastes received from each pickup and delivered on each trip are to be kept for at least two years, and are to be made available to Department staff upon request.
26. The approval holder shall ensure that all staff is alerted to hazards associated with all materials received. In addition, sufficient equipment, absorbents, and related clean-up materials must be kept on hand in the event of a leak or a spill during storage, handling, or transportation.
27. All employees/personnel must receive training applicable to workplace hazards and other applicable hazardous waste management training.
28. The storage structure shall remain locked when the facility is not in use or operation.
29. The approval holder shall only accept hazardous waste generated from residential sources. Waste dangerous goods from institutional, commercial and industrial (ICI) sources are not to be accepted at the Facility.
 - a) The following material shall NOT be accepted at the HHW Depot:
 - i) biomedical waste, including sharps
 - ii) asbestos
 - iii) explosives, including ammunition and fireworks

- iv) polychlorinated biphenyls (PCB) and wastes containing PCB above regulated limits, with the exception of fluorescent lighting ballasts destined for recycling
- v) radioactive material (including low-level radioactive material or NORMS); with the exception of residential household smoke detectors
- vi) animal carcasses
- vii) international wastes
- viii) unidentifiable or unclassifiable materials

30. Methods and procedures shall be established for:
 - identifying unknown wastes, including any chemical analyses;
 - handling unknown wastes as needed;
 - handling wastes, which pose special hazards, such as explosives, pressure or heat sensitive wastes, home chemistry lab wastes, etc..
31. Only HHW which can be safely stored and appropriately recycled or disposed shall be accepted.
32. Hazardous wastes which do not meet the acceptance criteria shall be rejected by the approval holder and immediately returned to the generator of the waste dangerous goods.
33. All containers of waste shall be properly labelled, marked and inventoried. Upon completion of a lab pack, the outer container shall also be properly labelled and marked and an inventory of the contents attached to the container. The date of completion of the lab pack shall also be indicated on the inventory.
34. The facility shall be equipped with intrusion alarms and fire and gas detection systems in all storage, handling, and laboratory areas. Alarms shall be monitored and kept in good operating order at all times.
35. Contaminated fluids and wastewater generated by the cleaning of containers or equipment shall be recovered and disposed of in an approved manner.
36. Dyked areas within the HHW structure shall be kept clear of material that may compromise the capacity of the dyke system. Once a year, the dykes shall be visually inspected for their liquid containing integrity, and repairs shall be made when required. Once every ten years, the dykes shall be inspected, by a means other than visual inspection, for their liquid containing integrity, and repairs shall be made when required.

Storage

37. Household hazardous waste may be stored in an approved on-site trailer designed and installed for this purpose for up to 90 days, as long as approved storage capacity is not exceeded.
38. Containment shall be maintained in a condition capable of retaining any spillage which may occur. Any liquid or solid material resulting from a spill or release is to be collected, and

treated as waste dangerous goods; placed in the appropriate drum and disposed of as appropriate. Contaminated material from the processing of the waste dangerous goods, such as pads, contaminated disposable coveralls, gloves, boots, etc, shall be collected and treated as waste dangerous goods; placed in the appropriate drum and disposed of as appropriate.

39. The on-site handling/processing of household hazardous waste must take place within the storage structure. Procedures must be adhered to determine the hazardous nature of materials. Reactive and chemically incompatible wastes shall be stored separately and securely.
40. Wastes must be kept in original containers that are labeled. No mixing or bulking of waste is permitted. The approval holder shall not mix or dilute the hazardous waste.
41. All hazardous waste must be stored in labelled containers or drums. Use containers that are made of, or lined with, materials which will not react with the waste to be stored. (please reference the *Transportation of Dangerous Goods Act*) The date of receipt of the waste dangerous goods at the facility shall be clearly labeled on the storage drums.
42. Approved containers holding hazardous waste must be kept closed during storage except when it is necessary to add or remove waste.
43. Wastes that are delivered in leaking or corroded containers shall be repacked or over-packed in leak-proof containers.
44. Waste dangerous goods awaiting pick-up by a licensed hazardous waste transporter shall be stored in the storage structure.
45. Waste containers at the site shall not be stacked more than two (2) drums in height.
46. A minimum distance of 50 centimeters shall be maintained between rows of containerized wastes. A row of waste shall not exceed 240 centimeters in width.
47. The transportation of hazardous waste/waste dangerous goods shall be carried out by a licensed transporter.
48. The waste manifesting provisions of the *Canadian Environmental Protection Act*, are the responsibility of the Waste Management Section, of the Department. Waste manifest forms may be obtained from the Department (Tel: 709-729-1771). Completed hazardous waste transport shall be forwarded to the Department.

Operations and Maintenance Manuals/Plans

49. The approval holder shall develop and maintain Operations and Maintenance Manuals/Plans in accordance with the Department's Environmental Standards for Municipal Solid Waste Transfer Stations specific to each facility associated with the Regional System.
50. All site operations are to be conducted in accordance with an approved up-to-date Facility

Operations Plan. The purpose of the Facility Operations Plan is for facility operators and employees is to ensure they are trained and are clear on how daily operations proceed, that routine maintenance is conducted, and that contingency plans are appropriately enacted.

51. The approval holder shall maintain a Municipal Solid Waste Management and Public Education Plan.
52. The approval holder shall maintain an up to date contingency plan for environmental and health and safety emergencies, on site at all times, and on file with DGSNL and the Department.

Surface Water Management

53. The approval holder shall ensure that site run-on is minimized by appropriate drainage ditching and sloping; and that run-off from the site does not have an adverse effect on the off-site environment.
54. The approval holder shall ensure that surface water at the facility is not in contact with leachate or solid waste. Any water discharged from the site shall meet discharge water criteria.
55. No authority is granted by this approval to enable the discharge of surface water beyond the property boundary and onto adjoining lands without the authorization of the affected landowner(s). It is the responsibility of the approval holder to ensure that the authorization of said landowner(s) is current and valid. Failure to retain said authorization may result in this Approval being null and void.
56. The approval holder shall be required to mitigate significant adverse impacts to receiving watercourses which are impacted as a result of point source and non-point source discharges attributed to the facility.

Discharge Water Quality

57. A maximum allowable limit for TPH is 15 ppm prior to discharge. Wastewater not meeting this criterion shall be treated to meet criteria limits prior to discharge.
58. Any discharge from the site to a watercourse shall have a total suspended solids (TSS) value of 30 mg/l or less.
59. For any wastewater/ discharges to a sewer which does not lead to a sewage treatment facility, the limits established under Schedule A of the *Environmental Control Water and Sewage Regulations* apply.
60. For discharges to a sewer which leads to a sewage treatment facility, the limits established under Schedule B of the *Environmental Control Water and Sewage Regulations* apply.

Monitoring

61. The Department has the authority to require monitoring programs or testing at any time when:

- pollutants might be released to the surrounding environment without being detected;
- an adverse environmental effect may occur.

62. The approval holder may, at any time, request that any monitoring requirements imposed be altered by:
- requesting the change in writing to the Director; and
 - providing sufficient justification, as determined by the Director.
63. The approval holder shall bear all expenses incurred in carrying out environmental monitoring required under this Approval.
64. Any new and relevant information respecting any adverse effect that results, or may potentially result, from any activity to which the Approval relates, and that comes to attention of the Approval holder shall be submitted to the Department in a timely manner.

Non-Compliance

65. The Department and DGSNL shall be notified immediately of any incidents of non-compliance with this Approval.

Further Assessment

66. The Minister may at any time, with reasonable notice, require the approval holder to conduct or have conducted environmental studies, site assessments, sampling, testing, or investigations where, based upon reasonable and probable grounds, the Minister is of the opinion that the waste management system may have had, or has the potential to have, an adverse effect on the environment.

Environmental Emergency Health and Safety Contingency (EHS)

67. All responsible personnel who are directly involved with operation and maintenance of the processing system shall be provided copies of this Approval.
68. For after hours emergencies and spill reports call: **1-800-563-9089**.
69. All appropriate operations training and health and safety procedures shall be constantly maintained at the site in accordance with applicable legislation and Department environmental standards for the waste management facility in question.
70. Incidents that could occur and require specific response planning include: contingency for unacceptable waste; equipment failure; waste or hazardous materials incidents/ spills; fire; air quality or odour problems, vector infestation. In the event of problems with wildlife encounters (e.g. black bears); the Department of Fisheries, Forestry and Agriculture, Wildlife Division can be contacted.

Environmental, Aesthetic, Nuisance, and Housekeeping

71. Existing tree screens, outside the firebreak, that may conceal the sites from public view shall be maintained.

72. Access roads to each site shall be kept free of waste material and litter shall be controlled at all times.
73. Supervision shall be provided for all reception, placement and managing of waste at the facility.
74. There shall be signs placed strategically throughout the site indicating “No Scavenging”.
75. All vehicles transporting waste and debris to, from, or on-site shall be enclosed, or covered with close fitting tarpaulins to prevent waste and debris from spilling, and that they have tailgates and boxes that are sealed against leakage. Users of the site shall be notified by the approval holder to adhere to this condition.
76. A program to manage and control vectors, rodents, birds and wildlife that may scavenge or develop populations associated with the waste management facility shall be developed.

Prohibitions and Restrictions

77. Prohibitions refer to materials that shall not be accepted for disposal at this waste management facility. Materials are banned from disposal when they have characteristics that make them a risk to worker safety or to the environment. Materials are banned for disposal when suitable waste diversion services are available which include re-use, recycling, and reduction of the amount of material that goes to landfill. It is the responsibility of site managers and staff to decline acceptance of material when unacceptable material is openly visible and identifiable.

Materials banned for landfill disposal may be handled or stored in designated areas of the facility where protocols for safe handling and storage are defined and approved by the Department in separate Certificates of Approval (e.g., C&D waste, HHW).

Operational restrictions ensure that modern waste management practices are implemented. Similar to disposal bans, they aim to minimize adverse environmental effects, enhance worker health and safety, and implement best practices in modern waste management.

78. Prohibitions – Disposal Bans

The following material **shall NOT be accepted** for disposal:

- a. Beverage containers suitable for reuse and recycling as defined by MMSB programs;
- b. Used tires covered by MMSB ‘Used Tire Recycling Program’;
- c. waste paint as covered by MMSB Programs; and
- d. Electronic goods covered by a stewardship program. This material may be collected on behalf of the organization responsible, or redirected to an approved collection point. Contact information, a list of accepted products and service providers in NL is provided at <http://www.mmsb.nl.ca/recyclingprograms/electronic-waste/> .
Electronic waste that is damaged (e.g. broken monitors and cathode ray tubes), or

- dismantled to potentially expose hazardous constituents, is considered to be hazardous waste.
- e. Bulk liquids of any kind [with the exception of used oil, which may be accepted where a registered and approved used oil storage tank system is in place];
 - f. Household Hazardous Waste;
 - g. Biomedical Waste;
 - h. Specified Risk Material as defined in Waste Management Strategy guidance documents Appendix D - includes the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord, and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older, and the distal ileum (portion of the small intestine) of cattle of all ages. These cattle tissues, if infected are capable of transmitting bovine spongiform encephalopathy (BSE), or mad cow disease if added to animal feed, pet food or fertilizer.
 - i. Refrigeration, air conditioning and fire extinguishing equipment which contain regulated substances, as defined in the *Halocarbon Regulations* Schedules A-E. These materials may be acceptable when protocols are in place, as detailed in the following section.
 - j. Fuel Storage Tanks except when protocols are in place for proper handling storage, and disposal; as detailed in the following section.
 - k. Naturally Occurring Radioactive Material (NORMs). NORMS might be found in drilling or excavating materials.
 - l. Radioactive material is banned from disposal and is separately regulated by the Canadian Nuclear Safety Commission. Radioactive material is found in household material such as smoke detectors.
 - m. Any mixture or combination of the above restricted waste is also restricted or prohibited.

79. Operational Restrictions:

- (1) There shall be no incineration or open burning of any kind.
- (2) Only waste from the area of service identified in the approval may be received at the facility unless specifically authorized by DGSNL and approved by the CRSB.
- (3) All waste transporters and vehicles utilizing waste management facility must cover or tie down waste in accordance with *Section 31. (1) of the Cargo Securement Regulations of the Highway Traffic Act*.
- (4) All vehicles entering CRSB facilities shall adhere to the *Cargo Securement Regulations*. It is the responsibility of the regional service board and site managers to report non-compliance to regional enforcement agencies, and to work with the Department and proponents toward a plan for compliance, which may include measures such as denying access to non-compliant vehicles.

80. Exceptions to disposal bans where management protocol apply:

- a) All non-program tires shall be accepted for disposal at the Construction and Demolition Landfill. Non program tires include all-terrain (ATV), or off the road (OTR) vehicle tires, tires used on rolling stock equipment used in the agricultural, forestry, industrial/construction and mining industries. These tires are not collected under the Used Tire Recycling Program by the MMSB. If not approved

for specific recycling applications, disposal to landfill is acceptable.

- b) An exception may be made for the collection and storage of small quantities of smoke detectors that contain radioactive material. This material can be accepted at household hazardous waste depots only with prior approval from the Department.
- c) Special waste is defined by Appendix D of waste management strategy guidance documents as any waste material that requires special treatment or disposal precautions, due to its nature, quantity, volume, potential to react and/or potential to produce an adverse effect. Examples include, animal carcasses/ mortalities or road kill, asbestos containing material, fish plant waste, commercial or industrial waste streams etc. Special waste shall be accepted only upon prior approval from DGSNL. DGSNL will define the safe handling and disposal guidelines, technical recommendations, and roles of other regulatory agencies which shall be adhered to in all cases.
- d) Asbestos containing material (ACM) containing friable asbestos, accepted for disposal at the facility, shall be directed to the Construction and Demolition Landfill and handled by personnel who are trained and properly equipped with personal protective clothing and respirators. ACM shall be managed in accordance with the guidance document entitled: Asbestos Waste Disposal (GD-PPD-033.1).
- e) Acceptance of tires under the Used Tire Recycling Programs for temporary storage is limited to 100 tires per site with the prior approval of the Department. The MMSB provides a collection service and shall be contacted at 1-800-901-6672. Additional information on tire storage can be found on the Departmental website.
- f) Vehicle wrecks and scrap metal shall be directed to recognized metal salvage and recycling operations.
- g) White metal wastes, ensuring compliance under the Halocarbon Regulations, such as freezers, refrigerators and stoves may be appropriately stockpiled in a separate area, pending at least semi-annual transport to a recycling operation. Metals shall be stockpiled in a neat and tidy fashion and not exceed 90% storage capacity. Additional information is found in the appendix of the Environmental Standards for Transfer Stations.
- h) Equipment containing regulated substances such as halocarbons, can be disposed of at a waste disposal site if the regulated substance (s) is (are) recovered by a person approved under the Halocarbon Regulations and shall be labelled "Halocarbon Free".
- i) Fuel storage tanks (commercial or residential) must be drained of product prior to entering the site and shall only be accepted at the metal storage area. The CRSB must submit a plan if draining of any fluids is undertaken and stored on site. If deemed unacceptable for recycling, prior to landfilling, fuel tanks and drums shall have confirmation that they have been purged of product, tank bottom sludge and vapour. The tank must also be cut in half or sufficient openings cut in the tank to prevent the accumulation of vapour and to accommodate visual inspection. If CRSB would like to develop a fuel storage tank management program, the

Department shall be contacted to amend or issue an approval.

The Department reserves the right to amend this approval, to ban disposal of waste streams where and when recycling and diversion programs exist. Any recyclable or waste material that is banned from landfill disposal shall be appropriately redirected.

Notwithstanding all of the above, where options for waste treatment/disposal are limited, the Department shall be consulted regarding accommodation of the waste.

Waste Recovery

81. Any material that is recovered, recycled and/or removed from these sites shall be done by a company holding a valid and current Certificate of Approval. Any waste management processes carried out by the approval holder or its contractors shall be done with prior approval from the Department.

Site Security and Signage

82. Unauthorized access to the waste management site shall be controlled. Measures may include fencing (wire mesh with a maximum opening of 20 cm), and shall include a secure gate or barrier at the site entrance (minimum opening of 8.5 m) with appropriate, highly visible signage to inform the public of acceptable waste materials, hours of operation, telephone number for contact and containing a "No Scavenging" stipulation.
83. An operator shall be kept on duty when and if the site is open to the public. The gate must be locked shut when the operator is not in attendance.
84. Areas shall be allocated and signs posted designating separate areas for the transfer, temporary storage of construction materials, white goods, household hazardous waste, municipal solid waste, and other approved waste as applicable.
85. A firebreak may be required around the perimeter of the site, please check with the authority having jurisdiction.

Noise

86. Noise levels at waste management facilities shall not exceed tolerable long term exposure limits for workers as per guidelines under the *Occupational Health and Safety Act*.
87. Complaints about noise from nearby area residents (off-site) shall be responded and details recorded.
88. If complaints regarding noise from facility operations on or off the site are received, monitoring of sound levels may be required by the Department, and mitigation measures may be required.

Air Emissions

89. Any kind of incineration or open burning is strictly prohibited. The approval holder shall comply with the *Air Pollution Control Regulations* at all times.

90. Schedule A of these regulations provides the standard for ambient air quality, particulate matter and airborne contaminants.
91. Dust generation on site shall be minimized.
92. Odour control measures shall be incorporated into facility design e.g. using negative air pressure to contain odour within infrastructure.
93. Numerical or quantitative limits on odour may be established at the discretion of the Department if odour impacts beyond the property boundaries are deemed to be excessive.
94. Standard procedures to address odour complaints associated with the facility shall be established as part of the Operations Manual and would include:
- i) Immediately investigate the cause of the complaint and undertake immediate and appropriate action, if necessary, to correct the problem.
 - ii) Record all odour complaints and document the date, time, name, address and telephone number of the individual lodging the complaint. The record shall also state any cause of the odour and the action taken to correct the problem.
 - iii) Record wind direction, wind speed, temperature, humidity and other atmospheric conditions at the time of the occurrence which resulted in a complaint.
 - iv) Records of odour complaints shall be made available to the Department upon request.
95. A plan to reduce or cease odour generation shall be submitted at the request of the Department.

Hazardous Materials Incident/Spill Prevention

96. For all waste management facilities the areas in which hazardous materials or chemicals may be used or stored shall have impermeable floors and dykes or curbs and shall not have a floor drain system, nor shall it discharge to the environment. Areas inside the dykes or curbs shall have an effective secondary containment capacity of at least **110% of the chemical storage tank capacity**, in the case of a single storage container. If there is more than one storage container, the dyked area shall be able to retain no less than **110% of the capacity of the largest container or 100 % of the capacity of the largest container plus 10% of the aggregate capacity of all additional containers, whichever is greater**. These dyked areas shall be kept clear of material that may compromise the capacity of the dyke system. Once a year, the dykes shall be visually inspected for their liquid containing integrity, and repairs shall be made when required. Once every ten years, the dykes shall be inspected, by a means other than visual inspection, for their liquid containing integrity, and repairs shall be made when required. This requirement stands for facilities where quantities of hazardous materials may be kept on a regular basis, or intermittently from time to time.
97. All holding tanks for used oil shall be approved by DGSNL as per the ***Used Oil Control Regulations***.

Digital Government and Service NL (DGSNL)

98. Through a Memorandum-of-Understanding the Department of Environment and Climate Change has authorized DGSNL to act on its behalf in inspecting and/or auditing the operation of waste management facilities, for compliance under this approval and all applicable provincial Acts and Regulations. The Regional DGSNL Office may be used as the local point of contact in all cases. DGSNL may contact the Department of Environment and Climate Change as necessary for review and consultation on monitoring results, inspections, reports, and changes or amendments to this Approval.

Reporting

99. The annual monitoring of operations report shall be submitted to the Department by February 28th each year summarizing facility activities of the previous year. The information to be submitted is described in the Department's environmental standards and includes as follows and where applicable.
- i) quantity, type, source (origin) and carrier of waste received;
 - ii) quantity and type of materials recycled, if applicable;
 - iii) quantity of recyclable material received at or transferred to the regional landfill
 - iv) quantity and type of waste dangerous goods removed and the final disposal site;
 - vi) records of any waste diversion;
 - xi) a summary of any upsets or spills at the facility;
 - xii) a summary of any registered complaints and measures taken to resolve the complaints;
 - xiii) any changes in procedure or operations;
 - xiv) any changes or updates with respect to staffing and training
 - xv) any other information deemed necessary by the Department.

It is noted that volume and weight estimates will be substituted where scales have not been installed.

100. Any operational difficulties with potential environmental implications must be immediately reported to DGSNL. The nature of the operational difficulty as well as the mitigation measures shall be included in the yearly report.

101. All incidents of:

- Contingency Plan implementation;
- non-conformance of any condition within this approval;
- spillage or leakage of a regulated substance;
- leachate or wastewater discharge suspected to have exceeded criteria limits
- verbal/written complaints of an environmental nature from the public, any response, mitigation or corrective action e.g. due to air quality, odour or noise.
- any incidence of vandalism or illegal dumping at or near the site.

shall be immediately reported, within one working day, to a person or message manager or facsimile machine to DGSNL by phoning or faxing.

Central Region – DGSNL (Gander)
P.O. Box 2222
A1V 2N9
Telephone (709) 256-1420
Facsimile: (709) 256-1438

102. A written incident report including a detailed description of the incident, summary of contributing factors and an action plan to prevent future incidents of a similar nature, shall be submitted to the respective Regional Director of DGSNL. The action plan shall include a description of actions already taken and future actions to be implemented, and shall be submitted within thirty days of the date of the initial incident.

Decommissioning

103. An approved alternative disposal or transfer location must be identified prior to closure and decommissioning.
104. A detailed decommissioning plan must be submitted to the Department 6 months prior to the planned date of final site closure. Decommissioning details must address site security, the removal of remaining material and on-site infrastructure, and financial arrangements for any future environmental monitoring requirements, and outline potential future uses for the site.

Expiration

105. This approval expires on December 31st, 2028.
106. Should the approval holder wish to continue to operate beyond this expiry date, a written request shall be submitted to the Department for the renewal of this approval. Such request shall be made at least 3 months prior to expiration.

c.c. Robert Locke, Director
Pollution Prevention Division
Department of Environment
and Climate Change
rlocke@gov.nl.ca

Christa Curnew, Manager
Waste Management Infrastructure
Department of Environment & Climate
Change
christacurnew@gov.nl.ca

Chris Parsons, Manager
Operations and Environmental Protection
DGSNL
chriswparsons@gov.nl.ca

Heather Jesso
Environment and Climate Change Canada
heather.jesso@ec.gc.ca

Wayne Lynch- Director
DGSNL (Gander)
waynelynch@gov.nl.ca



Government of Newfoundland and Labrador
Department of Environment and Climate Change
Pollution Prevention Division

CERTIFICATE OF APPROVAL

Pursuant to the Environmental Protection Act, SNL 2002, Sections 16, 78 and 83.

Issued: January 19, 2024
Expires: December 31, 2028

Approval No: WMS-16-08-009
File No: 839-CRS-001

Approval Holder: Town of St. Brendan's
P.O. Box 54
St. Brendan's, NL
A0G 3V0
Phone: 709-669-4271

Attn: Ms. Rita White, Town Clerk

RE: Approval to operate a waste recovery facility

Approval is hereby given for the operation of a seasonal Waste Recovery Facility (May 15 – October 31) at the existing site, for the collection of bulk and waste dry materials for sorting and transfer to the landfill site at Central Regional Waste Management Facility (CNWMF) in Norris Arm North for final disposal.

This approval does not release the holder from the obligation to obtain appropriate approvals from other concerned provincial, federal and municipal agencies. Approval from the Department of Environment and Climate Change (the Department) shall be obtained prior to any significant change in the design, construction, installation, or operation of the facility, including any future expansion of the works. This certificate shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the holder without obtaining written prior approval from the Minister.

This approval is subject to the terms and conditions attached hereto, as may be revised from time to time by the Department. Failure to comply with any of the terms and conditions may render this certificate of approval null and void, may require the approval holder to cease all activities associated with this certificate of approval, may place the approval holder and its agent(s) in violation of the *Environmental Protection Act*, SNL., 2002, c. E-14-2, and will hold the approval holder responsible for taking such remedial measures as may be prescribed by the Department. The Department reserves the right to add, delete, modify or revoke this approval at any time.


For **MINISTER**

Administrative and General

1. The waste recovery facility shall comply with applicable tenets of the most current versions of the following Environmental Standards:
 - GD-PPD – 046 Environmental Standards for Municipal Solid Waste Transfer Stations
 - GD-PPD– 063 General Environmental Standards for Municipal Solid Waste Facilities/Systems

Copies of all environmental standards/guidance documents and applicable appendices are posted to the Department of Environment and Climate Change website.

www.env.gov.nl.ca/env/env_protection/waste/index.html

2. If different from the terms and conditions set out in the Department's Environmental Standards, those directly stated in the Certificate of Approval shall apply.
3. Separate approvals or an amendment to this approval will be required for other waste management activities and/or facilities at this site.

Financial Assurance

4. The approval holder is responsible to ensure that appropriate and adequate financial assurances and/ or environmental impairment liability and/ or pollution abatement assurance and automotive insurance policies are in place for all operators contracted to support the operations of this waste management facility.

Legislation Standards and Guidelines

5. The activities associated with this operation may involve, but not be limited to, the following provincial Acts and Regulations as amended:
 - *Environmental Protection Act RSNL, 2002*
 - *Air Pollution Control Regulations, 2004*
 - *Storage and Handling of Gasoline and Associated Products Regulations, 2003*
 - *Used Oil and Used Glycol Control Regulations, 2018*
 - *Halocarbon Regulations, 2005*
 - *Pesticides Control Regulations, 2012*
 - *Water Resources Act, 2002*
 - *Environmental Control Water and Sewage Regulations, 2003.*
 - *Occupational Health and Safety Act RSNL, 1990*
 - *Dangerous Goods Transportation Act, 2006*
 - *Municipalities Act, 1999*
 - *Regional Service Board Act, 1990*
 - *Transportation and Works Act, 1995 (and Highway specifications as amended)*
6. The activities associated with this operation may involve, but not be limited to, the following federal Acts and Regulations as enforced by respective Federal Regulatory Agencies:
 - *Canadian Environmental Protection Act and Regulations*
 - *Transportation of Dangerous Goods Act and Regulations*

- *Fisheries Act*
- *National Fire Code*

Quality Control/Quality Assurance

7. Facility design, construction and operation must incorporate acceptable quality control/quality assurance (QC/QA) protocols and results and provide for changes if necessary to maintain and improve performance.

Operation of Waste Recovery Facilities

8. A copy of this Approval shall be kept at each site at all times.
9. There shall be sufficient area for storage of materials and for queuing vehicles.
10. The approval holder shall provide supervision when any material is being delivered to each facility.
11. Incoming waste shall be routinely scrutinized to ensure unacceptable waste is not received at the site. Suspected hazardous waste shall be redirected to an appropriate Central Regional Service Board (CRSB) facility.
12. The following types of bulk waste can be stored at the facilities on an interim basis:
 - white goods
 - end of life vehicles
 - electronics
 - tires
 - wood waste such as Christmas trees and brush
 - construction and demolition debris from residential sources
 - furniture and other bulk household items
13. Maximum storage time for bulk waste shall not exceed 90% of the container or capacity for that specific waste. Arrangements with CRSB shall be made at least every six months to have waste removed from the site. Waste shall be accepted for temporary storage for removal to reuse or recycling in such a manner that the risk of a fire is minimized. If the stockpile is considered excessive, unsightly or may pose an adverse impact to health, safety or the environment then the waste shall be removed immediately.
14. Removal of material from the site for recycling or disposal at the CNWMF at Norris Arm North shall be done by a licensed company holding a current Certificate of Approval or employed by or under contract to CRSB.
15. Waste must be transported to and from the site in an enclosed vehicle or a vehicle to which a tarpaulin or netting is attached to prevent the loss of waste while the vehicle is moving any distance in excess of 0.5 km.

Operations and Maintenance Manuals/Plans

16. All site operations shall be in accordance with CRSB standard procedures and CRSB facility operations plans as approved by the Department. Changes to operations shall be noted in the CRSB annual report and updates filed with the Department as appropriate. The goal is to always maintain a high level of operational efficiency with minimal adverse environmental impact.
17. CRSB shall maintain a contingency plan for environmental and health and safety emergencies on file with Digital Government and Service NL (DGSNL) and the Department prior to commencing operation and, thereafter, provide any annual updates. An updated copy of the contingency plan shall be kept on site at all times.

Surface Water Management

18. The approval holder shall ensure that site run-on is minimized by appropriate drainage ditching and sloping; and that run-off from the site does not have an adverse effect on the off-site environment.
19. The approval holder shall be required to mitigate significant adverse impacts to receiving watercourses which are impacted as a result of point source and non-point source discharges attributed to the facility.

Monitoring

20. The Department has the authority to require testing at any time when:
 - pollutants might be released to the surrounding environment without being detected; or
 - an adverse environmental effect may occur.
21. Any new and relevant information respecting any adverse effect that actually results, or may potentially result, from any activity to which the Approval relates, and that comes to attention after the issuance of the Approval shall be submitted to the Department in a timely manner.
22. The requirements of this Approval shall remain in effect unless altered, in writing, by the Department.

Non-Compliance

23. The Department and DGSNL shall be notified immediately of any incidents of non-compliance with this Approval.

Further Assessment

24. The Minister may at any time, with reasonable notice, require the approval holder to conduct or have conducted environmental studies, site assessments, sampling, testing, or investigations where, based upon reasonable and probable grounds, the Minister is of the opinion that the waste management system may have had, or has the potential to have, an adverse effect on the environment.

Environmental Emergency Health and Safety Contingency

25. For afterhours emergencies and spill reports call: **1-800-563-9089**.
26. All appropriate operations training and health and safety procedures shall be constantly maintained by CRSB in accordance with applicable legislation and Department of Environment and Climate Change Environmental General Standards for Municipal Solid Waste Management Facilities/Systems.
27. Incidents that could occur and require specific response planning include: contingency for unacceptable waste; equipment failure; waste or hazardous materials incidents/ spills; fire; air quality or odour problems, vector infestation. In the event of problems with wildlife encounters (e.g. black bears); the Department of Fisheries Forestry and Agriculture, Wildlife Division can be contacted.

Environmental, Aesthetic, Nuisance, and Housekeeping

28. Existing tree screens, outside the firebreak, that may conceal the sites from public view shall be maintained.
29. Access roads to each site shall be kept free of waste material and litter shall be controlled at all times.
30. Supervision shall be provided for all reception, placement, managing of waste at the facility.
31. Scavenging of waste is strictly prohibited and there shall be signs placed strategically throughout the site indicating "No Scavenging".

Restrictions and Prohibitions

32. Certified waste management systems are subject to the following restrictions and prohibitions:
- There shall be NO incineration or open burning of any kind at waste management facilities / sites.
 - There shall be NO bulk liquids of any kind received or accepted at the facility with the exception of used oil, where a registered and approved used oil storage tank system is in place.
 - Special waste (please refer to definitions in Appendix D on the Departmental website) shall NOT be accepted.
 - Biomedical waste (please refer to definitions in Appendix D on the Departmental website) shall NOT be accepted.
 - International waste (please refer to definitions in Appendix D on the Departmental website), for the purposes of this approval, is to be considered as "special waste".
 - Specified risk material (please refer to definitions in Appendix D on the Department website), for the purposes of this approval, is to be considered as "special waste", shall NOT be accepted.
 - Asbestos waste shall NOT be accepted.
 - The approval holder may accept, for transfer, all non-program tires. Non program tires include all-terrain (ATV), or off the road (OTR) vehicle tires, tires used on rolling

stock equipment used in the agricultural, forestry, industrial/construction and mining industries. These tires are not collected under the Used Tire Recycling Program by the MMSB and may be disposed to landfill.

- i. Acceptance of tires under the Used Tire Recycling Programs for temporary storage is limited to 100 tires per site. The MMSB provides a collection service and shall be contacted at 1-800-901-6672. Additional information on tire storage can be found on the Departmental website.
- j. Electronic goods covered by a stewardship program shall not be disposed to landfill. This material may be collected on behalf of the organization responsible, or redirected to an approved collection point. Contact information, a list of accepted products and service providers in NL is provided at <http://www.mmsb.nl.ca/recyclingprograms/electronic-waste/>. Electronic waste that is damaged (e.g. broken monitors and cathode ray tubes), or dismantled to potentially expose hazardous constituents, is considered to be hazardous waste.
- k. Where appropriate facilities exist, vehicle wrecks and scrap metal shall be directed to recognized metal salvage and recycling operations. White metals such as freezers, refrigerators and stoves may be appropriately stockpiled in a separate area, pending at least semi-annual transport to a recycling operation. Metals shall be stock piled in a neat and tidy fashion and not exceed 90% storage capacity.
- l. Equipment containing regulated substances (refrigeration, air conditioning and fire extinguishing equipment) shall not be accepted at the waste recovery facility without first having the regulated substance recovered by a person approved under the Halocarbon Regulations and shall be labelled "Halocarbon free". If the substance is to be recovered by personnel contracted by the approval holder, they must have appropriate training and a plan must be outlined in the Facility Operations Plan.
- m. Petroleum storage tanks (commercial or residential) must be drained of product prior to entering the site and shall only be accepted at the metal storage area.
- n. Low level radioactive material (NORMS <70 becquerels/g total specific activity) shall not be accepted at waste management facilities.
- o. Radioactive material (>70 becquerels/g) is separately regulated by the Canadian Nuclear Safety Commission, and shall not be accepted.
- p. Any mixture or combination of the above restricted waste is also restricted or prohibited.
- q. Any recyclable or waste material that is banned from landfill disposal shall be appropriately redirected. Refer to the *Waste Management Regulations, 2003 (amendment)*.

Waste Recovery

33. Any waste management processes carried out by the approval holder, CRSB or its contractors shall be done with prior approval from the Department.

Site Security and Signage

34. Unauthorized access to the waste management site shall be controlled. Measures may include fencing (wire mesh with a maximum opening of 20 cm), and shall include a secure gate or barrier at the site entrance (minimum opening of 8.5 m) with appropriate, highly visible signage to inform the public of acceptable waste materials, hours of operation, telephone number for contact and containing a "No Scavenging" stipulation.

35. An operator shall be kept on duty when and if the site is open to the public. The gate must be locked shut when the operator is not in attendance.
36. Areas shall be allocated and signs posted designating separate areas for the transfer, temporary storage and recycling or disposal of construction debris, white goods, household hazardous waste, municipal solid waste, and other approved waste as applicable.
37. A firebreak may be required around the perimeter of the site, please check with the authority having jurisdiction.

Noise

38. Noise levels at waste management facilities shall not exceed tolerable long term exposure limits for workers as recommended in guidelines under the *Occupational Health and Safety Act*.
39. Complaints about noise from nearby area residents (off-site) shall be responded and details recorded.
40. If complaints regarding noise from facility operations on or off the site are received, monitoring of sound levels may be required by the Department, and mitigation measures may be required.

Air Emissions

41. Any kind of incineration or open burning is strictly prohibited. The approval holder shall comply with the *Air Pollution Control Regulations* at all times.
42. Schedule A of these regulations provides the standard for ambient air quality, particulate matter and airborne contaminants.
43. Dust generation on site shall be minimized.
44. Standard procedures to address odour complaints associated with the facility shall be in accordance with CRSB Operations Manuals for Transfer Facilities.
45. A plan to reduce or cease odour generation shall be submitted at the request of the Department.

Digital Government and Service NL (DGSNL)

46. Through a Memorandum-of-Understanding, the Department of Environment and Climate Change has authorized DGSNL to act on its behalf in inspecting and/or auditing the operation of waste management facilities, for compliance under this approval and all applicable provincial Acts and Regulations. The regional DGSNL office may be used as the local point of contact in all cases. DGSNL may contact the Department of Environment and Climate Change as necessary for review and consultation on monitoring results, inspections, reports, and changes or amendments to this Approval.

Reporting

47. The following information will be provided as part of the CRSB annual report that is submitted to the Department at the end of each calendar year:
- a. quantity, type, source (origin) and carrier of waste received;
 - b. quantity and type of materials recycled, if applicable;
 - c. quantity of residual material received at or transferred to the regional landfill
 - d. quantity and type of waste dangerous goods removed and the final disposal site;
 - e. records of any waste diversion;
 - f. a summary of any upsets or spills at the facility;
 - g. a summary of any registered complaints and measures taken to resolve the complaints;
 - h. any changes in procedure or operations;
 - i. any changes or updates with respect to staffing and training
 - j. any other information deemed necessary by the Department.

It is noted that volume and weight estimates will be substituted where scales have not been installed.

48. Any operational difficulties with potential environmental implications must be immediately reported to DGSNL. The nature of the operational difficulty as well as the mitigation measures shall be included in the yearly report.

49. All incidents of:

- Contingency Plan implementation;
- Non-conformance of any condition within this approval;
- Spillage or leakage of a regulated substance;
- Leachate or wastewater discharge suspected to have exceeded criteria limits;
- Complaints - verbal/written of an environmental nature from the public, any response, mitigation or corrective action e.g. due to air quality, odour or noise; and
- Any incidence of vandalism or illegal dumping at or near the site.

Shall be immediately reported, within one working day, to a person or message manager or facsimile machine to Service NL by phoning or faxing.

Avalon Region– DGSNL (St. John's)
Telephone (709) 729-2550
Facsimile: (709) 729-7400

Gander Region- DGSNL
Telephone: (709) 256-1420
Facsimile: (709) 256-2318

50. A written incident report including a detailed description of the incident, summary of contributing factors and an action plan to prevent future incidents of a similar nature, shall be submitted to the respective Regional Director of DGSNL. The action plan shall include a description of actions already taken and future actions to be implemented, and shall be submitted within thirty days of the date of the initial incident.

Decommissioning

51. A preliminary facility decommissioning plan must be submitted to the Department at least six months prior to planned closure.
52. An approved alternative disposal or transfer location must be identified prior to closure and decommissioning.
53. A detailed decommissioning plan must be submitted to the Department 6 months prior to the planned date of final site closure. Decommissioning details must address site security, the removal of remaining material and on-site infrastructure, and financial arrangements for any future environmental monitoring requirements, and outline potential future uses for the site.

Expiration

54. This approval expires on the date indicated on the first page of this Certificate.
55. A written request to extend this approval shall be submitted to the Department at least 60 days prior to expiration; concurrent to submission of the annual report.

c.c.	c.c.	Robert Locke, Director Pollution Prevention Division Department of Environment and Climate Change rlocke@gov.nl.ca Christa Curnew, Manager Waste Management Infrastructure Department of Environment & Climate Change christacurnew@gov.nl.ca Chris Parsons, Manager Operations and Environmental Protection DGSNL chriswparsons@gov.nl.ca	Heather Jesso Environment and Climate Change Canada heather.jesso@ec.gc.ca Wayne Lynch- Director DGSNL (Gander) waynelynch@gov.nl.ca Glenda Melvin Multi-Materials Stewardship Board gmelvin@mmsb.ca	Ed Evans, Manager Central Regional Waste Management Facility, Norris Arm North ed@cnwmc.com
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Government of Newfoundland and Labrador
Department of Environment and Climate Change
Pollution Prevention Division

CERTIFICATE OF APPROVAL

Pursuant to the Environmental Protection Act, SNL 2002, Sections 16, 78 and 83.

Issued: January 19, 2024
Expires: December 31, 2028

Approval No: WMS-16-08-008
File No: 839-CRS-001

Approval Holder: Town of Change Islands
P.O. Box 67
Change Islands, NL
A0G 1R0
Phone: 709-621-4181

Attn: Town Clerk

RE: Approval to operate a waste recovery facility

Approval is hereby given for the operation of a Waste Recovery Facility located at the existing site on the main highway approximately 10 km outside the town, for the collection of bulk and waste dry materials for sorting and transfer to the landfill site at Central Regional Waste Management Facility in Norris Arm North for final disposal.

This approval does not release the holder from the obligation to obtain appropriate approvals from other concerned provincial, federal and municipal agencies. Approval from the Department of Environment and Climate Change (the Department) shall be obtained prior to any significant change in the design, construction, installation, or operation of the facility, including any future expansion of the works. This certificate shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the holder without obtaining written prior approval from the Minister.

This approval is subject to the terms and conditions attached hereto, as may be revised from time to time by the Department. Failure to comply with any of the terms and conditions may render this certificate of approval null and void, may require the approval holder to cease all activities associated with this certificate of approval, may place the approval holder and its agent(s) in violation of the *Environmental Protection Act*, SNL., 2002, c. E-14-2, and will hold the approval holder responsible for taking such remedial measures as may be prescribed by the Department. The Department reserves the right to add, delete, modify or revoke this approval at any time.


For MINISTER

Administrative and General

1. The waste recovery facility shall comply with applicable tenets of the most current versions of the following Environmental Standards:
 - GD-PPD – 046 Environmental Standards for Municipal Solid Waste Transfer Stations
 - GD-PPD– 063 General Environmental Standards for Municipal Solid Waste Facilities/Systems

Copies of all environmental standards/guidance documents and applicable appendices are posted to the Department of Environment and Climate Change website.

www.env.gov.nl.ca/env/env_protection/waste/index.html

2. If different from the terms and conditions set out in the Department's Environmental Standards, those directly stated in the Certificate of Approval shall apply.
3. Separate approvals or an amendment to this approval will be required for other waste management activities and/or facilities at this site.

Financial Assurance

4. The approval holder is responsible to ensure that appropriate and adequate financial assurances and/ or environmental impairment liability and/ or pollution abatement assurance and automotive insurance policies are in place for all operators contracted to support the operations of this waste management facility.

Legislation Standards and Guidelines

5. The activities associated with this operation may involve, but not be limited to, the following provincial Acts and Regulations as amended:
 - *Environmental Protection Act RSNL, 2002*
 - *Air Pollution Control Regulations, 2004*
 - *Storage and Handling of Gasoline and Associated Products Regulations, 2003*
 - *Used Oil and Used Glycol Control Regulations, 2018*
 - *Halocarbon Regulations, 2005*
 - *Pesticides Control Regulations, 2012*
 - *Water Resources Act, 2002*
 - *Environmental Control Water and Sewage Regulations, 2003.*
 - *Occupational Health and Safety Act RSNL, 1990*
 - *Dangerous Goods Transportation Act, 2006*
 - *Municipalities Act, 1999*
 - *Regional Service Board Act, 1990*
 - *Transportation and Works Act, 1995 (and Highway specifications as amended)*
6. The activities associated with this operation may involve, but not be limited to, the following federal Acts and Regulations as enforced by respective Federal Regulatory Agencies:
 - *Canadian Environmental Protection Act and Regulations*
 - *Transportation of Dangerous Goods Act and Regulations*

- *Fisheries Act*
- *National Fire Code*

Quality Control/Quality Assurance

7. Facility design, construction and operation must incorporate acceptable quality control/quality assurance (QC/QA) protocols and results and provide for changes if necessary to maintain and improve performance.

Operation of Waste Recovery Facilities

8. A copy of this Approval shall be kept at each site at all times.
9. There shall be sufficient area for storage of materials and for queuing vehicles.
10. The approval holder shall provide supervision when any material is being delivered to each facility.
11. Incoming waste shall be routinely scrutinized to ensure unacceptable waste is not received at the site. Suspected hazardous waste shall be redirected to an appropriate Central Regional Service Board (CRSB) facility.
12. The following types of bulk waste can be stored at the facilities on an interim basis:
 - white goods
 - end of life vehicles
 - electronics
 - tires
 - wood waste such as Christmas trees and brush
 - construction and demolition debris from residential sources
 - furniture and other bulk household items
13. Maximum storage time for bulk waste shall not exceed 90% of the container or capacity for that specific waste. Arrangements with CRSB shall be made at least every six months to have waste removed from the site. Waste shall be accepted for temporary storage for removal to reuse or recycling in such a manner that the risk of a fire is minimized. If the stockpile is considered excessive, unsightly or may pose an adverse impact to health, safety or the environment then the waste shall be removed immediately.
14. Removal of material from the site for recycling or disposal at the CNWMF at Norris Arm North shall be done by a licensed company holding a current Certificate of Approval or employed by or under contract to CRSB.
15. Waste must be transported to and from the site in an enclosed vehicle or a vehicle to which a tarpaulin or netting is attached to prevent the loss of waste while the vehicle is moving any distance in excess of 0.5 km.

Operations and Maintenance Manuals/Plans

16. All site operations shall be in accordance with CRSB standard procedures and CRSB facility operations plans as approved by the Department. Changes to operations shall be noted in the CRSB annual report and updates filed with the Department as appropriate. The goal is to always maintain a high level of operational efficiency with minimal adverse environmental impact.
17. CRSB shall maintain a contingency plan for environmental and health and safety emergencies on file with Digital Government and Service NL (DGSNL) and the Department prior to commencing operation and, thereafter, provide any annual updates. An updated copy of the contingency plan shall be kept on site at all times.

Surface Water Management

18. The approval holder shall ensure that site run-on is minimized by appropriate drainage ditching and sloping; and that run-off from the site does not have an adverse effect on the off-site environment.
19. The approval holder shall be required to mitigate significant adverse impacts to receiving watercourses which are impacted as a result of point source and non-point source discharges attributed to the facility.

Monitoring

20. The Department has the authority to require testing at any time when:
 - pollutants might be released to the surrounding environment without being detected; or
 - an adverse environmental effect may occur.
21. Any new and relevant information respecting any adverse effect that actually results, or may potentially result, from any activity to which the Approval relates, and that comes to attention after the issuance of the Approval shall be submitted to the Department in a timely manner.
22. The requirements of this Approval shall remain in effect unless altered, in writing, by the Department.

Non-Compliance

23. The Department and DGSNL shall be notified immediately of any incidents of non-compliance with this Approval.

Further Assessment

24. The Minister may at any time, with reasonable notice, require the approval holder to conduct or have conducted environmental studies, site assessments, sampling, testing, or investigations where, based upon reasonable and probable grounds, the Minister is of the opinion that the waste management system may have had, or has the potential to have, an adverse effect on the environment.

Environmental Emergency Health and Safety Contingency

25. For afterhours emergencies and spill reports call: **1-800-563-9089**.
26. All appropriate operations training and health and safety procedures shall be constantly maintained by CRSB in accordance with applicable legislation and Department of Environment and Climate Change Environmental General Standards for Municipal Solid Waste Management Facilities/Systems.
27. Incidents that could occur and require specific response planning include: contingency for unacceptable waste; equipment failure; waste or hazardous materials incidents/ spills; fire; air quality or odour problems, vector infestation. In the event of problems with wildlife encounters (e.g. black bears); the Department of Fisheries Forestry and Agriculture, Wildlife Division can be contacted.

Environmental, Aesthetic, Nuisance, and Housekeeping

28. Existing tree screens, outside the firebreak, that may conceal the sites from public view shall be maintained.
29. Access roads to each site shall be kept free of waste material and litter shall be controlled at all times.
30. Supervision shall be provided for all reception, placement, managing of waste at the facility.
31. Scavenging of waste is strictly prohibited and there shall be signs placed strategically throughout the site indicating "No Scavenging".

Restrictions and Prohibitions

32. Certified waste management systems are subject to the following restrictions and prohibitions:
- There shall be NO incineration or open burning of any kind at waste management facilities / sites.
 - There shall be NO bulk liquids of any kind received or accepted at the facility with the exception of used oil, where a registered and approved used oil storage tank system is in place.
 - Special waste (please refer to definitions in Appendix D on the Departmental website) shall NOT be accepted.
 - Biomedical waste (please refer to definitions in Appendix D on the Departmental website) shall NOT be accepted.
 - International waste (please refer to definitions in Appendix D on the Departmental website), for the purposes of this approval, is to be considered as "special waste".
 - Specified risk material (please refer to definitions in Appendix D on the Department website), for the purposes of this approval, is to be considered as "special waste", shall NOT be accepted.
 - Asbestos waste shall NOT be accepted.
 - The approval holder may accept, for transfer, all non-program tires. Non program tires include all-terrain (ATV), or off the road (OTR) vehicle tires, tires used on rolling

stock equipment used in the agricultural, forestry, industrial/construction and mining industries. These tires are not collected under the Used Tire Recycling Program by the MMSB and may be disposed to landfill.

- i. Acceptance of tires under the Used Tire Recycling Programs for temporary storage is limited to 100 tires per site. The MMSB provides a collection service and shall be contacted at 1-800-901-6672. Additional information on tire storage can be found on the Departmental website.
- j. Electronic goods covered by a stewardship program shall not be disposed to landfill. This material may be collected on behalf of the organization responsible, or redirected to an approved collection point. Contact information, a list of accepted products and service providers in NL is provided at <http://www.mmsb.nl.ca/recyclingprograms/electronic-waste/>. Electronic waste that is damaged (e.g. broken monitors and cathode ray tubes), or dismantled to potentially expose hazardous constituents, is considered to be hazardous waste.
- k. Where appropriate facilities exist, vehicle wrecks and scrap metal shall be directed to recognized metal salvage and recycling operations. White metals such as freezers, refrigerators and stoves may be appropriately stockpiled in a separate area, pending at least semi-annual transport to a recycling operation. Metals shall be stock piled in a neat and tidy fashion and not exceed 90% storage capacity.
- l. Equipment containing regulated substances (refrigeration, air conditioning and fire extinguishing equipment) shall not be accepted at the waste recovery facility without first having the regulated substance recovered by a person approved under the Halocarbon Regulations and shall be labelled "Halocarbon free". If the substance is to be recovered by personnel contracted by the approval holder, they must have appropriate training and a plan must be outlined in the Facility Operations Plan.
- m. Petroleum storage tanks (commercial or residential) must be drained of product prior to entering the site and shall only be accepted at the metal storage area.
- n. Low level radioactive material (NORMS <70 becquerels/g total specific activity) shall not be accepted at waste management facilities.
- o. Radioactive material (>70 becquerels/g) is separately regulated by the Canadian Nuclear Safety Commission, and shall not be accepted.
- p. Any mixture or combination of the above restricted waste is also restricted or prohibited.
- q. Any recyclable or waste material that is banned from landfill disposal shall be appropriately redirected. Refer to the *Waste Management Regulations, 2003 (amendment)*.

Waste Recovery

33. Any waste management processes carried out by the approval holder, CRSB or its contractors shall be done with prior approval from the Department.

Site Security and Signage

34. Unauthorized access to the waste management site shall be controlled. Measures may include fencing (wire mesh with a maximum opening of 20 cm), and shall include a secure gate or barrier at the site entrance (minimum opening of 8.5 m) with appropriate, highly visible signage to inform the public of acceptable waste materials, hours of operation, telephone number for contact and containing a "No Scavenging" stipulation.

35. An operator shall be kept on duty when and if the site is open to the public. The gate must be locked shut when the operator is not in attendance.
36. Areas shall be allocated and signs posted designating separate areas for the transfer, temporary storage and recycling or disposal of construction debris, white goods, household hazardous waste, municipal solid waste, and other approved waste as applicable.
37. A firebreak may be required around the perimeter of the site, please check with the authority having jurisdiction.

Noise

38. Noise levels at waste management facilities shall not exceed tolerable long term exposure limits for workers as recommended in guidelines under the *Occupational Health and Safety Act*.
39. Complaints about noise from nearby area residents (off-site) shall be responded and details recorded.
40. If complaints regarding noise from facility operations on or off the site are received, monitoring of sound levels may be required by the Department, and mitigation measures may be required.

Air Emissions

41. Any kind of incineration or open burning is strictly prohibited. The approval holder shall comply with the *Air Pollution Control Regulations* at all times.
42. Schedule A of these regulations provides the standard for ambient air quality, particulate matter and airborne contaminants.
43. Dust generation on site shall be minimized.
44. Standard procedures to address odour complaints associated with the facility shall be in accordance with CRSB Operations Manuals for Transfer Facilities.
45. A plan to reduce or cease odour generation shall be submitted at the request of the Department.

Digital Government and Service NL (DGSNL)

46. Through a Memorandum-of-Understanding, the Department of Environment and Climate Change has authorized DGSNL to act on its behalf in inspecting and/or auditing the operation of waste management facilities, for compliance under this approval and all applicable provincial Acts and Regulations. The regional DGSNL office may be used as the local point of contact in all cases. DGSNL may contact the Department of Environment and Climate Change as necessary for review and consultation on monitoring results, inspections, reports, and changes or amendments to this Approval.

Reporting

47. The following information will be provided as part of the CRSB annual report that is submitted to the Department at the end of each calendar year:

- a. quantity, type, source (origin) and carrier of waste received;
- b. quantity and type of materials recycled, if applicable;
- c. quantity of residual material received at or transferred to the regional landfill
- d. quantity and type of waste dangerous goods removed and the final disposal site;
- e. records of any waste diversion;
- f. a summary of any upsets or spills at the facility;
- g. a summary of any registered complaints and measures taken to resolve the complaints;
- h. any changes in procedure or operations;
- i. any changes or updates with respect to staffing and training
- j. any other information deemed necessary by the Department.

It is noted that volume and weight estimates will be substituted where scales have not been installed.

48. Any operational difficulties with potential environmental implications must be immediately reported to DGSNL. The nature of the operational difficulty as well as the mitigation measures shall be included in the yearly report.

49. All incidents of:

- Contingency Plan implementation;
- Non-conformance of any condition within this approval;
- Spillage or leakage of a regulated substance;
- Leachate or wastewater discharge suspected to have exceeded criteria limits;
- Complaints - verbal/written of an environmental nature from the public, any response, mitigation or corrective action e.g. due to air quality, odour or noise; and
- Any incidence of vandalism or illegal dumping at or near the site.

Shall be immediately reported, within one working day, to a person or message manager or facsimile machine to DGSNL by phoning or faxing.

Avalon Region- DGSNL (St. John's)
Telephone (709) 729-2550
Facsimile: (709) 729-7400

Gander Region- DGSNL
Telephone: (709) 256-1420
Facsimile: (709) 256-2318

50. A written incident report including a detailed description of the incident, summary of contributing factors and an action plan to prevent future incidents of a similar nature, shall be submitted to the respective Regional Director of DGSNL. The action plan shall include a description of actions already taken and future actions to be implemented, and shall be submitted within thirty days of the date of the initial incident.

Decommissioning

51. A preliminary facility decommissioning plan must be submitted to the Department at least six months prior to planned closure.
52. An approved alternative disposal or transfer location must be identified prior to closure and decommissioning.
53. A detailed decommissioning plan must be submitted to the Department 6 months prior to the planned date of final site closure. Decommissioning details must address site security, the removal of remaining material and on-site infrastructure, and financial arrangements for any future environmental monitoring requirements, and outline potential future uses for the site.

Expiration

54. This approval expires on the date indicated on the first page of this Certificate.
55. A written request to extend this approval shall be submitted to the Department at least 60 days prior to expiration; concurrent to submission of the annual report.

c.c.	c.c.	Robert Locke, Director Pollution Prevention Division Department of Environment and Climate Change rlocke@gov.nl.ca	Heather Jesso Environment and Climate Change Canada heather.jesso@ec.gc.ca	Ed Evans, Manager Central Regional Waste Management Facility, Norris Arm North ed@cnwmc.com
		Christa Curnew, Manager Waste Management Infrastructure Department of Environment & Climate Change christacurnew@gov.nl.ca	Wayne Lynch- Director DGSNL (Gander) waynelynch@gov.nl.ca	
		Chris Parsons, Manager Operations and Environmental Protection DGSNL chriswparsons@gov.nl.ca	Glenda Melvin Multi-Materials Stewardship Board gmelvin@mmsb.ca	

CENTRAL NEWFOUNDLAND WASTE MANAGEMENT



cnwm

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Summary of Products Recieved between 1/1/2025 to 12/31/2025
For ,Contractor ,Domestic ,Town ,Transfer

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total:
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C & D Mixed

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	473.22	438.80	532.34	499.00	1,205.67	1,175.98	629.32	945.95	762.15	927.75	600.98	247.01	8,438.17
2024	690.07	378.87	256.94	477.06	1,274.67	1,114.87	845.83	445.45	717.70	693.22	423.36	483.75	7,801.78
2023	238.07	272.68	240.85	304.86	1,075.71	1,819.68	1,371.52	1,019.61	1,120.87	1,340.51	1,209.92	794.58	10,808.86
2022	138.10	149.68	274.76	517.82	638.25	1,090.23	460.23	394.83	560.34	482.45	357.75	349.68	5,414.12

C & D Sorted

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	318.20	185.44	314.99	454.51	965.05	1,538.83	983.56	1,012.31	1,468.11	1,339.64	1,732.73	214.85	10,528.21
2024	210.24	171.77	246.90	519.25	902.21	922.96	883.93	816.26	1,052.74	731.82	576.16	401.88	7,436.11
2023	224.89	166.95	251.00	441.42	904.08	1,015.93	793.65	1,035.34	1,027.77	837.03	496.36	230.29	7,424.70
2022	296.02	242.16	380.91	568.42	1,001.43	1,062.81	957.91	1,091.39	1,184.13	949.37	485.02	320.98	8,540.54

Cardboard

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	102.79	92.18	99.92	111.36	108.27	110.23	112.49	112.65	111.77	116.27	105.62	102.37	1,285.92
2024	89.38	91.61	96.27	108.17	113.24	102.72	111.16	124.98	98.56	120.01	119.94	107.24	1,283.28
2023	96.92	89.53	106.05	90.50	105.10	116.38	108.14	121.97	111.14	109.46	116.36	108.31	1,279.86
2022	90.35	96.59	111.93	114.74	128.14	129.69	120.10	118.38	122.47	109.01	118.99	128.28	1,388.67

CENTRAL NEWFOUNDLAND WASTE MANAGEMENT



cnwm

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Summary of Products Recieved between 1/1/2025 to 12/31/2025
For ,Contractor ,Domestic ,Town ,Transfer ,Contractor ,Domestic ,Town ,Transfer

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total:
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Check In/Check Out

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	0.00	0.00	0.35	0.02	0.01	0.00	0.00	0.00	0.00	0.03	0.16	0.57
2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Clear Garbage Bag

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	4,622.53	3,557.20	4,067.14	4,333.73	4,472.94	4,504.61	5,009.18	4,610.56	4,627.42	4,839.58	3,981.97	4,238.96	52,865.82
2024	4,007.33	3,682.34	3,631.79	4,524.36	4,564.72	4,280.53	5,150.36	4,774.84	4,483.08	4,931.46	4,498.83	4,062.75	52,592.39
2023	4,217.77	3,415.32	4,404.04	3,826.28	4,602.69	4,175.21	4,045.48	4,466.18	4,173.17	3,917.94	3,775.11	3,390.80	48,409.99
2022	4,216.19	3,347.99	4,271.21	4,020.42	4,558.70	4,681.62	4,583.67	4,825.03	4,587.04	4,653.17	4,061.63	4,424.66	52,231.32

E-Waste

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	1.12	0.09	0.75	0.77	1.72	1.31	2.59	1.65	0.68	1.32	2.04	0.34	14.38
2024	1.45	0.71	1.01	0.84	6.08	3.10	3.09	5.98	3.04	3.13	5.03	4.00	37.46
2023	0.92	0.52	2.90	2.05	7.49	5.92	1.60	4.03	4.43	2.54	2.65	0.95	36.00
2022	1.10	0.45	1.76	5.86	3.98	5.45	1.55	3.24	3.74	2.74	1.66	2.82	34.35

CENTRAL NEWFOUNDLAND WASTE MANAGEMENT



cnwm

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Summary of Products Recieved between 1/1/2025 to 12/31/2025
For ,Contractor ,Domestic ,Town ,Transfer ,Contractor ,Domestic ,Town ,Transfer ,Contractor ,Domestic ,Town ,Transfer

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total:
FREE													
2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	0.00	0.00	4.38	3,276.08	0.00	0.00	0.00	0.00	0.00	4,020.10	0.00	7,300.56
2024	0.00	0.00	0.00	0.00	0.00	0.00	3.22	0.00	1,258.33	2,179.49	27.84	0.00	3,468.88
2023	0.00	0.04	0.00	0.00	0.00	59.14	0.00	0.00	78.68	0.00	554.01	287.09	978.96
2022	-268.39	-274.34	-170.79	-154.37	0.00	0.00	0.00	0.00	0.00	13.20	0.00	820.12	-34.57

HHW													
2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	1.22	0.84	1.07	0.79	2.84	2.60	3.41	1.83	4.34	1.70	4.31	0.90	25.85
2024	1.36	1.25	1.31	3.84	8.42	2.46	3.88	3.01	1.50	4.13	2.53	1.77	35.46
2023	0.38	0.44	0.91	2.42	1.41	3.01	1.39	3.23	3.54	3.45	1.29	0.96	22.43
2022	3.19	1.41	0.87	1.38	2.55	2.63	2.76	2.96	3.71	3.39	1.07	0.99	26.91

Metals													
2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	50.77	33.63	52.50	77.10	211.91	176.69	97.12	70.71	110.95	149.54	140.21	38.25	1,209.38
2024	33.32	28.76	32.71	80.78	174.20	205.56	96.61	82.50	90.00	131.68	96.00	58.25	1,110.37
2023	17.07	13.35	26.14	54.42	155.33	163.24	40.32	72.71	65.96	73.60	55.25	33.06	770.45
2022	33.94	14.18	28.72	63.87	108.23	174.12	74.36	59.07	74.19	92.20	47.83	39.34	810.05

CENTRAL NEWFOUNDLAND WASTE MANAGEMENT



cnwm

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Summary of Products Recieved between 1/1/2025 to 12/31/2025
For ,Contractor ,Domestic ,Town ,Transfer ,Contractor ,Domestic ,Town ,Transfer ,Contractor ,Domestic ,Town ,Transfer ,Contract

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total:
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MMSB Tires

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00
2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21

Off Road - Oversize Tires

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	4.28	1.89	11.21	5.66	5.77	9.27	0.94	3.83	1.88	4.58	2.67	19.72	71.70
2024	6.03	3.91	1.48	74.75	3.39	9.01	6.15	2.18	7.87	0.58	5.84	5.12	126.31
2023	5.97	42.04	1.33	0.71	1.58	7.33	4.25	4.29	4.49	1.56	0.29	0.00	73.84
2022	0.12	0.02	1.78	27.25	7.69	7.25	33.56	9.42	23.82	22.76	5.32	4.62	143.61

Tires

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	3.05	0.85	2.95	8.15	23.43	17.63	9.12	7.95	9.97	11.11	6.60	2.71	103.52
2024	0.62	2.75	3.84	14.57	34.43	60.42	11.02	4.01	6.62	7.60	7.76	6.69	160.33
2023	3.43	0.78	1.02	7.54	29.57	50.63	4.02	6.64	8.67	13.41	8.20	8.01	141.92
2022	0.88	2.46	3.60	13.19	27.42	44.73	19.60	5.33	16.20	11.79	4.67	3.16	153.03

CENTRAL NEWFOUNDLAND WASTE MANAGEMENT



cnwm

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Summary of Products Recieved between 1/1/2025 to 12/31/2025

For ,Contractor ,Domestic ,Town ,Transfer ,Contractor ,Domestic ,Town ,Transfer ,Contractor ,Domestic ,Town ,Transfer ,Contract

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total:
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Transparent Blue Bag

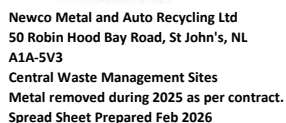
2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	169.12	137.14	149.24	158.84	170.33	176.95	198.60	177.63	168.75	176.27	150.44	174.46	2,007.77
2024	160.25	131.92	132.84	169.77	161.32	150.74	177.31	163.55	152.61	157.45	144.72	154.80	1,857.28
2023	169.54	133.80	166.72	137.59	172.90	159.59	154.19	174.47	155.33	158.14	165.97	148.31	1,896.55
2022	172.70	146.60	167.41	152.69	184.93	176.85	161.82	185.54	165.94	160.15	159.69	178.63	2,012.94

Wood Product

2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	0.00	0.00	0.00	2.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.26

*** GRAND TOTALS ***

83,851.91



98,754.32

Product Care - Paint Collection Volume 2025

	2025 Collection volume (tubskids)	Conversion factor (Net kg/tubskid)	Total weight (Tonnage)
Buchan's Junction Transfer Station (Norris Arm Satellite Site)	0	208	0
Central Regional Waste Management Facility	115	208	23.92
Change Islands Waste Site	0	208	0
Fogo Island Transfer Station	0	208	0
Gander Bay Transfer Station	0	208	0
Indian Bay Transfer Station	0	208	0
NWI/Twillingate Transfer Station	0	208	0
Point Leamington Transfer Station	0	208	0
Terra Nova Transfer Station	0	208	0
Total tonnage			23.92

EPRA Tonnage

Transaction	EPRA Load Number	Pick-up Location	Pick-up Date	SoS ID	Program kgs
284594	NLD02122025	Central NL WM Norris Arm North - NLDE009	2025-12-02	210880	12,200.00
278957	NLD503534	Central NL WM Norris Arm North - NLDE009	2025-10-23	209255	7,525.00
272627	NLD503244	Central NL WM Norris Arm North - NLDE009	2025-08-21	202329	7,495.00
271420	NLD503161	Central NL WM Norris Arm North - NLDE009	2025-07-11	202329	7,326.00
268125	NLD503114	Central NL WM Norris Arm North - NLDE009	2025-06-04	199963	8,557.00
257738	NLD503065	Central NL WM Norris Arm North - NLDE009	2025-04-04	194008	9,644.00
243673	NLD07112024	Central NL WM Norris Arm North - NLDE009	2024-11-12	182206	8,509.00
237394	NLD502162	Central NL WM Norris Arm North - NLDE009	2024-09-05	177085	8,087.00
237385	NLD502158	Central NL WM Norris Arm North - NLDE009	2024-09-06	177085	8,358.00
226526	NLD20240527	Central NL WM Norris Arm North - NLDE009	2024-05-27	171130	8,722.00
221537	NLD20240305	Central NL WM Norris Arm North - NLDE009	2024-03-06	165870	8,838.00

2025

12,200.00

7,525.00

7,495.00

7,326.00

8,557.00

9,644.00

52747

2025

52.747 MT

2024

42.514 MT

CENTRAL NEWFOUNDLAND WASTE MANAGEMENT



cnwm

P.O. Box 254
Norris Arm, NL
A0G 3M0
info@cnwmc.com

Break-Down for Site by Product

For The Period of January 01, 2025 To December 31, 2025

Print Date

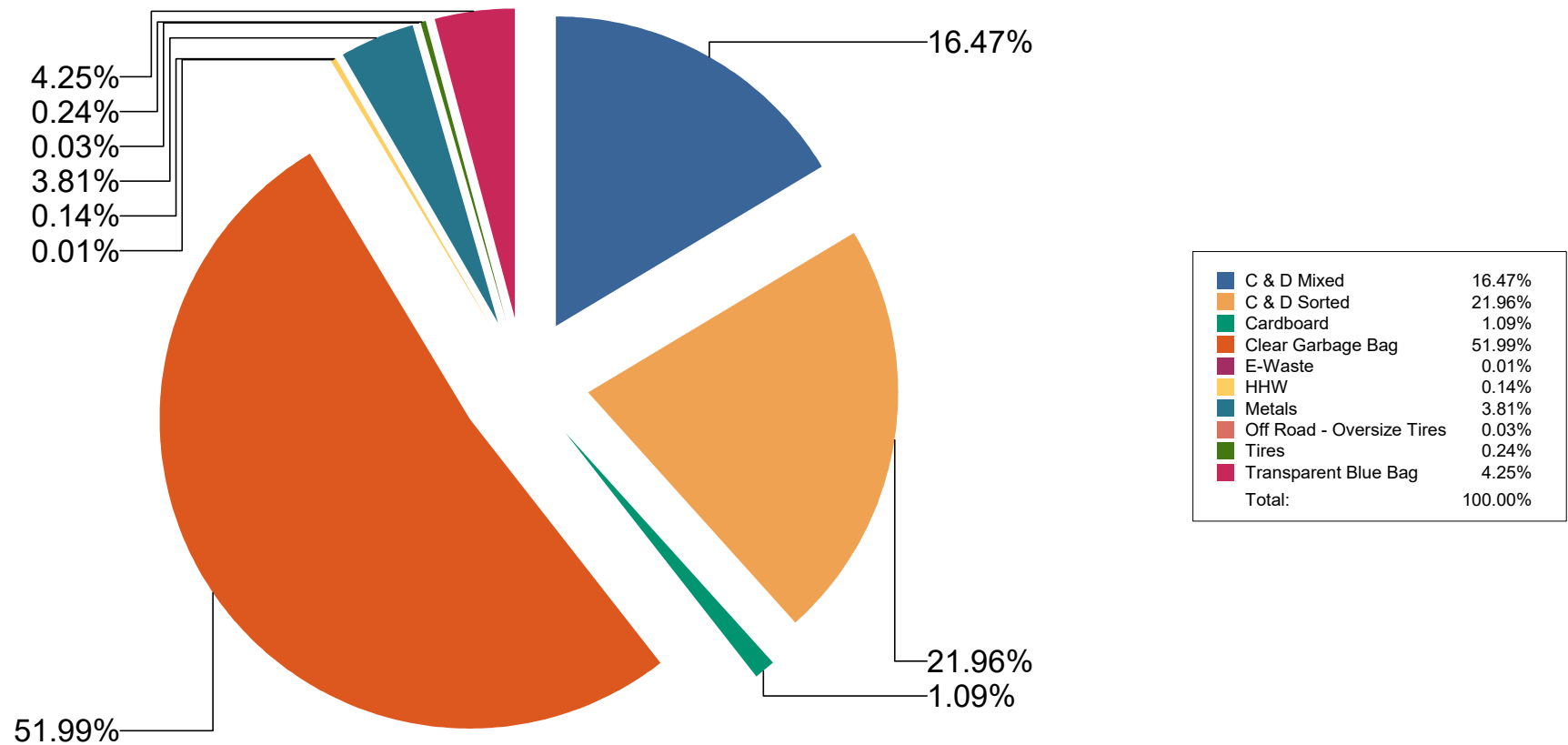
June 19, 2026

Site	Product	Weight In	Weight Out	Net Weight
Terra Nova	C & D Mixed	5,938,600.00	5,380,210.00	562,220.00
	C & D Sorted	8,535,240.00	7,786,350.00	749,420.00
	Cardboard	1,601,540.00	1,564,330.00	37,240.00
	Clear Garbage Bag	14,346,655.00	12,575,655.00	1,774,130.00
	E-Waste	39,330.00	39,170.00	400.00
	HHW	159,600.00	154,690.00	4,910.00
	Metals	2,244,850.00	2,116,180.00	129,870.00
	Off Road - Oversize Tires	20,390.00	19,230.00	1,160.00
	Tires	132,770.00	126,210.00	8,200.00
	Transparent Blue Bag	6,041,305.00	5,896,255.00	145,080.00

3,412,630.00

Break-Down for Site by Product

For Terra Nova

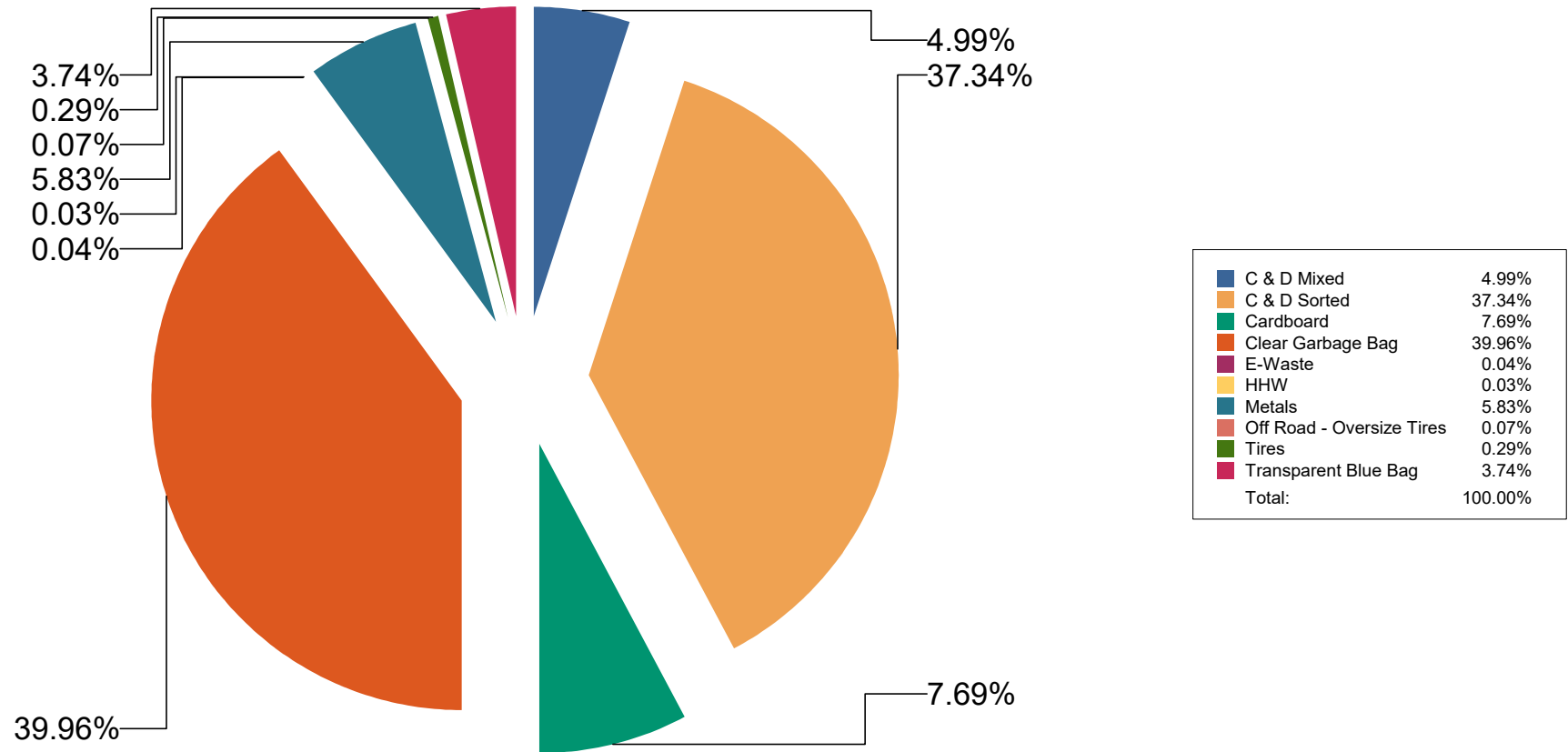


Site	Product	Weight In	Weight Out	Net Weight
Point Leam	C & D Mixed			
		1,265,990.00	1,142,600.00	123,390.00
	C & D Sorted			
		12,859,490.00	11,945,710.00	922,750.00
	Cardboard			
		2,188,440.00	1,998,550.00	189,920.00
	Clear Garbage Bag			
		8,895,025.00	7,907,745.00	987,510.00
	E-Waste			
		28,270.00	27,250.00	1,020.00
	HHW			
		48,070.00	47,210.00	860.00
	Metals			
		1,663,230.00	1,521,760.00	144,000.00
	Off Road - Oversize Tires			
		9,640.00	7,840.00	1,800.00
	Tires			
		115,300.00	108,030.00	7,270.00
	Transparent Blue Bag			
		5,497,665.00	5,406,505.00	92,510.00

2,471,030.00

Break-Down for Site by Product

For Point Leam

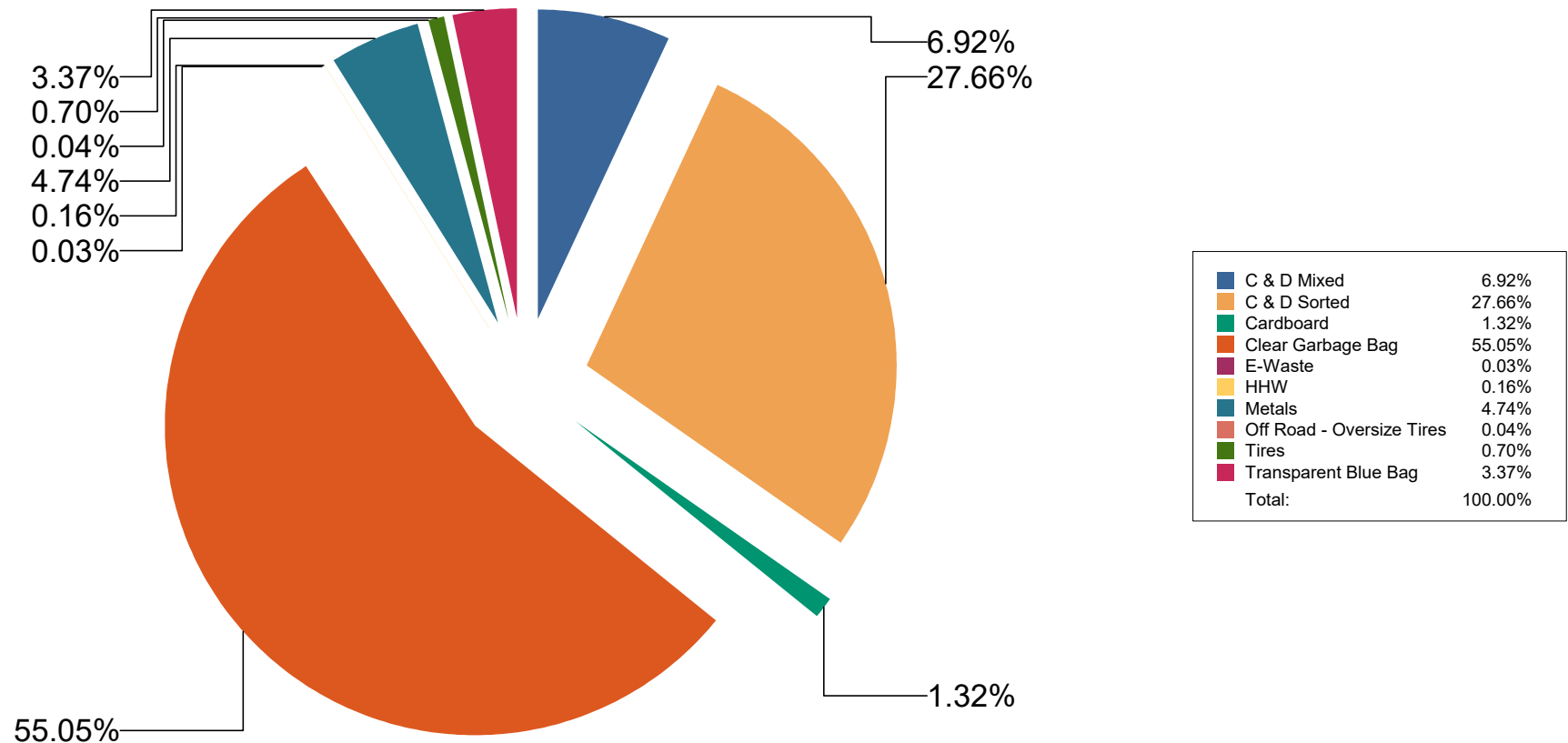


Site	Product	Weight In	Weight Out	Net Weight
NWI/Twilli	C & D Mixed			
		2,316,620.00	2,104,750.00	212,460.00
	C & D Sorted			
		12,214,980.00	11,369,175.00	849,015.00
	Cardboard			
		837,250.00	796,970.00	40,450.00
	Clear Garbage Bag			
		10,826,170.00	9,137,170.00	1,689,470.00
	E-Waste			
		45,430.00	44,440.00	1,010.00
	HHW			
		111,100.00	106,290.00	4,810.00
	Metals			
		2,429,820.00	2,284,980.00	145,620.00
	Off Road - Oversize Tires			
		15,820.00	14,660.00	1,160.00
	Tires			
		283,310.00	261,760.00	21,550.00
	Transparent Blue Bag			
		4,823,180.00	4,720,020.00	103,440.00

3,068,985.00

Break-Down for Site by Product

For NWI/Twilli

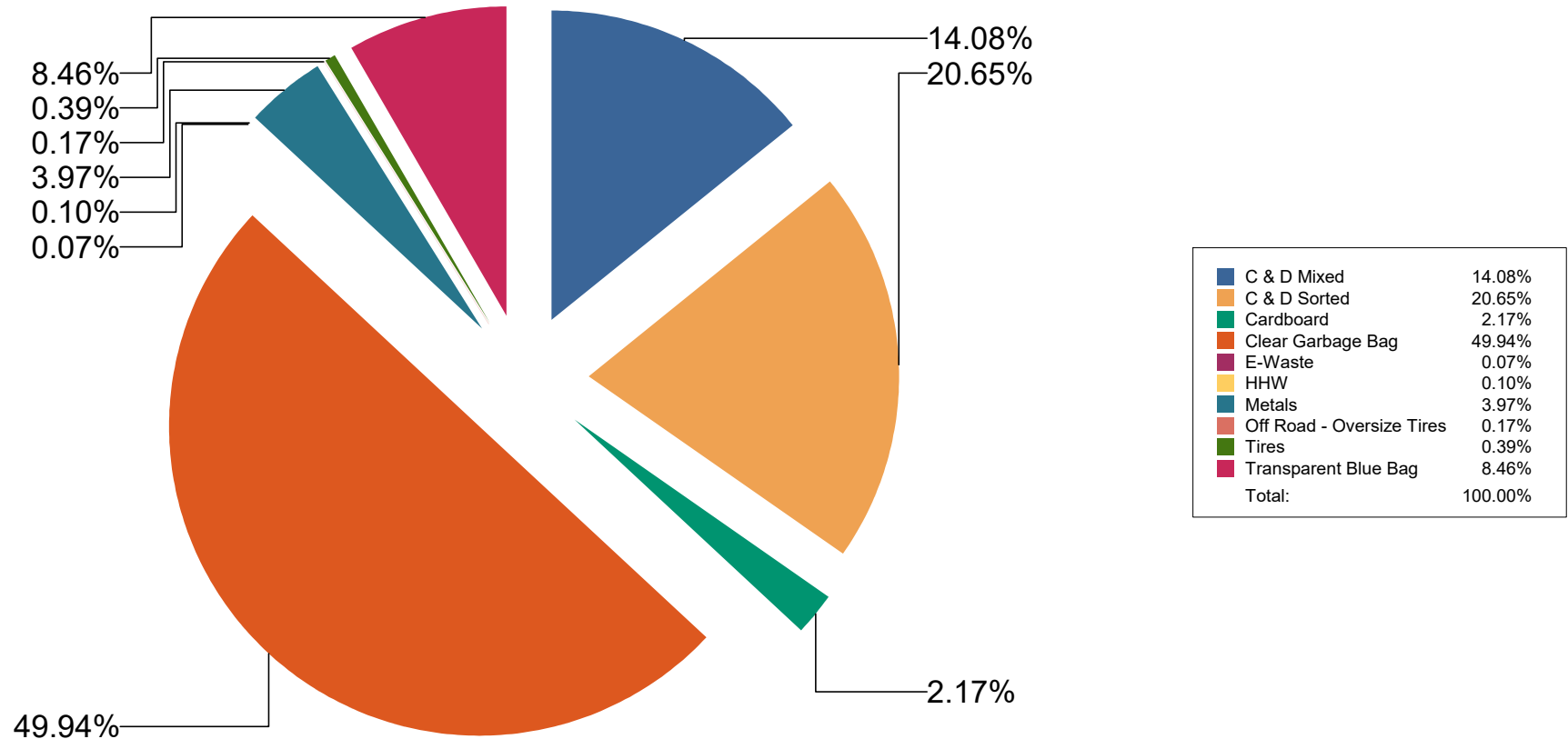


Site	Product	Weight In	Weight Out	Net Weight
Indian Bay	C & D Mixed			
		4,584,450.00	4,198,930.00	385,520.00
	C & D Sorted			
		6,838,680.00	6,274,150.00	565,190.00
	Cardboard			
		1,303,140.00	1,243,760.00	59,530.00
	Clear Garbage Bag			
		9,849,940.00	8,482,890.00	1,367,120.00
	E-Waste			
		60,120.00	58,170.00	1,950.00
	HHW			
		67,350.00	65,210.00	2,650.00
	Metals			
		1,430,650.00	1,322,340.00	108,730.00
	Off Road - Oversize Tires			
		35,800.00	31,240.00	4,560.00
	Tires			
		136,820.00	126,090.00	10,730.00
	Transparent Blue Bag			
		7,304,710.00	7,073,190.00	231,520.00

2,737,500.00

Break-Down for Site by Product

For Indian Bay

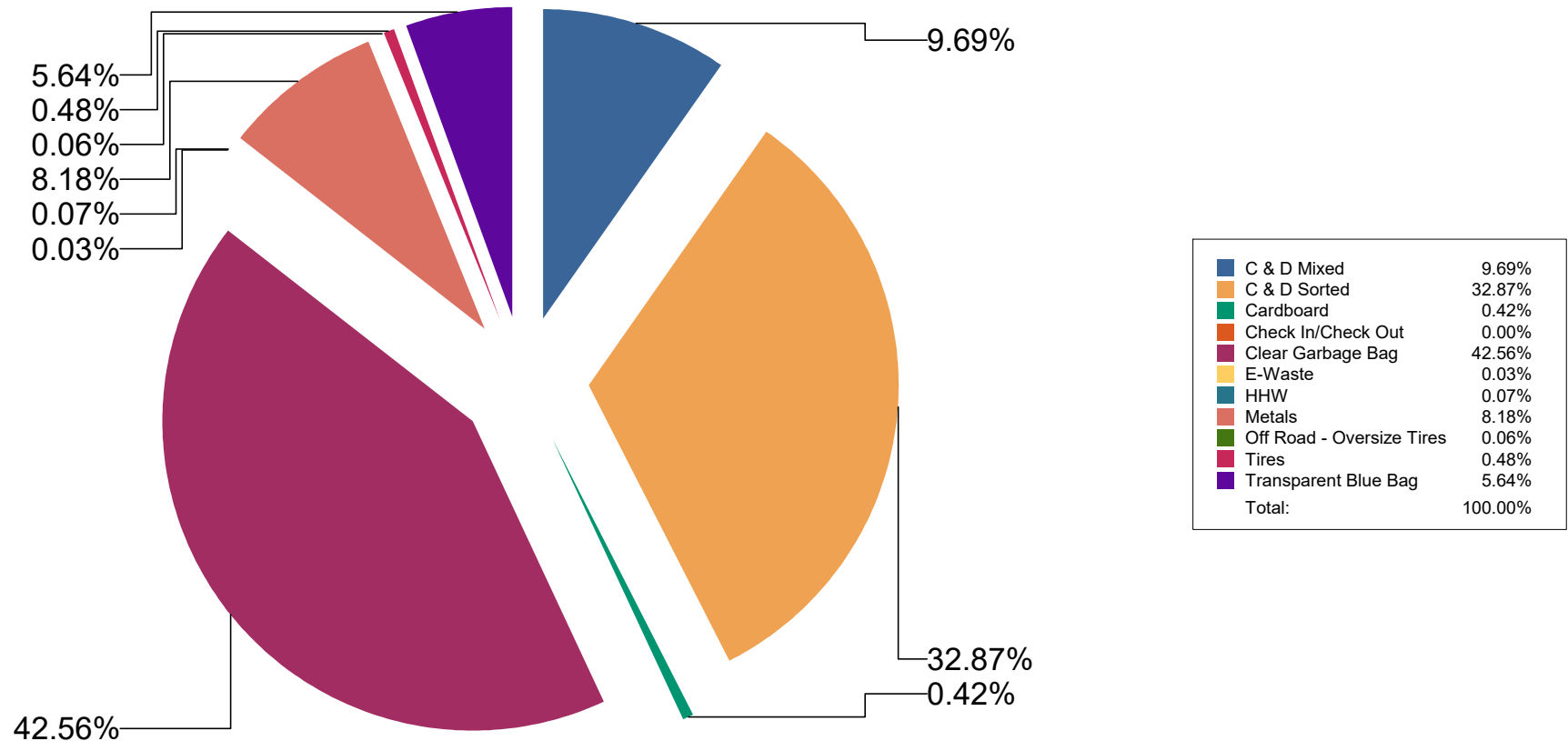


Site	Product	Weight In	Weight Out	Net Weight
Gander Bay	C & D Mixed			
		1,801,680.00	1,586,840.00	215,300.00
	C & D Sorted			
		8,658,900.00	7,931,800.00	730,105.00
	Cardboard			
		284,460.00	275,180.00	9,280.00
	Check In/Check Out			
		0.00	0.00	0.00
	Clear Garbage Bag			
		10,287,415.00	9,342,305.00	945,490.00
	E-Waste			
		25,820.00	25,140.00	700.00
	HHW			
		28,020.00	26,380.00	1,640.00
	Metals			
		2,181,210.00	2,006,000.00	181,730.00
	Off Road - Oversize Tires			
		11,670.00	10,370.00	1,300.00
	Tires			
		140,920.00	130,490.00	10,660.00
	Transparent Blue Bag			
		8,818,315.00	8,693,045.00	125,280.00

2,221,485.00

Break-Down for Site by Product

For Gander Bay

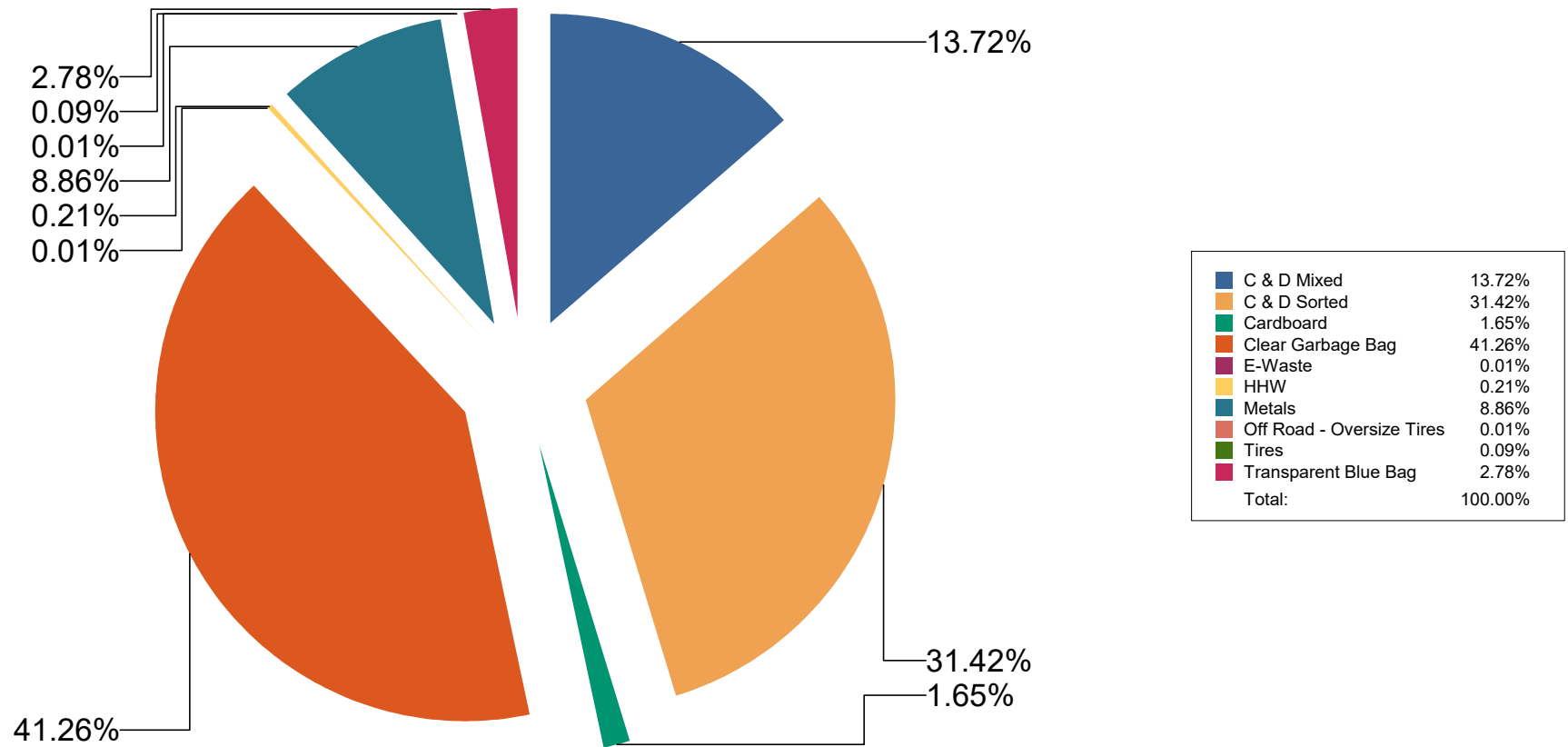


Site	Product	Weight In	Weight Out	Net Weight
Fogolsland	C & D Mixed			
		1,600,210.00	1,443,620.00	157,240.00
	C & D Sorted			
		4,588,840.00	4,238,210.00	360,030.00
	Cardboard			
		186,320.00	170,060.00	18,900.00
	Clear Garbage Bag			
		3,501,190.00	3,028,340.00	472,870.00
	E-Waste			
		5,430.00	5,310.00	120.00
	HHW			
		75,140.00	72,750.00	2,400.00
	Metals			
		1,137,480.00	1,036,350.00	101,530.00
	Off Road - Oversize Tires			
		5,470.00	5,410.00	60.00
	Tires			
		23,590.00	22,630.00	1,000.00
	Transparent Blue Bag			
		1,179,120.00	1,147,340.00	31,810.00

1,145,960.00

Break-Down for Site by Product

For Fogol Island

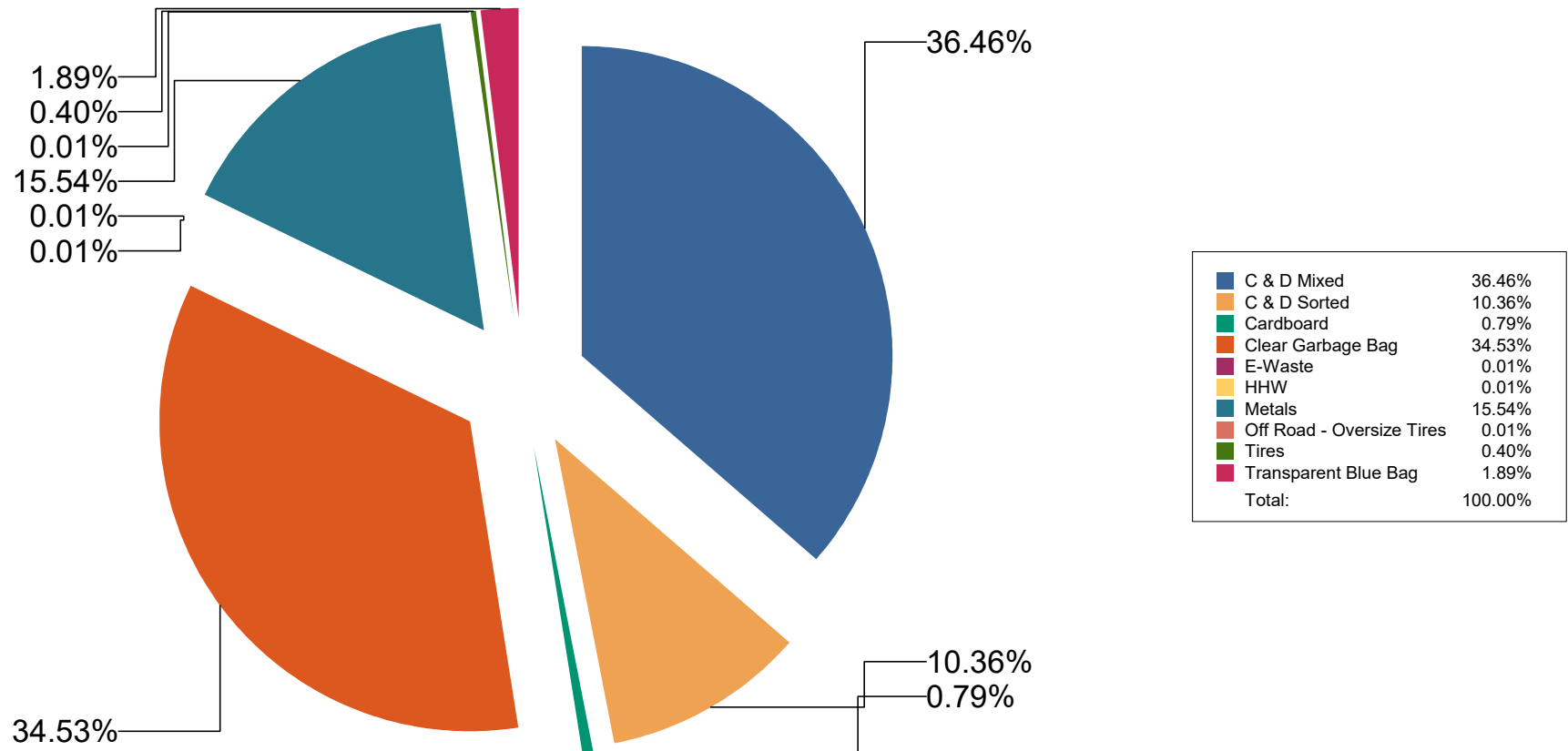


Site	Product	Weight In	Weight Out	Net Weight
Buchan's	C & D Mixed			
		5,191,610.00	4,584,780.00	606,830.00
	C & D Sorted			
		3,045,160.00	2,876,980.00	172,420.00
	Cardboard			
		159,810.00	147,960.00	13,080.00
	Clear Garbage Bag			
		4,092,070.00	3,517,580.00	574,640.00
	E-Waste			
		2,640.00	2,500.00	140.00
	HHW			
		9,810.00	9,680.00	130.00
	Metals			
		1,197,590.00	940,480.00	258,630.00
	Off Road - Oversize Tires			
		2,910.00	2,820.00	90.00
	Tires			
		68,570.00	61,910.00	6,660.00
	Transparent Blue Bag			
		1,665,560.00	1,634,030.00	31,530.00

1,664,150.00

Break-Down for Site by Product

For Buchan's



Site	Product		Weight In	Weight Out	Net Weight
*** TOTALS ***			197,123,670.00	180,463,955.00	16,721,740.00

TOTAL LOADS DELIVERED 37,432



International Waste Load Data - 2025

Company/Name	Date	Load #	Net Weight (kg)	Running Total (kg)
Murphy Brothers	11-Mar	794766	2310	2310
Murphy Brothers	12-Mar	794962	5880	8190
Murphy Brothers	23-May	807411	290	8480
Murphy Brothers	27-Jun	816594	730	9210
PBO	27-Jun	816636	470	9680
Murphy Brothers	3-Jul	817732	710	10390
Murphy Brothers	8-Jul	818884	190	10580
Murphy Brothers	22-Jul	822362	3440	14020
Murphy Brothers	22-Jul	822426	5010	19030
Murphy Brothers	24-Jul	822962	6490	25520
Murphy Brothers	25-Jul	823233	4960	30480
Murphy Brothers	28-Jul	823693	1730	32210
Murphy Brothers	5-Aug	825540	5490	37700
Murphy Brothers	6-Aug	825843	4980	42680
Murphy Brothers	20-Aug	829448	360	43040
Murphy Brothers	21-Aug	829920	4400	47440
Murphy Brothers	22-Aug	830092	1770	49210
Murphy Brothers	22-Aug	830094	870	50080
Murphy Brothers	8-Sep	833955	5360	55440
PBO	15-Sep	835744	710	56150
Murphy Brothers	19-Sep	836967	270	56420
Murphy Brothers	8-Oct	841161	5390	61810
Murphy Brothers	9-Oct	841452	4970	66780
Murphy Brothers	16-Oct	842790	8350	75130
Murphy Brothers	16-Oct	842792	3720	78850
Murphy Brothers	8-Nov	847447	730	79580
Murphy Brothers	27-Nov	851210	350	79930
Murphy Brothers	10-Dec	852926	160	80090
Murphy Brothers	19-Dec	854388	240	80330



Asbestos Waste Load Data - 2025

Company/Name	Net Weight	Running Total	Date	Load #	
PBO	980	PBO	28-Jan	789407	
PBO	250	1230	18-Feb	792041	
PBO	5690	6920	3-Mar	793643	
PBO	5640	12560	4-Mar	793793	
PBO	6590	19150	4-Mar	793836	
PBO	6310	25460	4-Mar	793873	
PBO	6150	31610	5-Mar	794052	
PBO	7140	38750	6-Mar	794231	Weight was not recorded - supplied by PBO
PBO	5530	44280	6-Mar	794147	Weight was not recorded - supplied by PBO
PBO	6640	50920	7-Mar	794384	
PBO	6080	57000	7-Mar	794420	
PBO	6940	63940	12-Mar	794944	
PBO	7600	71540	19-Mar	796020	
PBO	6880	78420	20-Mar	796181	
PBO	2290	80710	21-Mar	796411	
PBO	6660	87370	27-Mar	797378	
PBO	7560	94930	28-Mar	797466	
PBO	8100	103030	1-Apr	797794	
PBO	8550	111580	1-Apr	797827	
PBO	10010	121590	7-Apr	798830	
PBO	10090	131680	7-Apr	798906	
PBO	8480	140160	11-Apr	799624	
PBO	7140	147300	11-Apr	799676	
PBO	4890	152190	16-Apr	800420	
T&K Services	1270	153460	4-Jun	810670	
PBO	3700	157160	16-Jun	813808	
PBO	4070	161230	23-Jun	815501	
T&K Services	40	161270	27-Jun	816577	

PBO	3850	165120	2-Jul	817504
PBO	390	165510	9-Jul	819301
Rock Construction	4080	169590	18-Jul	821780
PBO	2130	171720	28-Jul	823683
Rock Construction	1020	172740	5-Aug	825553
PBO	2820	175560	13-Aug	827738
PBO	3880	179440	18-Aug	828991
Emmanuel Construction	1850	181290	26-Aug	830808
Emmanuel Construction	2620	183910	12-Sep	835323
Emmanuel Construction	250	184160	14-Oct	842075
PBO	10970	195130	27-Oct	844730
PBO	2060	197190	29-Oct	845260
PBO	2310	199500	13-Nov	848221
PBO	2500	202000	4-Dec	852363
PBO	2860	204860	8-Dec	852817

Norris Arm Totals - Production Report 2025 - Hebert's Recycling

Description Of Item	January	February	March	April	May	June	July	August	September	October	November	December	Total
Inputs (Delivered to MRF in month)													
Blue bag	169.12	137.14	149.24	158.84	170.33	176.95	198.60	177.63	168.68	176.27	150.44	174.46	2007.70
OCC	102.74	92.18	99.92	111.36	108.27	110.23	112.49	112.65	111.77	116.27	105.62	102.37	1285.87
Subtotal	271.86	229.32	249.16	270.20	278.60	287.18	311.09	290.28	280.45	292.54	256.06	276.83	3293.57
Work in Progress (end of month)													
Blue bag on floor - unprocessed (est)	74.24	58.92	74.91	81.82	92.58	36.56	105.82	89.42	75.82	148.61	16.19	114.60	969.49
OCC on floor - unprocessed (est)	-8.06	-7.72	-13.96	-3.09	-23.53	-14.98	-39.41	-31.01	-12.48	-34.17	-28.72	-1.04	-218.17
Running Total	341.56	351.81	356.06	378.47	393.92	339.28	351.75	341.47	346.26	422.77	338.72	426.03	4388.10
Inventory in Warehouse													
Baled Material in Warehouse	648.41	708.49	671.33	637.28	672.83	777.86	755.52	826.71	762.69	558.80	673.13	702.56	8395.61
Outputs (total for month)													
Waste Material	61.70	40.95	56.70	56.32	53.60	76.22	53.94	68.69	58.55	37.93	71.52	26.25	662.37
Shipped Product	283.32	118.04	247.76	225.52	178.32	160.57	267.02	160.68	281.13	381.99	160.90	133.84	2599.09
Subtotal	345.02	158.99	304.46	281.84	231.92	236.79	320.96	229.37	339.68	419.92	232.42	160.09	3261.46
Baled													
Material Baled	205.68	178.12	188.21	191.47	209.55	265.60	244.68	231.87	217.11	178.10	268.59	163.27	2542.25

****All amounts are in metric tonnes**

YEAR END TOTALS		
Material Type	Tonnage	Percent
OCC	1504.04	46.93
Mixed Paper	693.47	21.64
PET	96.30	3.01
HDPE	55.04	1.72
Tubs/Lids	25.54	0.80
Aluminum	25.29	0.79
Steel	99.14	3.09
Poly C	43.43	1.36
Waste	662.37	20.67
Unprocessed		
Total	3204.62	100%

1504.04
693.47
96.3
55.04
25.54
25.29
99.14
43.43
2542.25

2025 Waste Oil Removed - GFL

Customer No	Customer Name	Work Order No	Service Date	Part No	Customer Part Desc	Removal Vol	UOM
L0649223	CENTRAL NL WASTE MANAGEMENT	W3340001	2025-03-13	1505	Disposal Waste Oil (UOMA)	1,300.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3340032	2025-03-13	1505	Disposal Waste Oil (UOMA)	700.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3377149	2025-04-03	1505	Disposal Waste Oil (UOMA)	1,010.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3431693	2025-05-21	1505	Disposal Waste Oil (UOMA)	1,000.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3495067	2025-05-21	1505	Disposal Waste Oil (UOMA)	3,380.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3647236	2025-07-29	1505	Disposal Waste Oil (UOMA)	1,200.0000	Litre

Oil Containers removed from
CNWM Regional Site 2020-2026

Realised Date	Task ID	Weight	Pickup Unit	RC ID	RC Desc	Line ID	Line Desc			
6/11/2026	RBNL2624-003-001	82	KG	600	Service Completed	LOB01	Oil containers EPR			
6/4/2026	RBNL2623-005-001		KG	696	Truck is full	LOB01	Oil containers EPR			
5/14/2026	RBNL2620-006-001	205.62	KG	600	Service Completed	LOB01	Oil containers EPR			
3/5/2026	CLL1546504	0	KG	601	No volum today	LOB01	Oil containers EPR			
2/26/2026	CLL1544278	112.48	KG	600	Service Completed	LOB01	Oil containers EPR	2026	2025	2024
12/5/2025	CLL1542827	83.24	KG	600	Service Completed	LOB01	Oil containers EPR			
11/12/2025	CLL1541153	101.11	KG	600	Service Completed	LOB01	Oil containers EPR	82	83.24	123.88
10/2/2025	NL2540-002-30	51.5	KG	600	Service Completed	LOB01	Oil containers EPR	0	101.11	0
8/27/2025	NL2537-008-30	23	KG	600	Service Completed	LOB01	Oil containers EPR	205.62	51.5	191.96
8/21/2025	CLL1535450	144.32	KG	600	Service Completed	LOB01	Oil containers EPR	0	23	315.12
8/7/2025	NL2532-002-24	0	KG	696	Truck is full	LOB01	Oil containers EPR	112.48	144.32	0
7/31/2025	NL2531-002-24	0	KG	696	Truck is full	LOB01	Oil containers EPR	400.1	0	91.68
6/24/2025	NL2526-002-24	197.6	KG	600	Service Completed	LOB01	Oil containers EPR		0	0
5/7/2025	CLL1529117	122.9	KG	600	Service Completed	LOB01	Oil containers EPR		197.6	82.14
3/7/2025	NL2513-010-24	0	KG	696	Truck is full	LOB01	Oil containers EPR		122.9	61.33
2/12/2025	NL2508-004-24	16.34	KG	600	Service Completed	LOB01	Oil containers EPR		0	0
1/30/2025	NL2505-002-24	0	KG	696	Truck is full	LOB01	Oil containers EPR		16.34	14.84
1/26/2025	CLL1526915	66.96	KG	600	Service Completed	LOB01	Oil containers EPR		0	880.95
11/27/2024	CLL1524642	123.88	KG	600	Service Completed	LOB01	Oil containers EPR		66.96	
11/21/2024	NL2448-004-24	0	KG	696	Truck is full	LOB01	Oil containers EPR		806.97	
10/23/2024	CLL1523461	191.96	KG	600	Service Completed	LOB01	Oil containers EPR			
9/24/2024	NL2440-005-24	315.12	KG	600	Service Completed	LOB01	Oil containers EPR			
9/12/2024	NL2437-000-24	0	KG	696	Truck is full	LOB01	Oil containers EPR			
7/2/2024	NL2423-002-24	91.68	KG	600	Service Completed	LOB01	Oil containers EPR			
7/2/2024	CLL1518275	0	KG	601	No volum today	LOB01	Oil containers EPR			
5/14/2024	NL2420-002-23	82.14	KG	600	Service Completed	LOB01	Oil containers EPR			
4/9/2024	NL2415-002-23	61.33	KG	600	Service Completed	LOB01	Oil containers EPR			
2/8/2024	NL2406-002-20	0	KG	696	Truck is full	LOB01	Oil containers EPR			
1/23/2024	CLL1512016	14.84	KG	600	Service Completed	LOB01	Oil containers EPR			
12/6/2023	NL2349-000-20	120.88	KG	600	Service Completed	LOB01	Oil containers EPR			
10/11/2023	NL2341-001-19	322.52	KG	600	Service Completed	LOB01	Oil containers EPR			
9/27/2023	NL2339-000-16		KG	696	Truck is full	LOB01	Oil containers EPR			
8/30/2023	NL2335-048-31	54.68	KG	600	Service Completed	LOB01	Oil containers EPR			
8/3/2023	NL2331-005-3	143.32	KG	600	Service Completed	LOB01	Oil containers EPR			
7/5/2023	NL2327-001-19	38.71	KG	600	Service Completed	LOB01	Oil containers EPR			
6/29/2023	NL2326-004-19		KG	696	Truck is full	LOB01	Oil containers EPR			
6/14/2023	CLL1495498	137.1	KG	600	Service Completed	LOB01	Oil containers EPR			
6/8/2023	NL2323-001-5		KG	696	Truck is full	LOB01	Oil containers EPR			
5/15/2023	NL2320-002-14	0	KG	602	Closed at the time of service	LOB01	Oil containers EPR			
5/2/2023	NL2318-002-9	17.8	KG	600	Service Completed	LOB01	Oil containers EPR			
4/20/2023	NL2316-001-13	74.21	KG	600	Service Completed	LOB01	Oil containers EPR			
3/17/2023	NL2311-006-6	19.23	KG	600	Service Completed	LOB01	Oil containers EPR			
2/23/2023	NL2308-004-5	29.56	KG	600	Service Completed	LOB01	Oil containers EPR			
2/1/2023	NL2305-005-43	35.72	KG	600	Service Completed	LOB01	Oil containers EPR			
1/23/2023	NL2304-006-15		KG	691	Out of time	LOB01	Oil containers EPR			
1/5/2023	NL2301-002-10	0	KG	601	No volum today	LOB01	Oil containers EPR			
12/15/2022	NL2251-002-38	92.75	KG	600	Service Completed	LOB01	Oil containers EPR			
12/7/2022	NL2250-003-5		KG	691	Out of time	LOB01	Oil containers EPR			
11/21/2022	NL2248-003-8	14.17	KG	600	Service Completed	LOB01	Oil containers EPR			
11/7/2022	NL2246-000-16	79.35	KG	600	Service Completed	LOB01	Oil containers EPR			
10/27/2022	NL2244-001-6	113.32	KG	600	Service Completed	LOB01	Oil containers EPR			
10/3/2022	NL2241-001-7	44.34	KG	600	Service Completed	LOB01	Oil containers EPR			
9/14/2022	NL2238-001-6	71	KG	600	Service Completed	LOB01	Oil containers EPR			
8/23/2022	NL2235-001-11	22.37	KG	600	Service Completed	LOB01	Oil containers EPR			
8/17/2022	LN2234-000-18	0	KG	603	Duplicate service	LOB01	Oil containers EPR			
8/15/2022	NL2234-002-4	14.56	KG	600	Service Completed	LOB01	Oil containers EPR			
8/11/2022	NL2233-003-10	30.28	KG	600	Service Completed	LOB01	Oil containers EPR			
8/4/2022	NL2232-001-7	0	KG	696	Truck is full	LOB01	Oil containers EPR			
7/21/2022	NL2230-005-16	61.12	KG	600	Service Completed	LOB01	Oil containers EPR			
7/15/2022	NL2229-003-15		KG	691	Out of time	LOB01	Oil containers EPR			
7/7/2022	NL2228-002-45	89.3	KG	600	Service Completed	LOB01	Oil containers EPR			
7/2/2022	NL2227-002-20		KG	691	Out of time	LOB01	Oil containers EPR			
6/9/2022	NL2224-000-16	266.5	KG	600	Service Completed	LOB01	Oil containers EPR			
4/27/2022	TSK1457762	37.16	KG	600	Service Completed	LOB01	Oil containers EPR			
3/29/2022	TSK1451052	36.21	KG	600	Service Completed	LOB01	Oil containers EPR			
2/15/2022	TSK1439975	169.92	KG	600	Service Completed	LOB01	Oil containers EPR			
1/20/2022	TSK1434080	28.68	KG	600	Service Completed	LOB01	Oil containers EPR			
12/16/2021	TSK1425749	60.67	KG	600	Service Completed	LOB01	Oil containers EPR			
11/18/2021	TSK1420129	44.97	KG	600	Service Completed	LOB01	Oil containers EPR			
11/2/2021	TSK1414397	119.13	KG	600	Service Completed	LOB01	Oil containers EPR			
10/7/2021	TSK1404019	54.78	KG	600	Service Completed	LOB01	Oil containers EPR			
8/30/2021	TSK1381515	11.73	KG	600	Service Completed	LOB01	Oil containers EPR			
8/2/2021	TSK1373120	0	KG	601	No volum today	LOB01	Oil containers EPR			
7/6/2021	TSK1357929	50.47	KG	600	Service Completed	LOB01	Oil containers EPR			
6/8/2021	TSK1338830	39.32	KG	600	Service Completed	LOB01	Oil containers EPR			
5/5/2021	TSK1319035	20.15	KG	600	Service Completed	LOB01	Oil containers EPR			
4/21/2021	TSK1313585	50.87	KG	600	Service Completed	LOB01	Oil containers EPR			
3/11/2021	TSK1290494	9.25	KG	600	Service Completed	LOB01	Oil containers EPR			
2/19/2021	TSK1279898	35.36	KG	600	Service Completed	LOB01	Oil containers EPR			
1/21/2021	TSK1262001	54.92	KG	600	Service Completed	LOB01	Oil containers EPR			
12/18/2020	TSK1244718	60.85	KG	600	Service Completed	LOB01	Oil containers EPR			
11/19/2020	TSK1226612	0	KG	603	Duplicate service	LOB01	Oil containers EPR			
11/17/2020	TSK1182471	36.2	KG	600	Service Completed	LOB01	Oil containers EPR			
10/16/2020	TSK1209586	0	KG	601	No volum today	LOB01	Oil containers EPR			
10/1/2020	CLL1202005	111	KG	600	Service Completed	LOB01	Oil containers EPR			
9/17/2020	TSK1189421	186.67	KG	600	Service Completed	LOB01	Oil containers EPR			
9/4/2020	TSK1186370	0	KG	1000	Cancelled	LOB01	Oil containers EPR			
8/17/2020	TSK1170888	0	KG	603	Duplicate service	LOB01	Oil containers EPR			
7/14/2020	TSK1150024	0	KG	601	No volum today	LOB01	Oil containers EPR			
7/9/2020	TSK1150765	0	KG	1000	Cancelled	LOB01	Oil containers EPR			

6/24/2020	TSK1142304	44.05 KG	600 Service Completed	LOB01	Oil containers EPR
6/11/2020	TSK1132922	0 KG	1000 Cancelled	LOB01	Oil containers EPR
5/19/2020	TSK1117418	94.39 KG	600 Service Completed	LOB01	Oil containers EPR
4/23/2020	TSK1104522	70.97 KG	600 Service Completed	LOB01	Oil containers EPR
3/18/2020	TSK1093125	289.18 KG	600 Service Completed	LOB01	Oil containers EPR
	CLL1277303	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	CLL1039938	0 KG	603 Duplicate service	LOB01	Oil containers EPR
	CLL1169502	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	CLL1187334	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	CLL1188397	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	CLL1464049	KG	1000 Cancelled	LOB01	Oil containers EPR
	RBNL2622-001-001	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2321-000-5	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2431-001-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2601-004-30	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2344-001-20	KG	1000 Cancelled	LOB01	Oil containers EPR
	RBNL2616-007-001	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2436-000-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2412-003-23	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2223-002-16	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2410-004-23	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2348-001-20	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2347-001-20	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2446-004-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2334-003-15	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2403-001-22	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2539-000-30	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2315-004-4	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2530-000-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2533-003-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2340-000-20	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2343-004-20	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2322-001-5	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2419-004-23	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2433-001-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2413-002-23	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2330-000-19	KG	1000 Cancelled	LOB01	Oil containers EPR
	RBNL2618-002-001	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2434-001-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2411-004-23	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2345-002-20	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2314-004-15	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2352-002-19	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2402-002-22	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2528-002-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2452-003-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	RBNL2619-001-001	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2435-001-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2351-004-19	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2529-001-24	KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2407-001-8	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	NL2401-002-20	KG	1000 Cancelled	LOB01	Oil containers EPR
	TSK1071520	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	TSK1101679	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	TSK1306304	0 KG	1000 Cancelled	LOB01	Oil containers EPR
	TSK1333182	0 KG	1000 Cancelled	LOB01	Oil containers EPR

5697.71

GFL HHW Removal - Regional Site - 2025

Customer No	Customer Name	Work Order No	Service Date	Part No	Customer Part Desc	Qty	UOM	Removal Vol	VUOM
L0649223	CENTRAL NL WASTE MANAGEMENT	W3421226	2025-04-28	2308	Flammable Liquid - Labpack Drum		11 drum	880.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3421226	2025-04-28	2311	Pesticides, Liquid - Labpack Drum		2 drum	160.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3421226	2025-04-28	2313	Propane Cylinders - Labpack Drum		15 drum	1,200.0000	kg
L0649223	CENTRAL NL WASTE MANAGEMENT	W3421226	2025-04-28	2319	Aerosols - Drum		11 drum	2,255.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3721301	2025-09-09	2308	Flammable Liquid - Labpack Drum		7 drum	560.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3721301	2025-09-09	2313	Propane Cylinders - Labpack Drum		9 drum	720.0000	kg
L0649223	CENTRAL NL WASTE MANAGEMENT	W3721301	2025-09-09	2319	Aerosols - Drum		6 drum	1,230.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3721301	2025-09-09	2143	Oil Filters - Drum		2 drum	410.0000	kg
L0649223	CENTRAL NL WASTE MANAGEMENT	W3421226	2025-04-28	2339	Non-Reactive Batteries - Drum		4 drum	820.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	2308	Flammable Liquid - Labpack Drum		14 drum	1,120.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	2311	Pesticides, Liquid - Labpack Drum		1 drum	80.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	2313	Propane Cylinders - Labpack Drum		12 drum	960.0000	kg
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	2319	Aerosols - Drum		14 drum	2,870.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	1541	Glycol - Drum		5 drum	1,025.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	2339	Non-Reactive Batteries - Drum		5 drum	1,025.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	2310	Labpack Drum Oxidizing Liquid		1 drum	205.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	2119	Neutral Inorganic Solids - Drum		5 drum	1,025.0000	Litre
L0649223	CENTRAL NL WASTE MANAGEMENT	W3820868	2025-10-29	2143	Oil Filters - Drum		5 drum	1,025.0000	kg
								17,570.0000	

Material	Volume - Litres	Material	Weight - Kg	Material	Volume - Litres	Material	Volume - Litres
Flammable Liquid	880.00	Propane Cylinders	1200.00	Pesticides	160.00	Aerosols	2,255.00
	560.00		720.00		80.00		1,230.00
	1,120.00		960.00		0.00		2,870.00
Totals	2,560.00		2880.00		240.00		6,355.00

Material	Weight - Kg		Volume - Litres		Volume - Litres		Volume - Litres
Oil Filters	410.00	Non Reactive Batteries	820.0000	Glycol	1,025.00	Oxidizing Liquid	205.00
	1,025.00		1,025.0000		0.00		0.00
Totals	1,435.00		1845.00		1025.00		205.00

Material	Volume - Litres
Neutral Inorganic Solids	1025.00
Totals	1025.00



2025 Environmental Monitoring Report

Norris Arm North (Central) Regional Waste Management Facility

Central Regional Service Board

2512081.000

March 18, 2026

Central Regional Service Board 2512081.000

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Revisions and publications log

REVISION No.	DATE	DESCRIPTION
0A	February 27, 2026	DRAFT Report submitted to client
01	March 18, 2026	FINAL Report submitted to client

Distribution

1 PDF copy	Pam Preston
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Summary

Englobe Corp. (Englobe) was retained by Central Regional Service Board (CRSB) to complete reporting of the 2025 Environmental Monitoring Program at the Norris Arm Regional Waste Management Facility, NL. The annual report is required under the CRSB Central Regional Waste Management Certificate of Approval (CoA), issued January 15, 2023, expiration of January 31, 2028, by the Newfoundland and Labrador Department of Environment, Conservation and Climate Change (ECCC), Pollution Prevention Division (PPD). This report is compiled based on the 2025 environmental monitoring results provided by CRSB and in accordance with CoA Section Section 124, c. (i - iv) WMS 17-12-001. This report provides an overview of sampling results and discusses potential factors influencing the various exceedances uncovered throughout the 2025 monitoring program. Historical data was analysed along with comparisons to recently reported results; any indicator of potential reason and/or influential factors effecting exceedances are discussed herein. The environmental monitoring program was completed by CRSB personnel on May 20, July 15, September 10, and November 19, 2025, respectively and includes sampling from ten (10) surface water locations and five (5) monitor wells on a quarterly basis.

The results are summarized as follows:

- There were no reported exceedances of the NL Environmental Control Water and Sewage Regulations in monitoring wells MW-H to MW-L during the 2025 monitoring program.
- One (1) surface water sample of SW-3 reported a concentration of 180 000 ug/L (September) of Total Iron (Fe) which was in exceedance of the NL Environmental Control Water and Sewage Regulations guidelines of 10 000 ug/L.
- Current surface water results identified concentrations of Ammonia Nitrogen, total suspended solids (TSS), and nitrate exceeding the NL Environmental Control Water and Sewage Regulations for monitoring wells SW-3, SW-5, and SW-9.
- SW-3 had concentrations of Ammonia Nitrogen exceeding guidelines for all four sampling periods; 6.9 mg/L (May), 7.1 mg/L (July), 3.5 mg/L (September), and 2.6 mg/L (November). An exceedance of TSS was reported in September at 33 mg/L.
- SW-5 had concentrations of Nitrogen (Ammonia Nitrogen) exceeding guidelines for all four sampling periods; 290 mg/L (May), 91 mg/L (July), 220 mg/L (September), and 250 mg/L (November). Concentrations of Total Suspended Solids (TSS) exceeded guidelines in three (3) sampling periods; 90 mg/L (July), 35 mg/L (September), and 57 mg/L (November). Concentrations of Nitrate exceeded guidelines for three (3) sampling periods; 210 mg/L (July), 80 mg/L (September) and 48 mg/L (November).
- SW-9 had concentrations of Ammonia Nitrogen which exceeded guidelines during all four (4) of the sampling periods; 23 mg/L (May), 27 mg/L (July), 14 mg/L (September), and 5.1 mg/L (November). Concentrations of Nitrate exceeded guidelines for two (2) sampling events; 24 mg/L (September) and 16 mg/L (November).
- Discharge - SW-9 recorded two (2) exceedances of Nitrate during the 2025 sampling period; 57 mg/L (October) and 23 mg/L (November).
- The current concentrations of metals and chemical parameters in leachate samples have shown

decreases when compared to historical data. This suggests that leachate quality is improving over time, likely due to landfill stabilization as waste ages, and consistent operation of sedimentation.

- Sampling of the influent, effluent, and lift station locations was not required for the 2025 monitoring program as per a letter received from PPD dated November 5, 2019. Previous results and sample locations discussed in this report have been retained in this to support trend evaluation and comparative analysis.

The current concentrations of metals and chemical parameters have shown decreases when compared to the historical data, therefore no immediate action is required at this time. However, based on the 2025 and historical results of the environmental monitoring program at the Norris Arm Waste Management Site, Englobe makes the following recommendations:

- The 2025 annual monitoring report should be submitted to the Newfoundland and Labrador Department of Environment, Conservation and Climate Change for review as per the CoA requirements;
- The groundwater, leachate and surface water monitoring program at the landfill should continue as per the requirements and parameters listed in Appendix C of CoA Section 124, c. (i - iv) WMS 17-12-001;
- Recording of sampling procedures and current site conditions at the time of sampling should be completed. This practice should also include photographic record of the sample location.
- Additional sampling events should be completed if there are any leachate chemistry exceedances of Schedule B guidelines that differs significantly from previous sampling events;
- A review of the groundwater and surface water sampling protocols should be undertaken for future sampling events, specifically related to the taking of duplicate samples. To ensure the reliability of the data, it is recommended an additional field duplicate sample be collected where results have historically been more variable and multiple parameters are known to exceed applicable guidelines (i.e., MW-J, SW-2, SW-3, SW-5, and SW-9);
- The background surface water and monitoring well sampling in 2026 should be continued for the sole purpose of comparing results to those required as part of the CoA. The more data available for review allows to state with confidence that peripheral surface water and groundwater are not being impacted by landfill operations;
- A semi-annual visual inspection (i.e., Spring and Fall) of the surface sample locations and associated drainage systems should be completed to note environmental/hydrological conditions at the time of sampling (i.e., water flow, stagnant water, water depth, discharge path, vegetation, siltation, debris, staining, sheens); and
- Although this report does not analyze waste composition, the persistently elevated concentrations of ammonia and nitrate at SW-5 (leachate treatment area) and SW-9 (final discharge) strongly indicate that the decomposition of organic material is a primary driver of leachate strength. The elevated nitrate concentrations observed in 2025 reflect subsequent nitrification processes. Therefore, reducing the volume of organic material entering the landfill would directly decrease the generation of ammonia, nitrate, and other leachate-related parameters at SW-5 and SW-9. Over time, organics diversion would improve leachate quality and support continued protection of surrounding groundwater and surface water resources.

STATEMENT OF LIMITATIONS

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This Report should be considered in its entirety; selecting specific portions of the Report may result in the misinterpretation of the content.

The work performed by the Company was carried out in accordance with the terms and conditions specified in the *Professional Services Agreement* between the Company and the Client, in accordance with currently accepted engineering standards and practices and in a manner consistent with the level of skill, care and competence ordinarily exercised by members of the same profession currently practicing under similar conditions and like circumstances in the same jurisdiction in which the services were provided. Standards, guidelines and practices may change over time; those which were applied to produce this Report may be obsolete or unacceptable at a later date.

The findings, recommendations, suggestions, or opinions expressed in this Report reflect the Company's best professional judgment based on observations and/or information reasonably available at the time the work was performed, as appropriate for the scope, work schedule and budgetary constraints established by the Client. No other warranty or representation, expressed or implied, is included in this Report including, but not limited to, that the Report deals with all issues potentially applicable to the site and/or that the Report deals with any and all of the important features of the site, except as expressly provided in the scope of work.

This Report has been prepared for the specific site, development, building, design or building assessment objectives and/or purposes that were described to the Company by the Client. The applicability and reliability of the content of this Report, subject to the limitations provided herein, are only valid to the extent that there has been no material alteration or variation thereto, and the Company expressly disclaims any obligation to update the Report. However, the Company reserves the right to amend or supplement this Report based on additional information, documentation or evidence made available to it.

The Company makes no representation concerning the legal significance of its findings, nor as to the present or future value of the property, or its fitness for a particular purpose and hereby disclaims any responsibility or liability for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

Since the passage of time, natural occurrences, and direct or indirect human intervention may affect the views, conclusions and recommendations (if any) provided in this Report, it is intended for immediate use. This Statement of Limitations forms an integral part of the Report.

In preparing this Report, the Company has relied in good faith on information provided by others and has assumed that such information is factual, accurate and complete. The Company accepts no responsibility or liability for any deficiency, misstatement or inaccuracy in this Report resulting from the information provided, concealed or not fully disclosed by those individuals.

The assessment should not be considered a comprehensive audit that covers and eliminates all present, past and future risks. The information presented in this Report is based on data collected during the completion of the monitoring conducted. The overall site/building/subsurface/groundwater conditions were extrapolated based on information collected at specific sampling locations. Professional judgement was exercised in gathering and analyzing data; however, no monitoring method can eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Consequently, the actual site/building/subsurface/groundwater conditions between the sampling points may vary. In addition, analysis has been carried out only for the chemical and physical parameters identified, and it should not be inferred that other chemical species or physical conditions are not present.

Any results from laboratory or other subcontractors reported herein have been carried out by others, and the Company cannot warrant their accuracy.

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1 Introduction

Englobe Corp. (Englobe) was retained by the Central Regional Service Board (CRSB) to complete the 2025 Environmental Monitoring Program at the Norris Arm Regional Waste Management Facility, Newfoundland and Labrador (NL). The annual report is required under the CRSB Central Newfoundland Waste Management Certificate of Approval (CoA), issued January 15, 2023, expiration of January 31, 2028, by the Newfoundland and Labrador Department of Environment, Conservation and Climate Change (ECCC), Pollution Prevention Division (PPD).

1.1 Background

The Regional Waste Management Facility located in Norris Arm, NL, became operational in February 2012 and began accepting municipal solid waste generated from the central region of the province. This new landfill is the first municipal landfill in Newfoundland and Labrador (NL) to be lined with composite layers of impermeable material, which are designed to minimize the potential for pollutants to leak into the soil and water. These pollutants, in the form of landfill leachate, are collected and treated on-site to meet environmental regulations before released back into the environment.

The Norris Arm Facility is an integral component of NL's Provincial Solid Waste Management Strategy, which aims to reduce the overall quantity of waste being landfilled in the province and to reduce the number of active waste sites that need to be managed.

1.2 Scope of Work

This report is compiled based on the 2025 environmental monitoring results provided by CRSB and in accordance with CoA Section 124, c. (i - iv) WMS 17-12-001. This report includes:

- The 2025 quality monitoring results for groundwater and surface water;
- Data tabulated in spreadsheet format including a comparison where applicable to the Newfoundland and Labrador Regulation (NLR) 65/2003, Environmental Control Water and Sewage Regulations, Schedules A or B;
- An evaluation and discussion of groundwater and surface water monitoring results as they may be affected by landfill leachate and/or surface water runoff from the site;
- An evaluation of environmental monitoring results, comparing results from previous and current calendar year (2025); and
- Conclusions and recommendations for future monitoring, groundwater well installations and other work that may be required at the Central Newfoundland Regional Waste Management Site.

The scope of work and findings presented in this report rely exclusively on the data and analytical results supplied to Englobe by the CRSB. Field sampling and associated field activities were not included in Englobe's mandate for this phase of work. All 2025 field activities were coordinated and executed by the staff of the CRSB.

Enclosed are analytical results for the 2025 sampling event compared to all applicable guidelines and regulations (Appendix A), laboratory certificates provided by CRSB (Appendix B) and the ECCC, PPD Certificate of Approval (Appendix C). It should be noted that the results from the 2014, 2015, 2016, 2017,

2018, 2019, 2020, 2021, 2022, 2023, and 2024 sampling carried out by CRSB are included also in Appendix A for reference purposes.

2 Current Conditions

2.1 Site Description

The Central Regional Waste Management Facility (CRWMF) property includes an area of approximately 369 ha, located approximately 2 km off the Trans- Canada Highway along Route 3-01-09 towards the community of Norris Arm, Newfoundland and Labrador. The site consists of an administration building, scale house and inbound/outbound scales, materials recovery facility (MRF), public drop-off facility, metals storage area, construction and demolition debris waste disposal area, maintenance garage, second generation engineered landfill, leachate treatment and sedimentation pond.

The Central Regional Waste Management service area utilizes seven (7) local waste management facilities (LWMF), built throughout the central region. The LWMFs allow sub regional waste services prior to transfer to the Central Regional Waste Management Facility (CRWMF) landfill for disposal and/or recycling.

Received waste is placed in the engineered landfill complete with leachate collection and on-site leachate treatment.

Access to the site is provided by a permanent asphalt roadway along Route 3-01-09. Asphalt covered roads extend from Route 3-01-09 to the MRF area. Additionally, there is a network of graded gravel roads for site access. Waste accepted at this facility is sourced from residential, industrial, commercial, and institutional (IC&I) sectors. Waste is transferred to the site in both privately and publicly owned vehicles from all communities located within Central and Western Newfoundland. Nearby communities include Norris Arm North, approximately 6.1 km to the west (on the northern side of Norris Arm inlet) and Norris Arm approximately 8.3 km to the southwest. Notre Dame Junction is located approximately 5.4 km to the east.

2.2 Geographical and Geological Setting

2.2.1 Bedrock

Based on bedrock geological mapping for the province of Newfoundland and Labrador (Government of Newfoundland and Labrador, Department of Industry, Energy and Technology, Geological Survey (2000)), the local geology bedrock deposits are from the Badger Group and are Late Ordovician to Early Silurian in age. The bedrock on the north portion of the subject site reportedly consists of green, grey and minor red, very thick to medium bedded, variably cleaved, polymictic conglomerate containing abundant chert, jasper, and volcanic pebbles and locally fossiliferous limestone clasts and interbedded with coarse-grained sandstone and minor siltstone. Bedrock on the southern portion of the subject site reportedly consists of dark grey and red locally fossiliferous, medium bedded, variably cleaved pebble conglomerate and sandstone. The above noted northern and southern bedrock units are divided by a significant thrust fault structure that runs west to east. At the middle of the subject site is a lens of Silurian aged bedrock that is surrounded by a thrust fault. This bedrock unit from the Botwood Group is defined as a red thick and medium bedded, commonly parallel-laminated and/or cross- laminated, locally rippled and/or graded, quartz-rich sandstone, locally includes matrix- supported shale-flake conglomerate and beds of nodular limestone. Bedrock farther to the north of the Badger Group formation is of the similar Botwood Group formation and these two formations

are subdivided west to east by a significant thrust fault structure. Bedrock approximately 1 to 2 kilometres south of the subject site is described as grey massive, medium grained, equigranularity pyroxene gabbro of the Hodges Hill Intrusive Suite (Silurian aged).

2.2.2 Topography and Drainage

The subject site is located approximately 0.6 kilometres south of an unnamed stream, which drains to the Norris Arm inlet approximately 1.2 km to the northwest. The regional topography of the area generally slopes towards the topographic low of the Norris Arm inlet. Topographic highs and recharge areas exist to the north and south of the inlet which forms a topographic low divide. Groundwater and surface water flow patterns in the vicinity would generally be expected to migrate from the topographic highs to the topographic low of the Norris Arm inlet and the unnamed stream located north of the subject site. It should be noted that Notre Dame Junction and Norris Arm are on the same side of the topographic low divide (surface water and groundwater recharge to the south) while Norris Arm North is on the opposite site of the divide (surface water and groundwater recharge to the north).

According to the Hydrogeology of Notre Dame Bay Area Report (Hydrology Consultants Limited, 1980), the topography of the area is largely controlled by the bedrock geology, with the resistant rocks forming the highland areas and the less resistant rocks forming the lowlands.

2.2.3 Hydrogeology

The local hydrogeology consists of an unconfined overburden aquifer. During low precipitation seasons the local hydrogeology may consist of an unconfined overburden/bedrock aquifer. Groundwater movement occurs from high uplands towards low valleys. According to previous reports (SNC Lavalin, 2020) and the Hydrogeology of the Notre Dame Bay Area Report (Hydrology Consultants Limited, 1980), the water-table configuration in the subject area is generally a subdued expression of the surface topography, and that the topographic trends may be used to interpret the local groundwater movement in the shallow aquifer systems, with movement occurring in a direction perpendicular to the topographic contours. Within large river basins, deep flow systems may also be developed if the water-transmitting formations extend to considerable depth; with the result that groundwater may bypass a sub-basin in which the recharge occurred to discharge at a lower elevation in a major basin. Deep flow is considered negligible in the study area, as the well-yield interpretation indicated that the main bedrock flow systems occur at relatively shallow depths. Groundwater movement may be interpreted to be vertically downward and horizontal throughout much of the study area, with the flow essentially confined to shallow systems by the relative impermeability of the deep bedrock thereby encouraging the discharge of groundwater to local water courses rather than a regional groundwater system (Hydrology Consultants Limited, 1980).

3 Methodology

All groundwater and surface water sampling were completed by the CRSB on a quarterly basis (May, July, September, and November) following the procedures outlined in the CoA (Appendix C). The water quality analysis was completed by Bureau Veritas Laboratories (BV Labs) located in St. John's, NL, which is a certified laboratory by the Canadian Association of Laboratory Accreditation (CALA). The following sections of this report provide a summary of each program.

Englobe has reviewed and assessed the provided 2025 groundwater, surface water and lagoon analytical results for water/leachate quality characteristics and overall trend of current and historical results for any potential effects resulting from the current landfilling activities.

3.1 Groundwater Monitoring Program

The groundwater monitoring network at the waste facility site, both to the north and south, comprises five strategically placed wells: MW-H, MW-I, MW-J, MW-K, and MW-L. Groundwater monitoring wells are monitored for parameter elevations relative to typical background conditions, as well as for trends in concentrations over time. The resulting data inform evaluation of potential contaminant migration from the waste management facility.

In 2025, these monitoring stations were assessed, and the details are documented in Table 1. As per the Certificate of Approval (CoA), sampling from these wells is required to be conducted four times per calendar year, with a minimum interval of thirty days between each sampling. In 2025, the sampling was carried out in May, July, September, and November.

The analysis of the samples must include parameters specified by the CoA. However, in 2025, temperature, dissolved oxygen (DO), sulphate, and Total Dissolved Solids (calculated) were not analysed. Table 1 provides a comprehensive list of the groundwater sampling locations and the parameters that were analysed during the 2025 groundwater monitoring program at the CRSB site.

Table 1: Regulatory Sampling Requirements for Groundwater

Location	Parameters
MW-H to MW-L	General Parameters:
	Nitrate + nitrite, nitrate, nitrite, pH, colour, sodium, potassium, calcium, sulphide, magnesium, ammonia, alkalinity, chloride, turbidity, reactive silica, orthophosphate, phosphorous, Dissolved Organic Carbon, conductance, phenolics, carbonate (CaCO ₃), hardness (CaCO ₃) and bicarbonate (CaCO ₃).
	Metals Scan:
	Aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, mercury, nickel, selenium, silver, strontium, thallium, tin, titanium, uranium, vanadium and zinc.
	Total suspended solids are not required for groundwater at the monitoring well locations.

3.2 Surface Water Monitoring Program

The surface water monitoring network consists of a total of ten (10) surface water monitoring locations throughout and adjacent to the waste facility site. The surface water network is divided into surface water sample locations, influent/effluent sample locations, and lift station samples, the locations are listed in Table 2. Surface water sample locations are monitored for parameter elevations relative to typical background conditions, as well as for trends in concentrations over time. The resulting data inform evaluation of potential contaminant migration from the waste management facility.

As stated above and in the CoA, the sampling must be conducted four (4) times per calendar year and not less than thirty (30) days apart. For the 2025 surface water monitoring program the sampling was conducted

in; May, July, September, and November. The analysis must also include the parameters specified by the CoA. There is a total of ten (10) surface water sampling locations, one (1) location (SW-5) at the Leachate

Table 2: Regulatory Sampling Requirements for Surface Water

Location	Parameters
847-SW1- Background SW-1 to SW-9	General Parameters:
	Nitrate + nitrite, nitrate, nitrite, pH, Total Suspended Solids, colour, sodium, potassium, calcium, sulphide, magnesium, ammonia, alkalinity, chloride, turbidity, reactive silica, orthophosphate, phosphorous, Dissolved Organic Carbon, conductance, phenolics, carbonate (CaCO ₃), hardness (CaCO ₃) and bicarbonate (CaCO ₃).
	Metals Scan:
	Aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, mercury, nickel, selenium, silver, strontium, thallium, tin, titanium, uranium, vanadium and zinc.

Treatment Area, four (4) locations (SW-6 - SW-9) (sedimentation ponds) and five (5) locations within the freshwater brooks (847-SW-1 & SW-1 - SW-4). Table 2 identifies the surface water sampling locations and parameters that were analysed. Temperature, dissolved oxygen (DO), sulphate and Total Dissolved Solids (calculated) were not analysed in 2025.

3.3 Landfill Influent, Lagoon Effluent, Lift Station and Discharge

Table 3 in this section identifies the historical sampling locations and parameters previously analysed for the Effluent Monitoring Program. It should be noted that sampling is not required at the influent, effluent and lift station locations as per a letter received from PPD dated November 5, 2019. Previous results and sample locations have been retained in this report to support trend evaluation and comparative analysis.

Table 3: Historical Regulatory Sampling Requirements for Influent/Effluent

Location	Parameters	Frequency
SW-9 (Final Discharge Point)	pH, TSS, nitrate, phosphorous, BOD	Monthly
	Water Chemistry Analysis	Quarterly
Influent from Landfill	pH, TSS, nitrate, phosphorous, BOD	Monthly
Effluent from Lagoons	pH, TSS, nitrate, phosphorous, BOD	Monthly
Lift Station	pH, TSS, nitrate, phosphorous, BOD	Monthly

Discharge point SW-9 was not sampled as part of the January, February, July, August, September, and December sampling events due to low volumes of discharge. The BOD was not tested for the samples retrieved in May and November 2025.

4 2025 Analytical Result Summary

As previously stated, the 2025 analytical testing for the Surface and Groundwater Monitoring Program at the Norris Arm North Regional Waste Management Facility follows the standards presented in the ECCC CoA (Approval No: WMS-17-12-001) (Refer to Appendix C).

Treated water discharged from the site shall meet the criteria limits as set out in the NL Environmental Control Water and Sewage Regulations, 2003 as stated in section 74 of the CoA found in Appendix C of this report.

4.1 Groundwater Monitoring Program

4.1.1 Analytical Results

No exceedances of the applicable criteria were reported in groundwater quality samples collected during the 2025 groundwater monitoring program. Detailed results are presented in Appendix A, Tables 1-A through 2-E.

4.2 Surface Water Monitoring Program

4.2.1 Analytical Results

Exceedances of the applicable criteria were reported in water quality samples collected during each of the sampling events for at least three (3) samples collected from the ten (10) surface water sampling locations. All the exceedances are summarized below in Tables 1-4 with each representing a discrete sampling event in 2025. Detailed results are presented in Appendix A, Tables 3-A through Table 4-J.

Table 1: Summary of Exceedances for May 2025 Surface Water Sampling Event

Parameters	Units				Guideline
		SW-3	SW-5	SW-9	NL Environmental Control Water & Sewage Regulations
Nitrogen (Ammonia Nitrogen)	mg/L	6.9	290	23	2

Table 2: Summary of Exceedances for July 2025 Surface Water Sampling Event

Parameters	Units	Location			Guideline
		SW-3	SW-5	SW-9	NL Environmental Control Water & Sewage Regulations
Nitrate (N)	mg/L	-	210	-	10
Nitrogen (Ammonia Nitrogen)	mg/L	7.1	91	27	2
Total Suspended Solids	mg/L	-	90	-	30
"- " denotes no exceedance					

Table 3: Summary of Exceedances for September 2025 Surface Water Sampling Event

Parameters	Units	Location			Guideline
		SW-3	SW-5	SW-9	NL Environmental Control Water & Sewage Regulations
Nitrate (N)	mg/L	-	80	24	10
Nitrogen (Ammonia Nitrogen)	mg/L	3.5	220	14	2
Total Suspended Solids	mg/L	33	35	-	30
Total Iron (Fe)	mg/L	180000	-	-	10000
"- " denotes no exceedance					

Table 4: Summary of Exceedances for November 2025 Surface Water Sampling Event

Parameters	Units	Location			Guideline
		SW-3	SW-5	SW-9	NL Environmental Control Water & Sewage Regulations
Nitrogen (Ammonia Nitrogen)	mg/L	2.6	250	5.1	2
Nitrate (N)	mg/L	-	48	16	10
Total Suspended Solids	mg/L	-	57	-	30
"---" denotes no exceedance					

4.3 Landfill Influent, Lagoon Effluent, Lift Station and Discharge

Sampling at the influent, effluent and lift station locations was not required for the 2025 monitoring program as per a letter received from PPD dated November 5, 2019. Previous results and sample locations have been retained in this report to support trend evaluation and comparative analysis.

There were two exceedances identified for samples collected from the SW-9 location during two (2) sampling events which are summarized in Table 5 below. Note that months marked with "--" represent time periods which water levels were below sampling requirements and therefore no sample was collected for these months. Detailed analytical results are presented in Appendix A, Tables 5-A through 5-K.

Table 5: Summary of Exceedances for Discharge Sampling Events

		DISCHARGE-SW-9												Guideline
		2025-01-30	2025-02-28	2025-03-31	2025-04-30	2025-05-28	2025-06-25	2025-07-31	2025-08-31	2025-09-30	2025-10-29	2025-11-30	2025-12-31	
Calculated Parameters	Units													Provincial ¹ Environmental Sewage Control Regulations, 2003 - Schedule A
Iron (ferric)	mg/L	--	--	ND	ND	ND	ND	--	--	--	ND	ND	--	--
Nitrate (N)	mg/L	--	--	1.6	0.75	0.68	0.14	--	--	--	57	23	--	10
Inorganics	Units													
Carbonaceous BOD	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
BOD	mg/L	--	--	16	18	ND	18	--	--	--	9.4	--	--	--
Iron (ferrous)	mg/L	--	--	ND	ND	ND	0.86	--	--	--	ND	ND	--	--
Nitrate + Nitrite	mg/L	--	--	1.6	0.82	0.87	0.34	--	--	--	60	25	--	--
Nitrite (N)	mg/L	--	--	0.025	0.076	0.19	0.20	--	--	--	3.1	2.4	--	--
pH	pH	--	--	7.88	8.01	8.44	8.42	--	--	--	8.55	8.35	--	5.5 - 9.0
Total Phosphorus (P)	mg/L	--	--	0.035	0.045	0.15	0.38	--	--	--	0.13	0.076	--	--
Total Suspended Solids	mg/L	--	--	5.6	5.6	9.6	11	--	--	--	13	11	--	30
Total Kjeldahl Nitrogen	mg/L	--	--	2.7	1.8	41	42	--	--	--	16	11	--	--
Total Iron (Fe)	ug/L	--	--	320	200	180	420	--	--	--	100	220	--	10000

Table Notes

¹ NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

ND - Not Detected

Bold & Grey Shaded - exceeds applicable guideline

4.4 Water Quality Trend Analysis from 2014 to 2025 (Parameter Exceedances)

Both surface and groundwater locations were selected to monitor potential receptors surrounding the Norris Arm Regional Waste Management Facility. Table 6 provides a summary for the number of water quality

parameter exceedances from 2014 to 2025.

Table 6: Summary Statistics for Water Quality Parameter Exceedances from 2014 to 2025

Parameter	Unit	Sample Location	Min.	Max.	Number of Historical Exceedances	Number of 2025 Exceedances	Guideline
Groundwater							
pH	-	MW-L	4	7.14	1	0	5.5 - 9.0
Phenols-4AAP	mg/L	MW-H	0.34	0.34	1	0	0.1 mg/L
	mg/L	MW-I	3.3	8.8	2	0	
	mg/L	MW-J	6.5	16	2	0	
	mg/L	MW-K	0.72	4.6	2	0	
	mg/L	MW-L	7.2	11	2	0	
Ammonia Nitrogen	mg/L	MW-J	2.3	15	10	0	2.0 mg/L
Iron	µg/L	MW-H	59,000	230,000	6	0	10,000 µg/L
	µg/L	MW-I	91,000	570,000	5	0	
	µg/L	MW-J	140,000	760,000	7	0	
	µg/L	MW-K	33,000	960,000	6	0	
	µg/L	MW-L	110,000	290,000	5	0	
Copper	µg/L	MW-I	320	670	3	0	300 µg/L
	µg/L	MW-J	700	700	1	0	
	µg/L	MW-K	670	1,100	4	0	
	µg/L	MW-L	390	390	1	0	
Lead	µg/L	MW-I	250	250	1	0	200 µg/L
	µg/L	MW-J	320	320	1	0	
	µg/L	MW-K	210	210	1	0	
Nickel	µg/L	MW-I	510	1,100	2	0	500 µg/L
	µg/L	MW-K	800	1,000	2	0	
Nitrate	mg/L	MW-J	12	60	11	0	10 mg/L
Zinc	µg/L	MW-I	660	1,700	5	0	500 µg/L
	µg/L	MW-J	1,000	1,400	3	0	
	µg/L	MW-K	1,000	1,700	4	0	
	µg/L	MW-L	680	680	1	0	
Chromium	µg/L	MW-J	1,200	1,200	1	0	1,000 µg/L
	µg/L	MW-K	1,300	1,400	2	0	
Surface Water							
pH	pH	SW-6	9.29	9.29	1	0	5.5 - 9.0
	pH	SW-7	9.10	9.38	2	0	
Phenols - 4AAP	mg/L	SW-3	0.22	1.3	2	0	0.1 mg/L
	mg/L	SW-5	0.15	0.27	4	0	

Parameter	Unit	Sample Location	Min.	Max.	Number of Historical Exceedances	Number of 2025 Exceedances	Guideline
Zinc	µg/L	847-SW-1	640	640	1	0	500 µg/L
	µg/L	SW-1	780	780	1	0	
	µg/L	SW-2	550	6,900	2	0	
	µg/L	SW-3	1,200	1,800	2	0	
	µg/L	SW-4	540	11,000	2	0	
	µg/L	SW-5	840	910	2	0	
	µg/L	SW-6	860	860	1	0	
	µg/L	SW-7	3,100	3,100	1	0	
	µg/L	SW-8	770	6,400	4	0	
	µg/L	SW-9	2,400	7,300	3	0	
Iron	µg/L	SW-5	13,000	28,000	8	0	10,000 µg/L
Ammonia Nitrogen	mg/L	SW-1	2.3	2.7	2	0	2.0 mg/L
	mg/L	SW-2	2.2	8.2	4	0	
	mg/L	SW-3	2.3	17	13	4	
	mg/L	SW-5	5.8	360	42	4	
	mg/L	SW-9	2.5	190	31	4	
TSS	mg/L	SW-2	47	49	2	0	30 mg/L
	mg/L	SW-3	46	140	2	1	
	mg/L	SW-5	30	2,000	33	3	
	mg/L	SW-9	36	54	6	0	
Nitrate	mg/L	SW-2	19	61	3	0	10 mg/L
	mg/L	SW-5	32	260	17	3	10 mg/L
	mg/L	SW-9	10	32	9	2	
TDS	mg/L	SW-5	1,800	3,000	6	N/A	1,000 mg/L
Discharge SW-9							
Nitrate	mg/L	Discharge SW-9	10	60	21	2	10 mg/L
TSS	mg/L	Discharge SW-9	32	130	15	0	30 mg/L
Iron	µg/L	Discharge SW-9	11,000	11,000	1	0	10,000 µg/L
Effluent From Lagoons							
Nitrate	mg/L	Effluent From Lagoons	10	73	24	N/A	10 mg/L

Parameter	Unit	Sample Location	Min.	Max.	Number of Historical Exceedances	Number of 2025 Exceedances	Guideline
TSS	mg/L	Effluent From Lagoons	31	1300	44	N/A	30 mg/L
Iron	µg/L	Effluent From Lagoons	13,000	29,000	10	N/A	10,000 µg/L
Influent From Landfill							
Nitrate	mg/L	Influent From Landfill	11	290	15	N/A	10 mg/L
TSS	mg/L	Influent From Landfill	32	1,300	57	N/A	30 mg/L
Iron	µg/L	Influent From Landfill	10,000	57,000	31	N/A	10, 000 µg/L
Lift Station							
Nitrate	mg/L	Lift Station	11	52	13	N/A	10 mg/L
TSS	mg/L	Lift Station	31	340	25	N/A	30 mg/L
Iron	µg/L	Lift Station	11,000	17,000	11	N/A	10,000 µg/L

4.5 Groundwater

4.5.1 Phenols-4AAP in Groundwater

There were no exceedances reported for Phenols-4AAP in any of the monitoring wells sampled during the 2025 monitoring program. Samples from all monitoring wells in 2014 (MW-H, MW-I, MW-J, MW-K and MW-L) exceeded the criteria for two events each, except for one event for MW-H. The highest reported exceedance was 16 mg/L at MW-J, and the lowest exceedance was 0.34 mg/L at MW-H. A decrease in Phenols-4AAP concentrations have occurred in all monitoring wells. In 2024, Phenols-4AAP concentrations rose above detection limits for the August 2024 samples collected from MW-H, MW-I, MW-J, and MW-K (ranging from 0.0011 mg/L to 0.0013 mg/L) but then returned below applicable guidelines for subsequent sampling event. Refer to Appendix A Tables 1-A to 1-E for analytical results compared to applicable guidelines.

4.5.2 Ammonia Nitrogen in Groundwater

There were no exceedances reported for Ammonia Nitrogen in any of the monitoring wells sampled during the 2025 monitoring program. One (1) exceedance was reported for Ammonia Nitrogen for location MW-J in the 2024 monitoring program with a value of 11 mg/L. A total of ten (10) other exceedances were also identified between 2014 - 2023. The highest reported concentration was in a sample collected in 2021 at 15 mg/L and the lowest value that exceeded the criteria occurred in 2016 and was 2.3 mg/L. As previously suggested (SNC 2020), the elevated ammonia nitrogen concentrations reported in samples collected from

MW-J were not attributed to background groundwater quality, with potential sources being the sludge settling pond and sediment pond which are hydraulically upgradient of MW-J. Refer to Appendix A Tables 1-A to 1-E for analytical results compared to applicable guidelines.

4.5.3 Dissolved Iron in Groundwater

There were no exceedances reported for dissolved iron in any of the monitoring wells sampled during the 2025 monitoring program and none have occurred since July 2016. The highest reported exceedance was 960,000 µg/L at MW-K (2015) and the lowest exceedance was 27,000 µg/L at well MW-J (2016). Since the July 2016 sampling event concentrations have remained stable with a significant decrease in iron concentrations occurring in all monitoring wells (including background) with many sampling results below laboratory sampling detection limits. Refer to Appendix A Tables 2-A to 2-E for analytical results compared to applicable guidelines.

4.5.4 Dissolved Copper in Groundwater

There were no exceedances reported for dissolved copper in any of the monitoring wells sampled during the 2025 monitoring program. The only reported exceedances for copper occurred during 2015 for monitoring wells MW-I, MW-J, MW-K and MW-L. The highest reported exceedance was 1,100 µg/L at MW-K and the lowest exceedance was 320 µg/L at MW-I. Since 2015 most concentrations have been near or below the laboratory detection limits and are consistent with background concentrations. Refer to Appendix A Tables 2-A to 2-E for analytical results compared to applicable guidelines.

4.5.5 Dissolved Lead in Groundwater

There were no exceedances reported for dissolved lead in any of the monitoring wells sampled during the 2025 monitoring program. The only reported exceedances for lead were for samples collected during 2015 from monitoring wells MW-I, MW-J and MW-K. The highest reported exceedance was 320 µg/L at MW-J, and the lowest exceedance was 210 µg/L at MW-K. Since 2015 there has been a significant decrease in lead concentrations at MW-I, MW-J and MW-K with most sampling results being below laboratory sampling detection limits and remaining stable with background concentrations. Refer to Appendix A Tables 2-A to 2-E for analytical results compared to applicable guidelines.

4.5.6 Dissolved Nickel in Groundwater

There were no exceedances reported for dissolved nickel in any of the monitoring wells sampled during the 2025 monitoring program. The only reported exceedances for nickel occurred during 2014 and 2015 for monitoring wells MW-I and MW-K. The highest reported exceedance was 1,100 µg/L at MW-I and the lowest exceedance was 510 µg/L at MW-I. Since 2015 there has been a significant decrease in nickel concentrations at MW-I and MW-K with most sampling results for MW-H, MW-I, MW-K being below laboratory sampling detection limits, consistent with background concentrations. Nickel concentrations were above detection limits for all samples collected from MW-J and MW-L (ranging from 3.8 µg/L to 13 µg/L) but have always been below applicable guidelines. Refer to Appendix A Tables 2-A to 2-E for analytical results compared to applicable guidelines.

4.5.7 Nitrate in Groundwater

There were no exceedances reported for Nitrate concentrations in any of the monitoring wells sampled during the 2025 monitoring program. The highest reported exceedance for MW-J was 45 mg/L and the lowest reported was 28 mg/L for the 2024 sampling program. There have been eleven (11) samples in the past with nitrate concentrations that exceeded the 10 mg/L guideline at MW-J. The highest previously reported

exceedance was 60 mg/L in 2023. The lowest exceedance was 12 mg/L in 2018. Concentrations exhibit considerable fluctuations from sample to sample and year over year ranging from trace or below detection limits to the maximum of 60 mg/L with no consistent upward or downward trend. Refer to Appendix A Tables 1-A to 1-E for analytical results compared to applicable guidelines.

4.5.8 Dissolved Zinc in Groundwater

There were no exceedances reported for dissolved zinc in any of the monitoring wells sampled during the 2025 monitoring program. Reported exceedances for zinc previously occurred during 2014, 2015 and 2016 with exceedances varying between locations. There was a reported exceedance within the last sampling event on 2018 and the first sampling event of 2019 at MW-J. The highest reported exceedance was 1,700 µg/L at MW-I and MW-K and the lowest exceedance was 660 µg/L at MW-I. Since 2016 there has been a decrease in zinc concentrations with most sampling results for MW-I, MW-J and MW-K below laboratory sampling detection limits and some trace amounts, which is consistent with background concentrations (MW-H). Zinc concentrations have been consistently detected in all sampling events for MW-L, both current and previous. These concentrations have generally remained below the applicable guidelines, apart from an anomaly in October 2014. The detected zinc concentrations have varied, ranging from 6.7 µg/L to 680 µg/L.

Notably, since 2016, the zinc concentrations at MW-L have not only decreased but also maintained stability. For a detailed comparison of the analytical results with the applicable guidelines, please refer to Tables 2-A to 2-E in Appendix A.

4.5.9 Dissolved Chromium in Groundwater

There were no exceedances reported for dissolved chromium in any of the monitoring wells sampled during the 2025 monitoring program. The only reported exceedances for chromium occurred during 2015 for monitoring wells MW-J and MW-K. The highest reported exceedance was 1,400 µg/L at MW-K and the lowest exceedance was 1,200 µg/L at MW-J. Since 2015 most concentrations have been below laboratory detection limits, consistent with background concentrations and MW-I and MW-L. Refer to Appendix A Tables 2-A to 2-E for analytical results compared to applicable guidelines.

4.6 Surface Water Locations 847-SW-1 & SW-1 to SW-4 (Freshwater Streams Adjacent to Site)

4.6.1 Ammonia Nitrogen in Surface Water

There were four (4) exceedances for ammonia nitrogen concentrations for location SW-3 in the 2025 monitoring program. The reported exceedances ranged from 2.6 to 7.1 mg/L for SW-3. Reported exceedances for ammonia nitrogen have occurred in samples collected at SW-1 in 2015 and 2018, SW-2 in 2014, 2015, 2016, and 2021, at SW-3 in 2021 and 2022, and SW-2 and SW-3 in 2023. The highest previously reported exceedance was 8.2 mg/L at SW-2, and the lowest exceedance was 2.2 mg/L also at SW-2. Apart from this data, concentrations have generally remained relatively stable, ranging from 0.05 mg/L to 1.4 mg/L (or below laboratory detection limits) since 2014 and are considered comparable to the background surface water quality. Refer to Appendix A Tables 4-A to 4-J for analytical results compared to applicable guidelines.

4.6.2 Phenols-4AAP in Surface Water

There was no exceedance reported for Phenols-4AAP during the 2025 monitoring program. Previous exceedances of 1.3 mg/L in the 2022 monitoring program and 0.22 mg/L were noted in the 2021 monitoring report. All previous samples were below detection limits or had trace amounts detected well below guidelines.

Apart from the large spike in value for the May of 2022 monitoring sample results, concentrations have generally remained relatively stable, ranging from 0.001 mg/L to 0.22 mg/L (or below laboratory detection limits). Refer to Appendix A Tables 4-A to 4-J for analytical results compared to applicable guidelines.

4.6.3 Nitrate in Surface Water

There were five (5) exceedances of nitrate concentrations in SW-5 and SW-9 during the 2025 monitoring program. The highest reported exceedance of nitrate at SW-5 was 210 mg/L and the lowest reported exceedance of nitrate was 16 mg/L at SW-9. Refer to Appendix A Tables 4-A to 4-J for analytical results compared to applicable guidelines.

4.6.4 Total Suspended Solids in Surface Water

There was one (1) exceedance for Total Suspended Solids (TSS) in the 2025 monitoring program. The reported exceedance of TSS was 33 mg/L at SW-3. There have been forty-three (43) samples in the past with TSS concentrations that exceeded the 30 mg/L guideline. Except for these reported exceedances, concentrations have remained relatively stable and are considered comparable to the background surface water quality. Refer to Appendix A Tables 4-A to 4-J for analytical results compared to applicable guidelines.

4.6.5 Total Zinc in Surface Water

There were no exceedances reported for Zinc concentrations during the 2025 monitoring program. The highest reported exceedance was 11,000 µg/L at SW-4 in 2021, and the lowest exceedance was 540 µg/L at SW-4 in 2018. Apart from these results, concentrations have remained relatively stable since 2014 and are considered representative of background surface water quality. Many of the samples have had concentrations below laboratory detection limits. Refer to Appendix A Tables 3-A to 3-J for analytical results compared to applicable guidelines.

4.7 Surface Water Locations SW-6, SW-7, SW-8 & SW-9 (Sedimentation Ponds)

4.7.1 Ammonia Nitrogen in Surface Water

There were four (4) exceedances of ammonia nitrogen concentrations in SW-9 during the 2025 monitoring program, and ranged from 5.1 to 27 mg/L. Most of the samples for SW-6, SW-7 and SW-8 had ammonia nitrogen concentrations below detection limits. The highest reported exceedance was at SW-9 with 190 mg/L, and the lowest exceedance was in 2022 at 2.5 mg/L. Concentrations for samples collected from most of the sedimentation pond locations have remained relatively stable ranging from below detection limits to 0.50 mg/L. Refer to Appendix A Tables 4-G to 4-J for analytical results compared to applicable guidelines.

4.7.2 Total Zinc in Surface Water

There were no exceedances of zinc concentrations during the 2025 monitoring program. Historically, the highest reported exceedance was 7,300 µg/L at SW-9 in 2016, and the lowest exceedance was 770 µg/L at SW-8 in 2018. Apart from these exceedances, concentrations have remained relatively stable generally ranging from below laboratory detection limits to 350 µg/L since 2014. Refer to Appendix A Tables 3-G to 3-J for analytical results compared to applicable guidelines.

4.7.3 Nitrate in Surface Water

There were two (2) exceedances of nitrate concentrations in SW-9 during the 2025 monitoring program, 24 mg/L and 16 mg/L. Historically, the highest reported exceedance of nitrate at SW-9 was 32 mg/L and the lowest reported exceedance was 10 mg/L in 2019. Refer to Appendix A Table 4-J for analytical results compared to applicable guidelines.

4.7.4 Total Suspended Solids in Surface Water

There were no exceedances of Total Suspended Solids during the 2025 monitoring program. Historically, the highest reported exceedance was reported as 54 mg/L in 2016 while the lowest reported values were 36 mg/L in 2014 at SW-9. Refer to Appendix A Table 4-J for analytical results compared to applicable guidelines.

4.7.5 pH in Surface Water

No pH exceedances were recorded during the 2025 monitoring program. Historically, only three (3) pH exceedances have been identified: a value of 9.29 at SW-6 in 2021, and values of 9.1 in 2020 and 9.38 in 2021 at SW-7. Aside from these instances, pH levels have generally remained within applicable guidelines. Refer to Appendix A, Tables 4-G to 4-J for detailed analytical results.

4.8 Surface Water Location SW-5 (Leachate Treatment Area)

4.8.1 Ammonia Nitrogen in Surface Water

There were four (4) exceedances for ammonia nitrogen concentrations from SW-5 in the 2025 monitoring program ranging from 91 mg/L to 290 mg/L. The highest previously reported exceedance was 360 mg/L in 2024, and the lowest previously reported exceedance was 5.8 mg/L in 2018. Refer to Appendix A Table 4-F for analytical results compared to applicable guidelines.

4.8.2 Phenols-4AAP in Surface Water

There were no exceedances for phenols-4AAP concentrations from SW-5 in the 2025 monitoring program. The highest reported exceedance was 0.27 mg/L in 2014, and the lowest exceedance was 0.15 mg/L in 2015 and 2016. Refer to Appendix A Table 4-F for analytical results compared to applicable guidelines.

4.8.3 Total Dissolved Solids in Surface Water

Total Dissolved Solids (TDS) analysis was not completed on samples collected from SW-5 since December 2015. Prior to this, all six (6) sampling events contained concentrations of TDS exceeding applicable guidelines. The highest reported exceedance was 3,000 mg/L and the lowest exceedance was 1,800 mg/L. Refer to Appendix A Table 4-F for analytical results compared to applicable guidelines.

4.8.4 Total Iron in Surface Water

There were no exceedances for iron in the 2025 monitoring program. The highest reported exceedance of iron was 28,000 µg/L in 2017 and the lowest exceedance was 13,000 µg/L in 2016 and 2023. Iron concentrations have been variable with no consistent upward or downward trends identified. Refer to Appendix A Table 3-F for analytical results compared to applicable guidelines.

4.8.5 Nitrate in Surface Water

There were three (3) exceedances for nitrate samples collected from location SW-5 in the 2025 monitoring program ranging from 48 mg/L to 210 mg/L. There have been seventeen (17) samples in the past with concentrations that exceeded the 10 mg/L guideline. The highest reported exceedance was 320 mg/L in 2024, and the lowest exceedance was 25 mg/L in 2023. Concentrations exhibit considerable fluctuations from sample to sample and year over year ranging from trace or below detection limits to the maximum of 320 mg/L with no consistent upward or downward trend. Refer to Appendix A Table 4-F for analytical results compared to applicable guidelines.

4.8.6 Total Suspended Solids in Surface Water

There were three (3) exceedances for Total Suspended Solids (TSS) in the 2025 monitoring program for SW-5 ranging from 90 mg/L to 35 mg/L. Since the beginning of the program in 2014, many of the samples have had TSS concentrations that exceeded the 30 mg/L guideline, with only six (6) samples below the criterion and one (1) sample reported at the guideline limit of 30 mg/L. The highest reported exceedance was 2,000 mg/L in 2015 and the lowest exceedance was 32 mg/L in 2018. Refer to Appendix A Table 4-F for analytical results compared to applicable guidelines.

4.8.7 Total Zinc in Surface Water

There were no exceedances for zinc in the 2025 monitoring program. No samples had zinc concentrations that exceeded regulatory guidelines since 2017. Historically only two (2) samples have exceeded the criterion in the November samples from both 2016 and 2017. The highest reported exceedance was 910 µg/L in 2016 at SW-5 and the lowest exceedance was 840 µg/L in 2017. Apart from these exceedances, concentrations have remained relatively consistent within a range of 14 µg/L to 230 µg/L. Refer to Appendix A Table 3-F for analytical results compared to applicable guidelines.

4.9 Discharge SW-9 (Final Discharge Location)

4.9.1 Total Iron in Surface Water

There were no exceedances reported for iron at sampling location Discharge-SW-9 during the 2025 monitoring program. One (1) exceedance occurred in 2015 with a concentration of 11,000 µg/L. Apart from this exceedance, concentrations have been ranging from 54 µg/L to 9,400 µg/L or below laboratory detection limits since the first sampling event in April 2015 with no significant upward or downward trends. Refer to Appendix A Tables 5-K: 2025 for recent analytical results compared to applicable guidelines.

4.9.2 Nitrate in Surface Water

There were two (2) exceedances reported throughout the 2025 monitoring program for nitrate at sampling location Discharge-SW-9, 23 mg/L and 57 ng/L. Three (3) reported exceedances in 2024, three (3) reported exceedances in 2023, one (1) reported exceedance of nitrate occurred in 2022, seven (7) reported exceedances of nitrate occurred in 2020, two (2) reported exceedances occurred in 2019 three (3) in 2018, one (1) reported exceedance of nitrate occurred in 2016 and one (1) reported exceedance of nitrate occurred in 2015. The highest reported exceedance of 60 mg/L occurred in 2020, and the lowest exceedance of 10 mg/L occurred in 2020 and 2024. Apart from these exceedances, concentrations have remained relatively stable ranging from 0.059 mg/L to 7.1 mg/L or below laboratory detection limits since 2014 with no significant upward or downward trends. Refer to Appendix A Tables 5-K: 2025 for recent analytical results compared to applicable guidelines.

4.9.3 Total Suspended Solids in Surface Water

There were no exceedances reported for total suspended solids (TSS) at sampling location Discharge-SW-9 during the 2025 monitoring program. Historically there have been TSS exceedance in years 2022, 2020, 2018, 2017, 2016, 2015, and 2014. The highest reported exceedance was 130 mg/L in 2014 and 2017, and the lowest exceedance was 32 mg/L in 2018 and 2020. Apart from these exceedances, concentrations have remained relatively stable since 2014 with no significant upward or downward trends. Refer to Appendix A Tables 5-K: 2025 for recent analytical results compared to applicable guidelines.

4.10 Effluent from Lagoons

Sampling of the effluent location was not required for the 2025 monitoring program as per a letter received from PPD dated November 5, 2019. Previous results and sample locations discussed in this report have been retained in this to support trend evaluation and comparative analysis.

4.10.1 Iron

There was a single reported exceedance for iron from the effluent lagoons in 2019, during the February sampling event. Historically, there had been several exceedances of the 10,000 µg/L guideline for iron, however, none had occurred since April of 2017. The highest reported exceedance was 29,000 µg/L in 2015 and the lowest exceedance was 13,000 µg/L in 2017. Between the first sampling event in April 2015 and April 2017, iron concentrations were quite variable with no significant upward or downward trends. Following the April 2017 concentrations continued to fluctuate but within a much lower range, including some samples with iron concentrations below detection. Refer to Appendix A Tables 6-A - 6-F for analytical results compared to applicable guidelines.

4.10.2 Nitrate

In 2019, four effluent samples from the lagoons were reported to have exceeded the nitrate criterion. Several historical exceedances have occurred in prior years as well. The highest reported exceedance was 73 mg/L in 2015, and the lowest exceedance was 11 mg/L in 2019. From January 2014 until June 2015 many of the sampling events revealed no concentrations above laboratory detection limits. Starting in November 2017, nitrate concentrations have been noted to increase significantly, with concentrations periodically dropping below the guideline value. Refer to Appendix A Tables 6-A - 6-F for analytical results compared to applicable guidelines.

4.10.3 Total Suspended Solids

Four (4) exceedances for TSS were reported above the TSS guidelines of 30 mg/L in the effluent samples from the lagoons in 2019. This is relatively low in comparison to the number of exceedances in historical samples, with four (4) in 2018, six (6) in 2017, ten (10) in 2016, and nine (9) in each of 2015 and 2014. The highest reported exceedance was 1,300 mg/L in 2014 and the lowest exceedance was 31 mg/L in 2019. TSS concentrations have been variable since 2014 with no significant trend since 2014. Refer to Appendix A Tables 6-A - 6-F for analytical results compared to applicable guidelines.

4.11 Influent from Landfill

Sampling of the influent location was not required for the 2025 monitoring program as per a letter received from PPD dated November 5, 2019. Previous results and sample locations discussed in this report have been

retained in this to support trend evaluation and comparative analysis.

4.11.1 Iron

Four (4) exceedances of iron concentrations in influent water samples were reported in the 2019 monitoring program. Historically, there have been several exceedances of the 10,000 µg/L guideline for iron, including: six (6) exceedances in 2017, nine (9) exceedances in 2016 and five (5) exceedances in 2015. The highest reported exceedance was 57,000 mg/L in 2016 while a sample in 2015, equalled the criterion of 10,000 µg/L. Since the first sampling event in April 2015, iron concentrations have been variable with no significant or notable trends observed. Refer to Appendix A Tables 6-G - 6-L for analytical results compared to applicable guidelines.

4.11.2 Nitrate

Four (4) samples had nitrate concentrations that exceeded the criterion for influent water during the 2019 monitoring program. This is consistent with historical results, with three (3) exceedances for nitrate reported from the influent samples in each of 2015 and 2017 and five (5) exceedances in 2018. The highest reported exceedance was 170 mg/L in 2018, and the lowest exceedance was 11 mg/L in 2017. Concentrations tend to be low in the early and middle portions of the year, with a spike in the levels during the August and September sampling events. Refer to Appendix A Tables 6-G - 6-L for analytical results compared to applicable guidelines.

4.11.3 Total Suspended Solids

Historically there have been TSS exceedance in the years 2019, 2018, 2017, 2016, 2015, and 2014. The highest reported exceedance was 1300 mg/L in 2016, and the lowest exceedance was 32 mg/L in 2018. TSS concentrations have been variable with many of the sampling events containing exceeding concentrations and no significant or notable trends observed at the influent water station. Refer to Appendix A Tables 6-G - 6-L for analytical results compared to applicable guidelines.

4.12 Lift Station

Sampling of the lift station location was not required for the 2025 monitoring program as per a letter received from PPD dated November 5, 2019. Previous results and sample locations discussed in this report have been retained in this to support trend evaluation and comparative analysis.

4.12.1 Iron

There was no sampling of the lift station in 2025. Historically there have been iron exceedance in the years 2017, 2016, and 2015. The highest reported exceedance was 17,000 µg/L in 2016 and the lowest exceedance was 11,000 µg/L in 2015. Iron concentrations have had significant variability over time but have been generally lower on average since May of 2017. Refer to Appendix A Tables 6-M - 6-R for analytical results compared to applicable guidelines.

4.12.2 Nitrate

There was no sampling of the lift station in 2025. Historically there have been nitrate exceedance in the years 2019, 2018, 2016, and 2015. The highest reported exceedance was 52 mg/L in 2018, and the lowest exceedance was 11 mg/L, also in 2018. Apart from these exceedances, concentrations have remained

relatively stable ranging from 0.054 mg/L to 7.6 mg/L or below laboratory detection limits since 2014 with no significant upward or downward trends. Refer to Appendix A Tables 6-M - 6-R for analytical results compared to applicable guidelines.

4.12.3 Total Suspended Solids

There was no sampling of the lift station in 2026. Historically there have been TSS exceedance in the years 2019, 2018, 2017, 2016, 2015, and 2014. The highest reported exceedance was 340 mg/L in 2014, and the lowest exceedance was 31 mg/L in 2015. Since the monitoring program began, TSS concentrations have been variable with no trends observed. Refer to Appendix A; Tables 6-M - 6-R for analytical results compared to applicable guidelines.

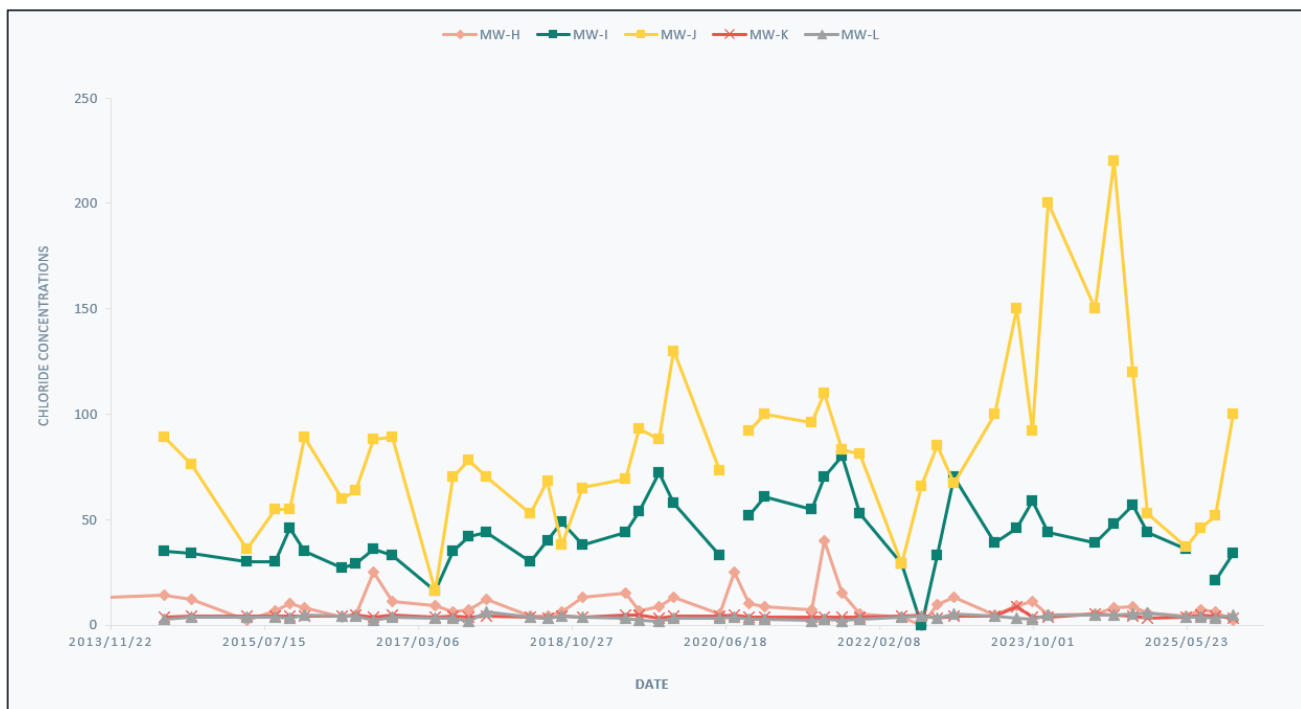
4.13 Water Quality Evaluation

4.13.1 Groundwater Quality

Water Table Groundwater Monitors

For the CRWMF, monitoring well MW-H provides background groundwater quality data. Since 2014, MW-H has had historical exceedances of the applicable criteria for phenols-4AAP and iron. No exceedances were reported for MW-H during the 2025 monitoring program.

Figure 1: Chloride Concentrations in Groundwater Samples over Time



It is evident from reviewing Figure 1 that chloride concentrations in water quality samples from background location, MW-H have remained relatively low during the 2025 monitoring program.

Concentrations of chloride in samples from MW-J have shown a relative decrease observed in the 2025 monitoring period has decreased to near the historical average for this location. Concentrations in samples

from MW-L have been stabilized since the 2022 sampling event.

MW-I and MW-K have remained relatively stable throughout the 2025 monitoring period.

Concentrations for chloride, iron, and hardness are frequently used to identify the presence of leachate related impacts. Figures 2 - 6, below, plot concentrations of these parameters in samples collected over time at each of the groundwater monitoring wells. Hardness (mg/L CaCO₃) is depicted as orange, iron (µg/L) as green, while chloride (mg/L) is yellow within plotted monitor well sampling results. Particularly for iron concentrations, there seems to be large gaps in sampling, however this is due to non-detect sampling results (below detection limits). Limit concentrations for the 2025 results are available in the laboratory certificates of analysis, in Appendix C.

Figure 2: Selected Parameter Concentrations at MW-H over Time

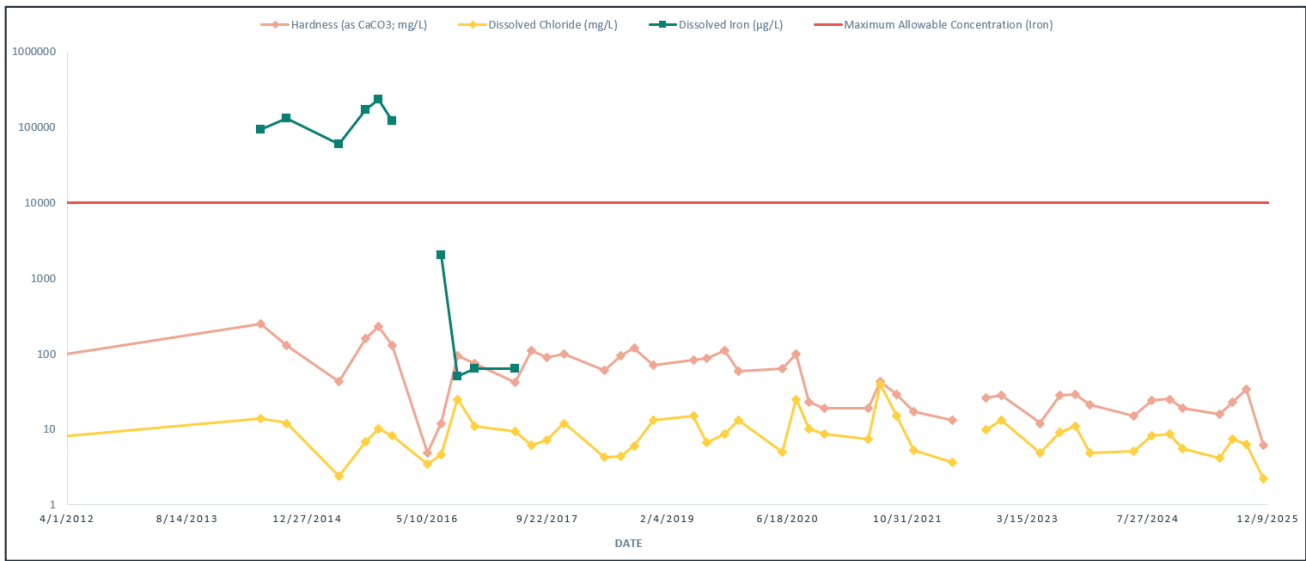


Figure 3: Selected Parameter Concentrations at MW-I over Time

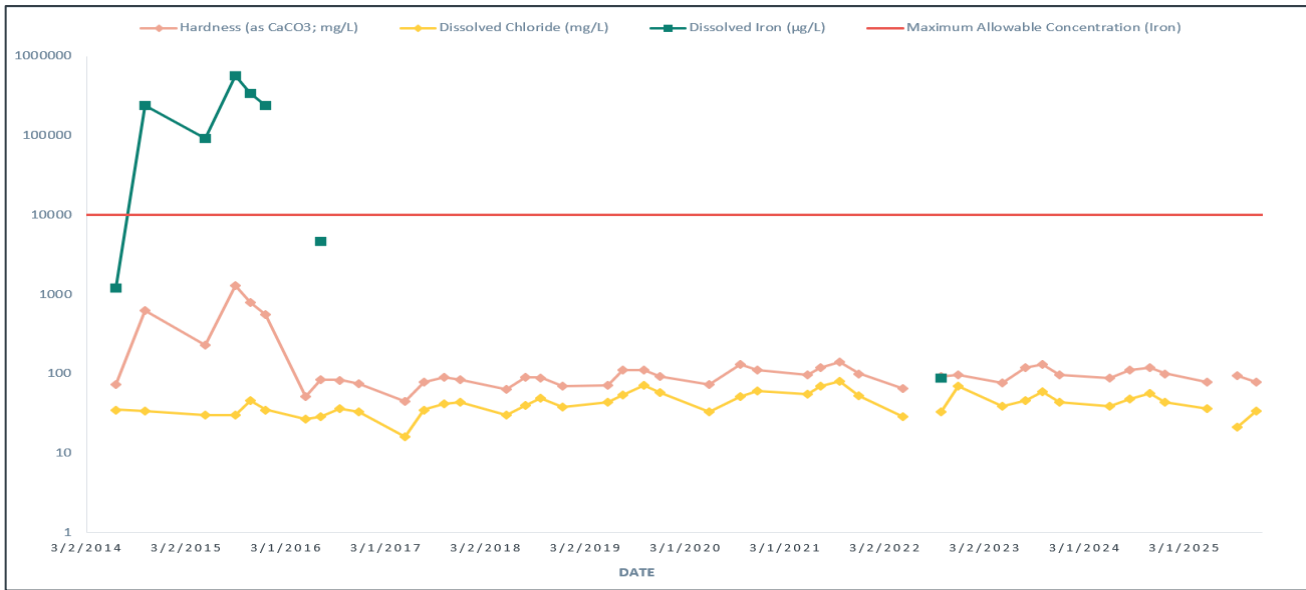


Figure 4: Selected Parameter Concentrations at MW-J over Time

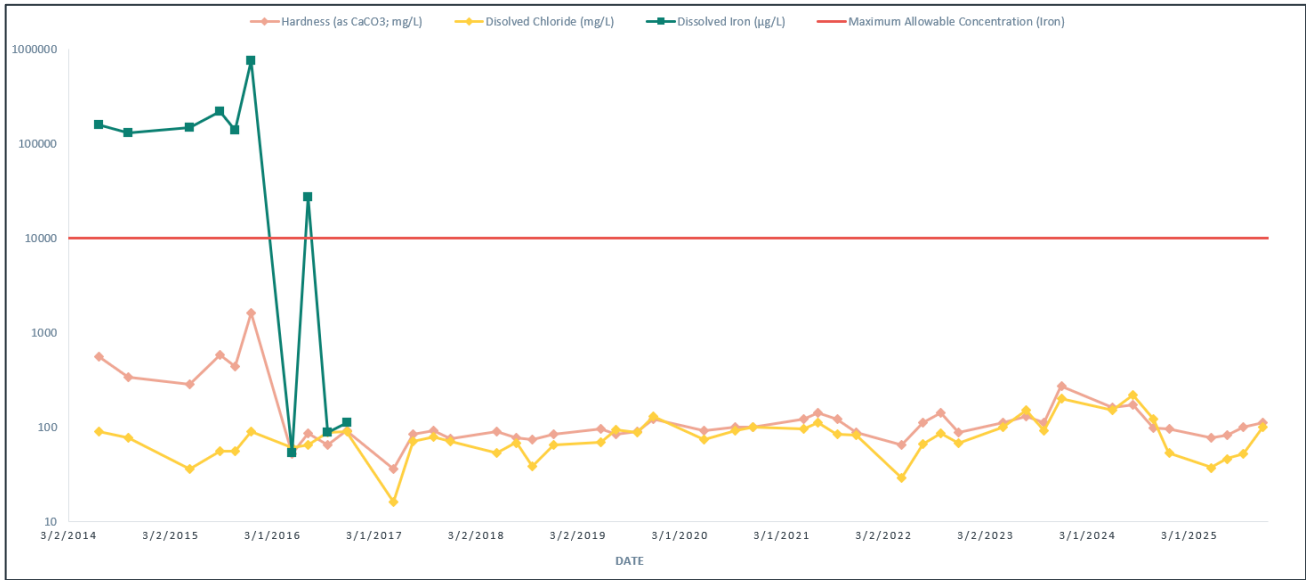


Figure 5: Selected Parameter Concentrations at MW-K over Time

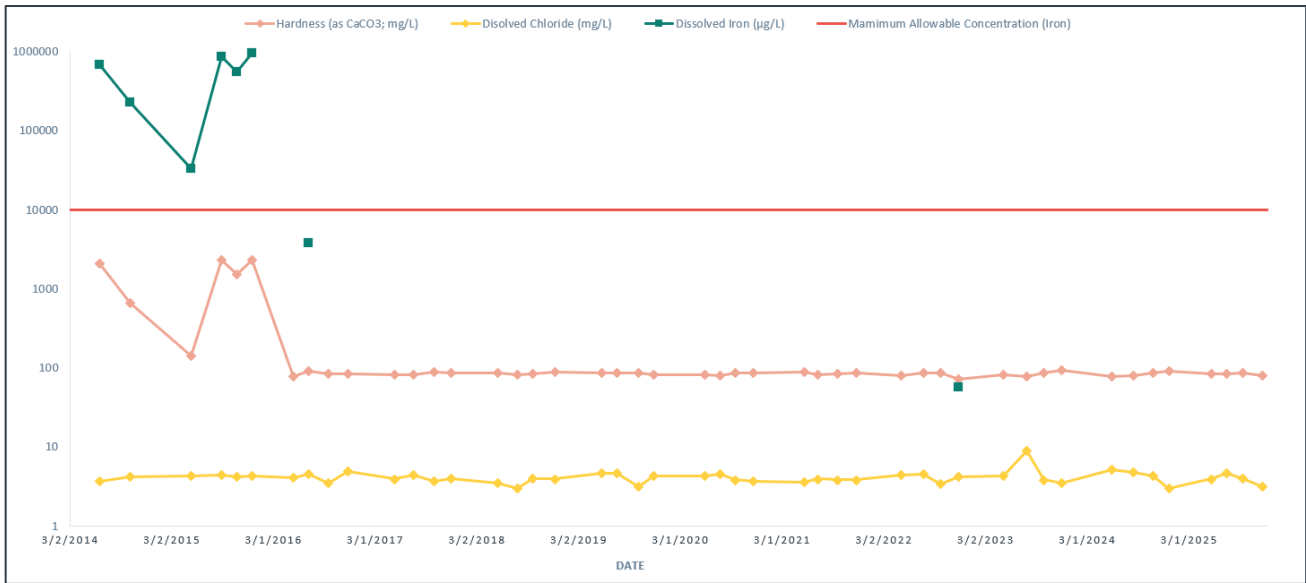
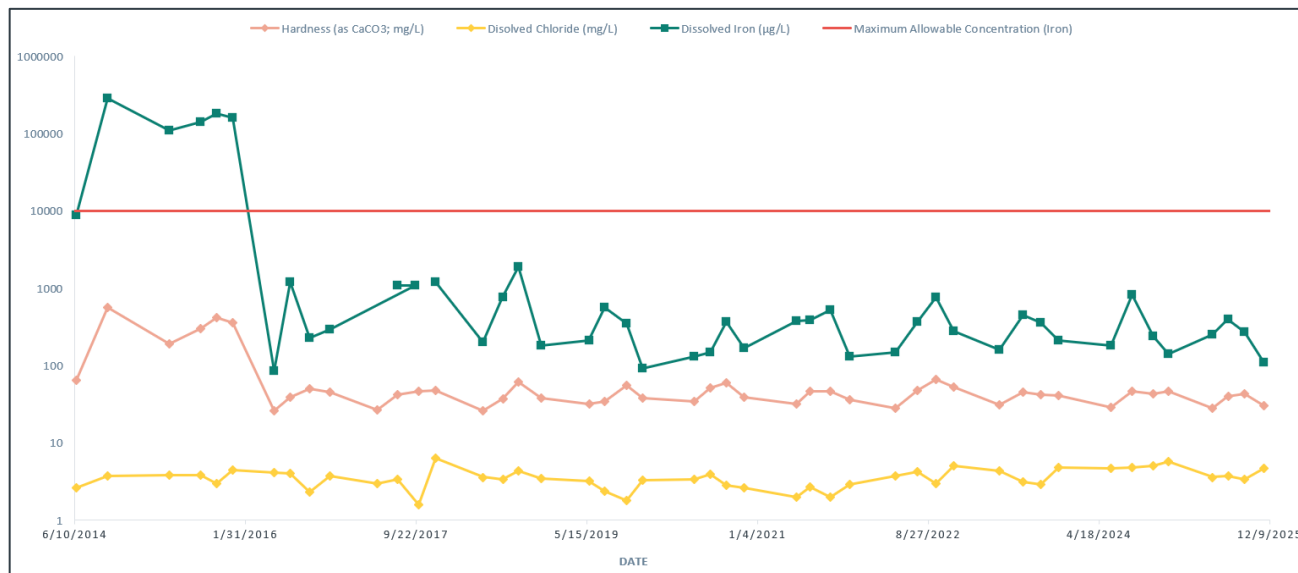


Figure 6: Selected Parameter Concentrations at MW-L over Time



The data in the preceding plots show consistent variations, indicating that impacts in groundwater quality are stable over time. As per the continuation of trends following the 2025 sampling program, MW-I and MW-J concentrations of iron and hardness have continued to decrease in comparison to earlier samples (before 2017) and have seemed to have generally stabilized with most results being reported as non-detect within more recent years. Additionally, the overall chloride concentrations noted within 2025 sampling results for all monitor well locations appear to be relatively stable.

4.13.2 Surface Water Quality

Surface water samples are collected at a variety of sedimentation ponds and in each of the three (3) receiving streams that cross the site, to ensure that water quality is not being detrimentally impacted by the landfill. Water quality analysis in the surface water samples relates to total metals present. Background (upgradient) water quality in the central stream would be provided by 847-SW-1.

Moving downgradient, operations related impacts would be identified by samples from: SW-6 a stormwater management and sedimentation pond discharging to the western stream; SW-8 and SW-7, collected from stormwater management and sediment retention ponds discharging to the central stream; and, SW-3, which is downgradient of the C&D landfill, and discharges to the eastern stream and would be expected to be able to identify runoff related impacts from the C&D landfill prior to discharge into Bottom Brook.

SW-1 is collected from the central stream which is downgradient of the landfill and immediately hydrogeologically downgradient of the initial leachate treatment lagoon. SW-2 is further along the stream flow path, slightly downgradient of the MW-J monitoring well, and the discharge point from the effluent treatment system. SW-4 is the most downgradient sampling point representing water quality runoff collected by streams from the site, also mixed with other local streams (Lilly Brook and Bottom Brook).

Figures 7 - 12 have been prepared for selected parameters that may be indicative of the presence of leachate, and preferentially that were included in the long-term historical monitoring program.

Figure 7: Barium Concentrations over Time at Selected Surface Water Sampling Stations

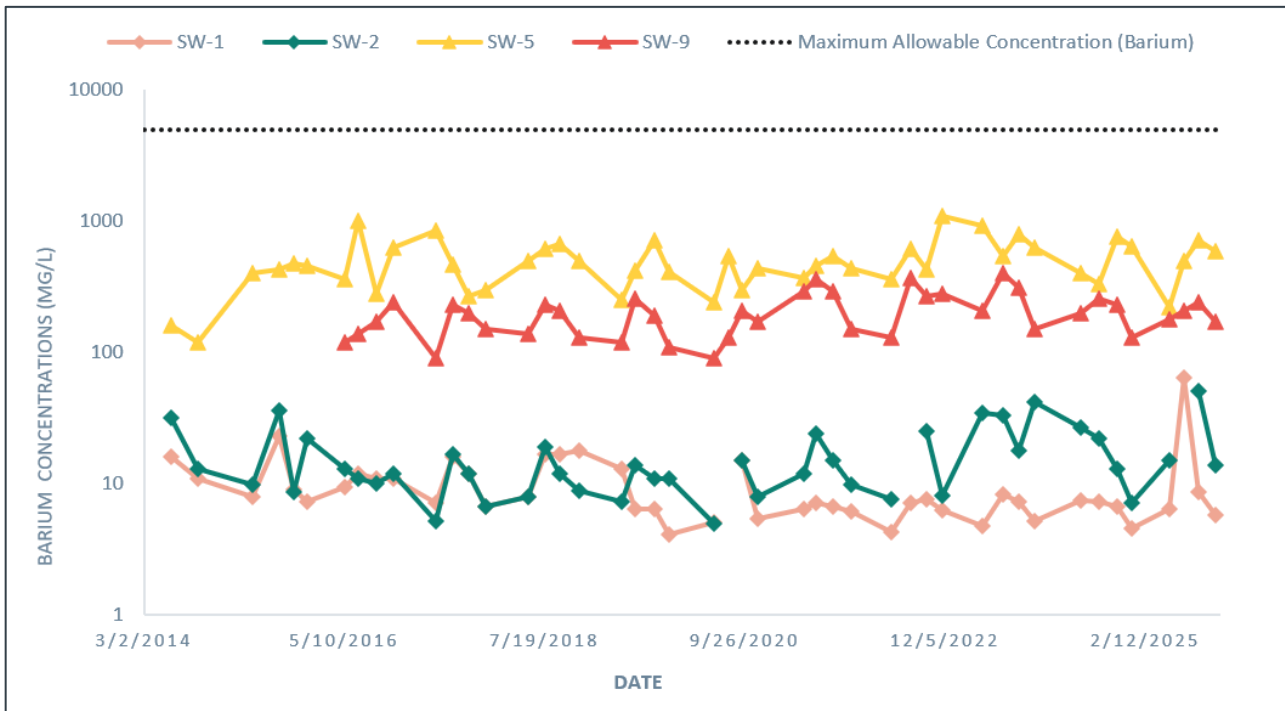


Figure 8: Boron Concentrations over Time at Selected Surface Water Sampling Stations

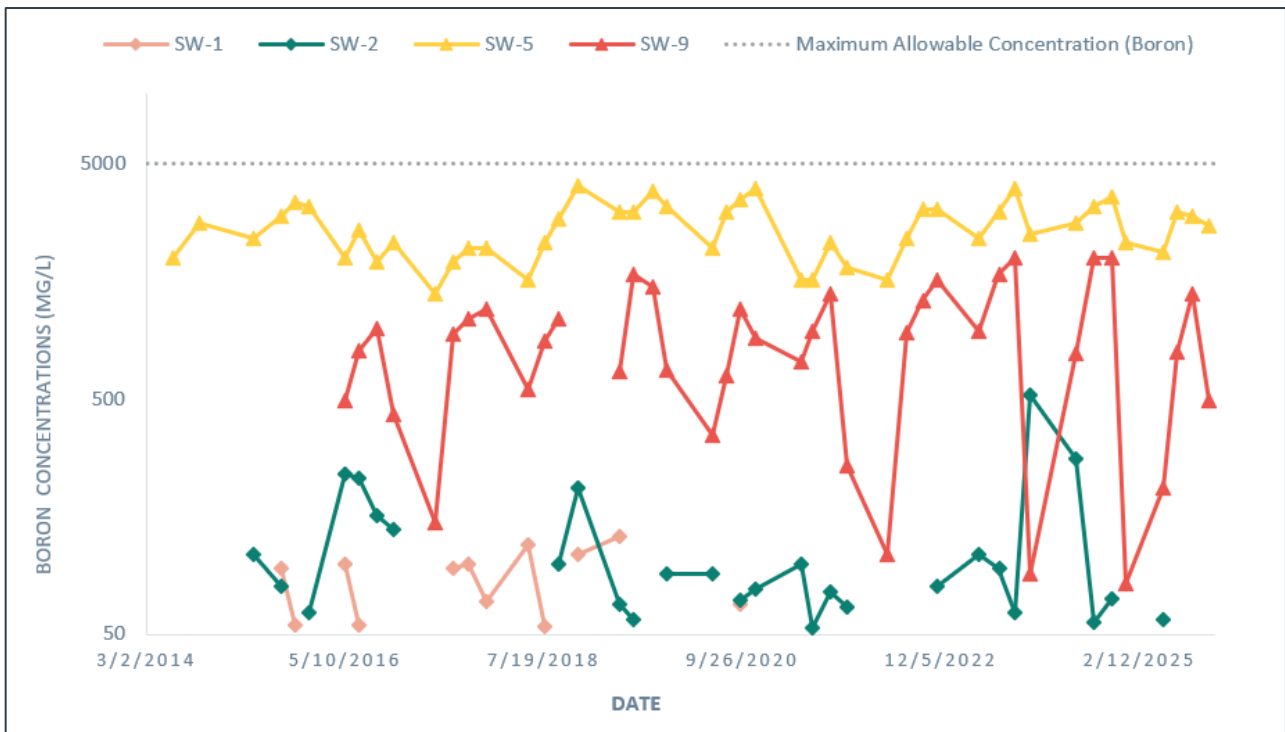


Figure 9: Calcium Concentrations over Time at Selected Surface Water Sampling Stations

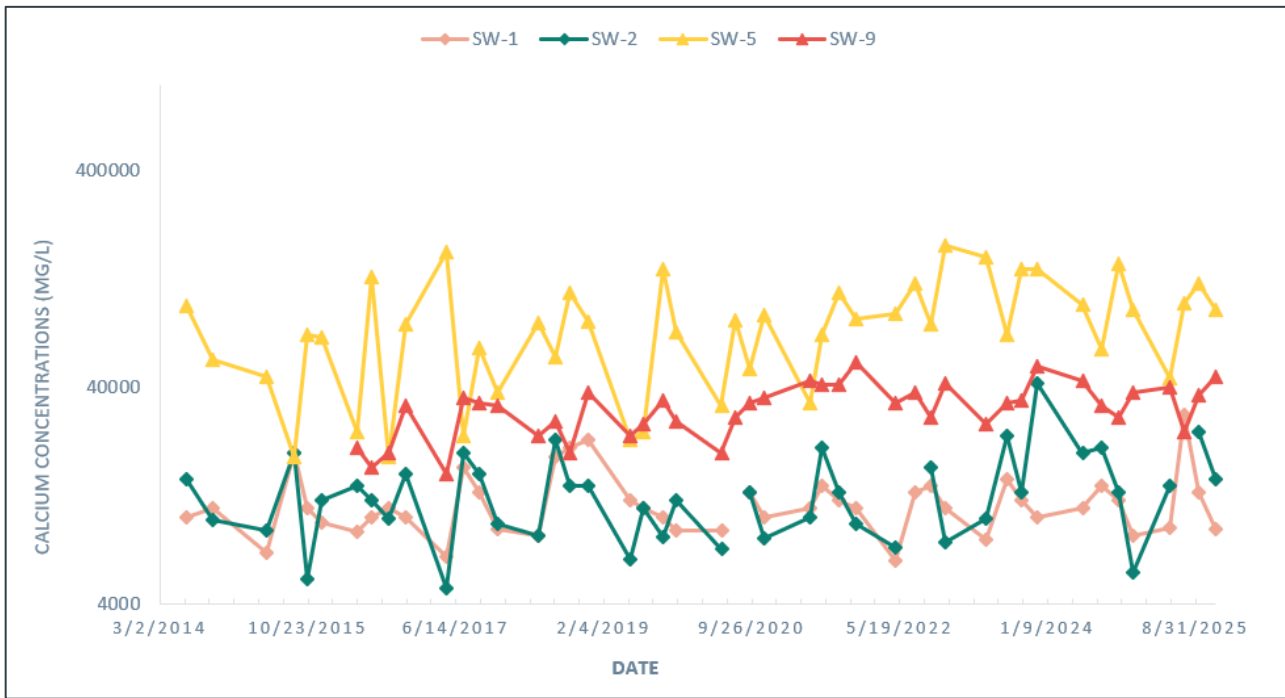


Figure 10: Iron Concentrations over Time at Selected Surface Water Sampling Stations

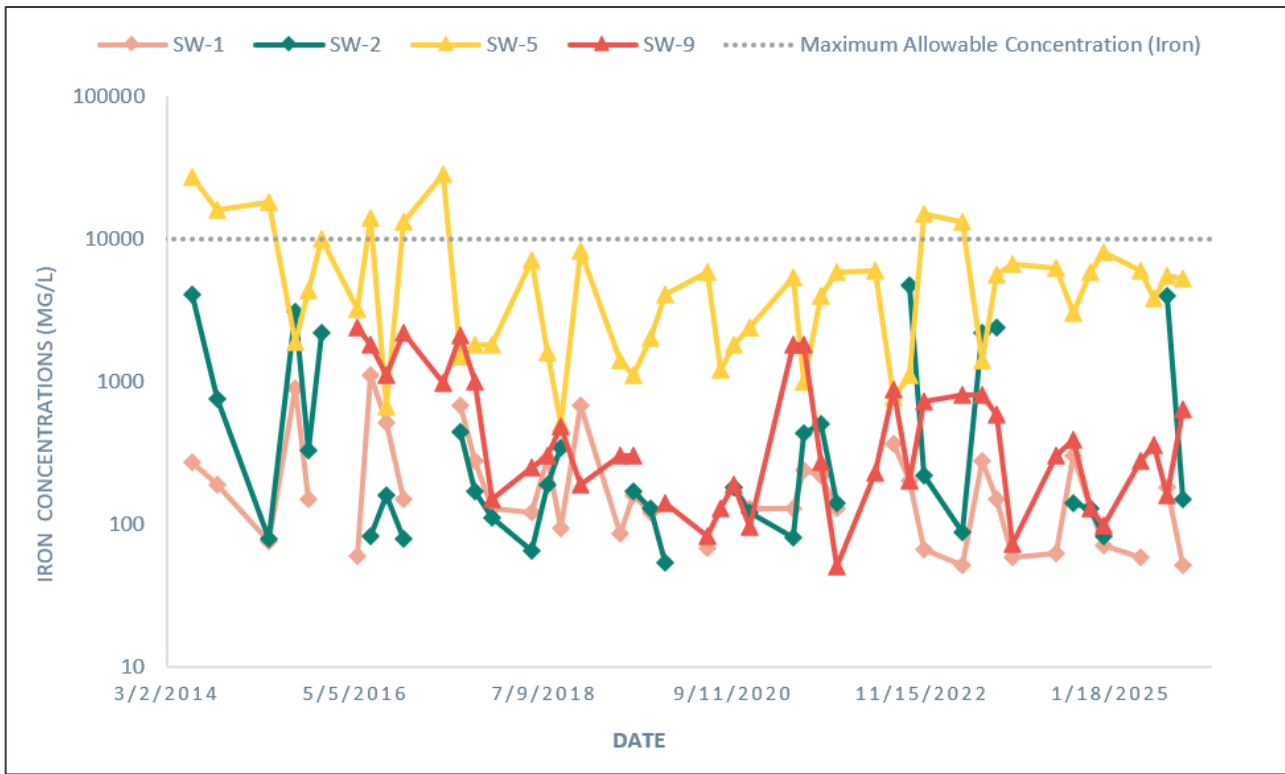
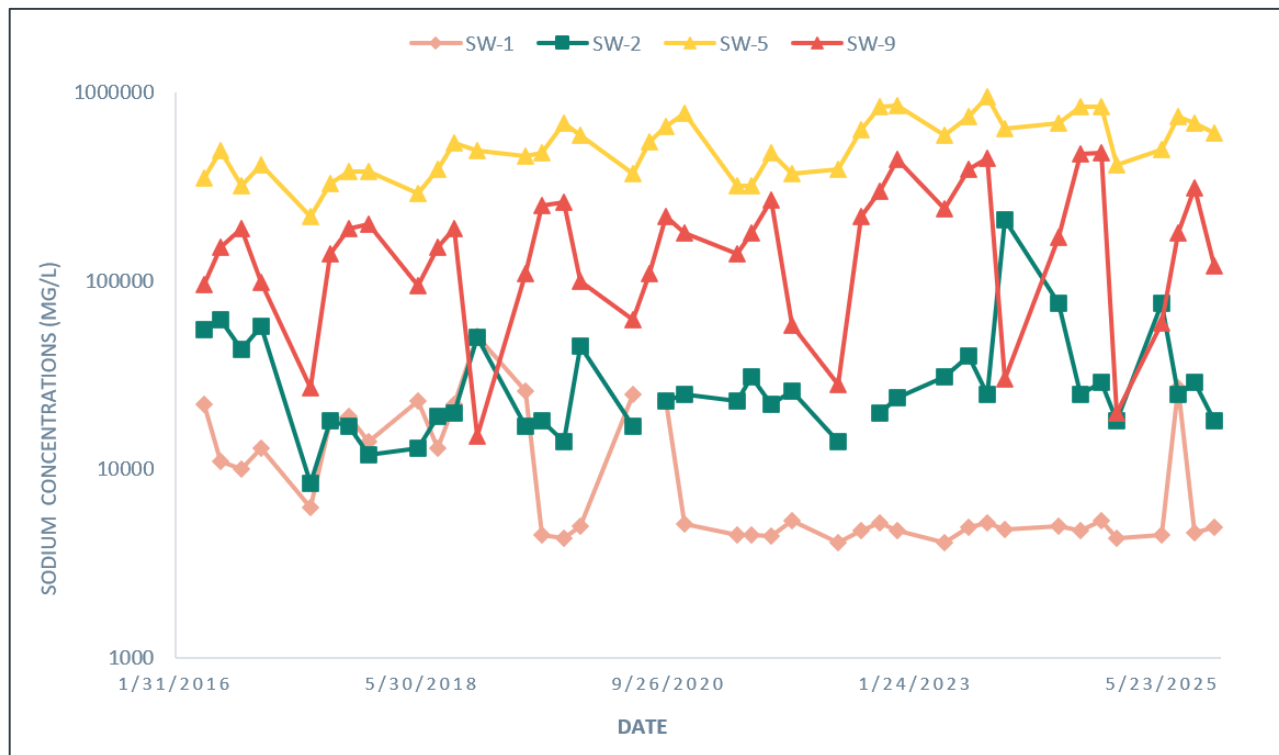


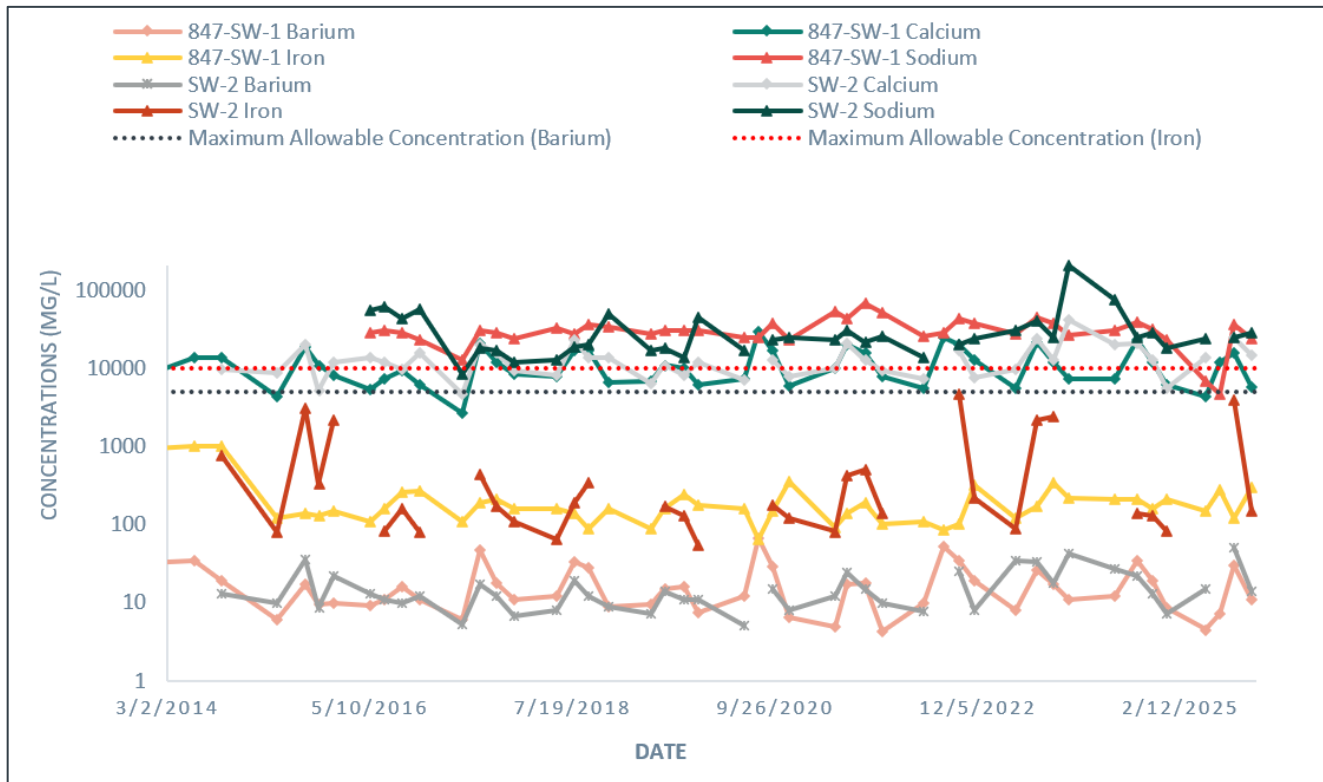
Figure 11: Sodium Concentrations over Time at Selected Surface Water Sampling Stations



It is evident that there are stable trends in concentrations of barium, boron, and sodium from the SW-5 and SW-9 sampling events. Iron concentrations over time have shown a slightly decreasing trend in concentrations. Calcium has shown a slight elevation in trend from SW-5 and SW-9 sampling events but appears to have stabilized in recent years. SW-1 and SW-2 have consistently similar trends in parameter concentrations, however sodium concentrations in SW-1 have decreased in recent sampling events since approximately 2020 with a new stabilized level appearing to form in recent years. If significant parameter loading were occurring, SW-2 sample concentrations would be expected to be consistently higher than comparable SW-1 sample concentrations. For example, as demonstrated through Figures 7-11, the SW-1 and SW-2 maintain an irregular pattern of high and low concentrations which often alternate between these two sampling locations.

For an alternate comparison, the concentrations in samples collected at the most upgradient surface water sampling site, 847-SW-1, were plotted against those at SW-2 in Figure 12. Note that boron has been consistently non-detect at the upgradient location (847-SW-1) and therefore was excluded from the plot for both sampling locations.

Figure 12: Parameter Concentrations over Time at Selected Surface Water Sampling Stations



For the final comparison, Figures 13 - 16 have been prepared for selected parameters to assess the water quality in the surface water sampling locations located upgradient of the landfill but with the potential to be impacted by operations related runoff (SW-3, SW-6, SW-7 and SW-8), when compared to the most upgradient surface water sampling site, 847-SW-1.

Figure 13: Barium Concentrations over Time at Surface Water Sampling Stations Upgradient of Landfill

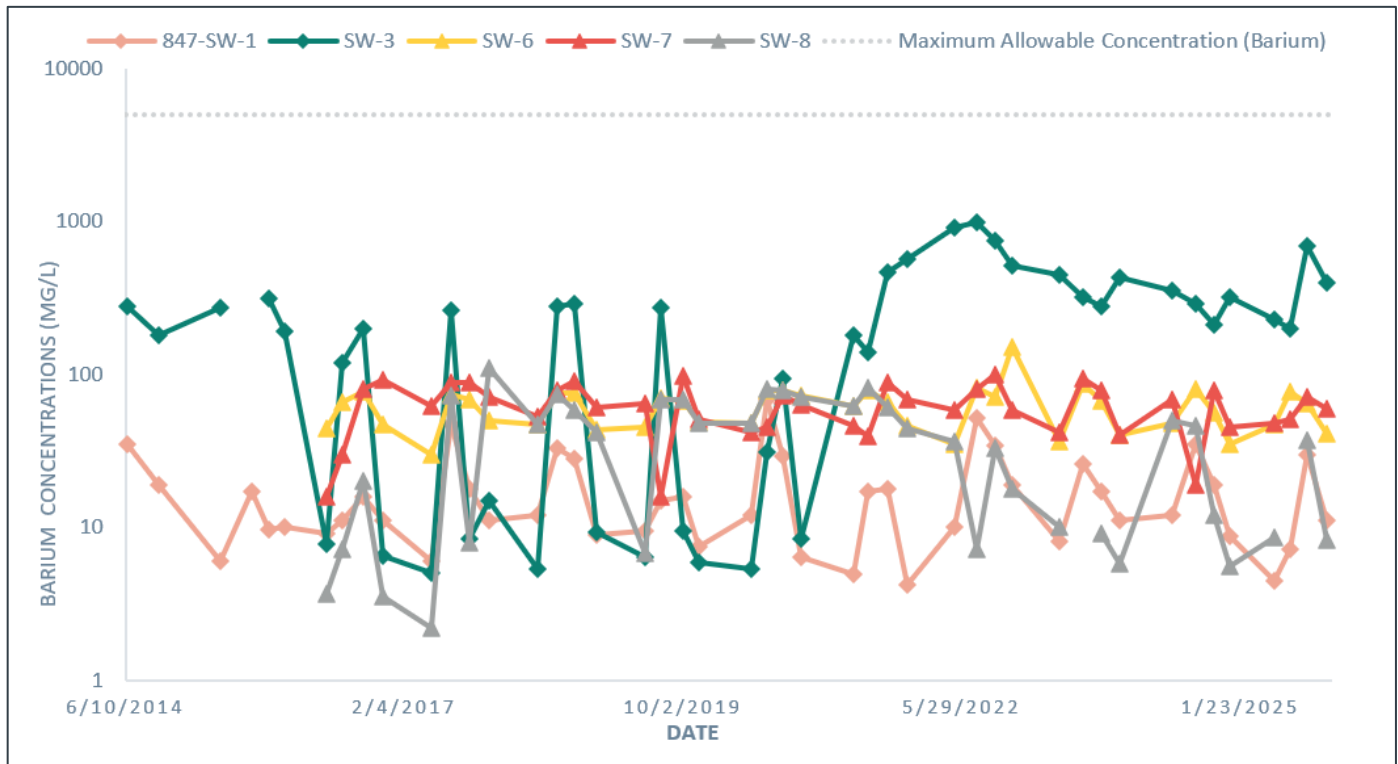


Figure 14: Calcium Concentrations over Time at Surface Water Sampling Stations Upgradient of Landfill

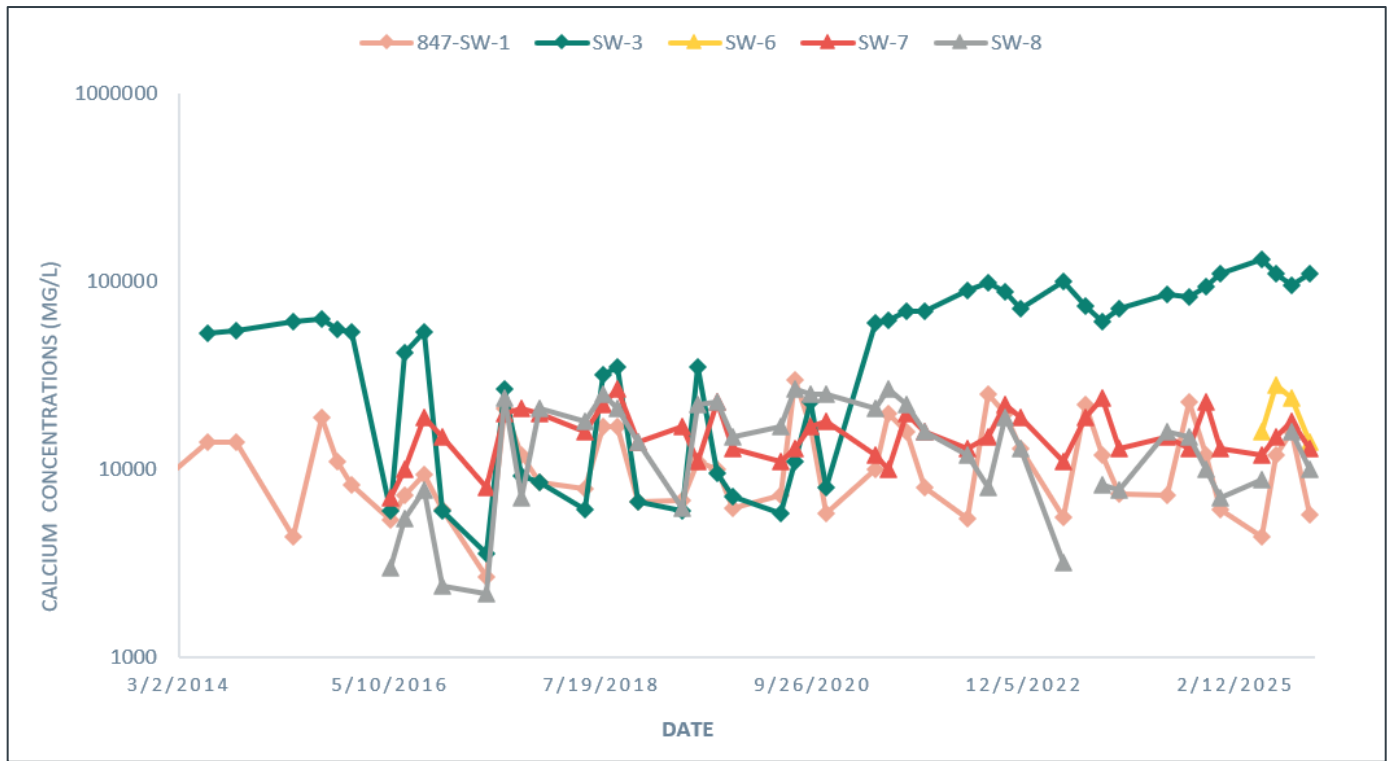


Figure 15: Iron Concentrations over Time at Surface Water Sampling Stations Upgradient of Landfill

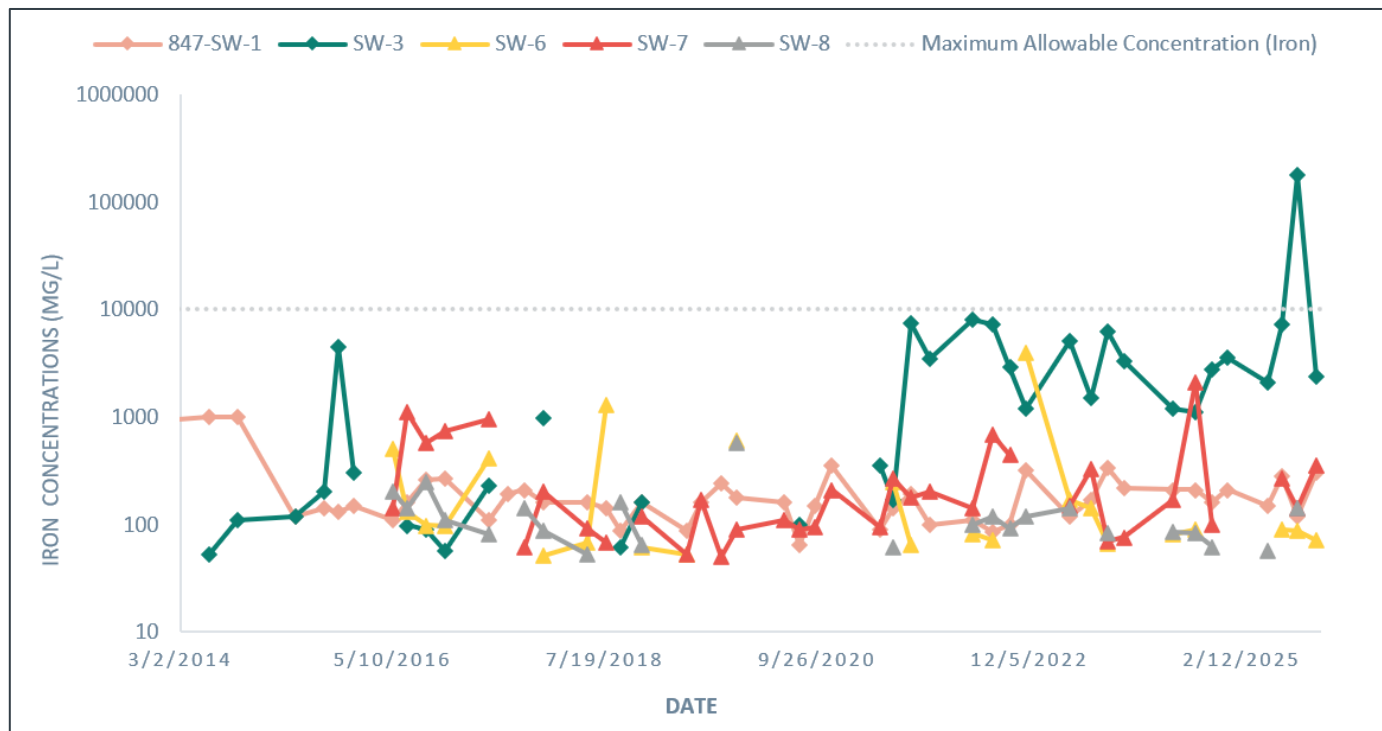
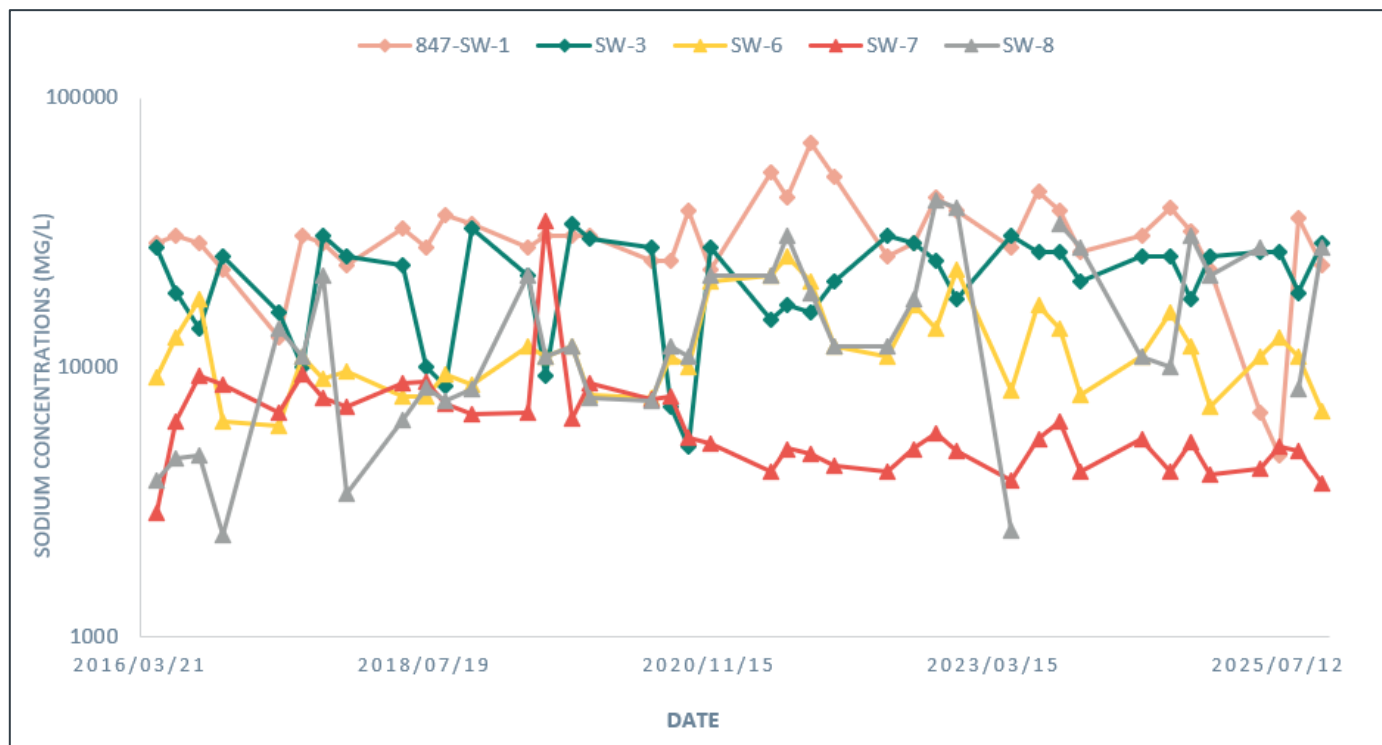


Figure 16: Sodium Concentrations over Time at Surface Water Sampling Stations Upgradient of Landfill



Upon reviewing the water quality reports, no consistent trends have been observed, from any of the sampling data, that would suggest significant impacts related to operations. This lack of trends, even when compared

with the most upgradient water quality, further supports the absence of operational impacts.

However, it's worth noting that there are some variations in background concentrations. Sodium and iron concentrations are generally lower in the downgradient ponds, while concentrations of barium and calcium are typically higher. A notable exception is SW-3, which has shown significant increases in iron, calcium, and barium concentrations since 2020.

TSS would also be a primary parameter of interest at SW-6, SW-7 and SW-8, as they are located within the sedimentation ponds. The TSS concentrations in water samples from all these locations, during each of the sampling events, were well below the applicable guideline of 30 mg/L, which further demonstrates that the water quality at these locations is not being measurably impacted by operations.

As reported in previous years, surface water samples collected from the most downgradient surface water sampling location, SW-4 did not have any parameters with concentrations which exceeded the applicable guideline in 2024. Since surface water is mixed between the Lilly Brook and Bottom Brook streams, and possibly receiving discharge from the site, it is difficult to determine how much of the water at SW-4 is being sourced directly from the site.

5 Conclusions and Recommendations

The results are summarized as follows:

- There were no reported exceedances of the NL Environmental Control Water and Sewage Regulations in monitoring wells MW-H to MW-L during the 2025 monitoring program.
- One (1) surface water sample of SW-3 reported a concentration of 180 000 ug/L (September) of Total Iron (Fe) which was in exceedance of the NL Environmental Control Water and Sewage Regulations guidelines of 10 000 ug/L.
- Current surface water results identified concentrations of Ammonia Nitrogen, total suspended solids (TSS), and nitrate exceeding the NL Environmental Control Water and Sewage Regulations for monitoring wells SW-3, SW-5, and SW-9.
- SW-3 had concentrations of Ammonia Nitrogen exceeding guidelines for all four sampling periods; 6.9 mg/L (May), 7.1 mg/L (July), 3.5 mg/L (September), and 2.6 mg/L (November). An exceedance of TSS was reported in September at 33 mg/L.
- SW-5 had concentrations of Nitrogen (Ammonia Nitrogen) exceeding guidelines for all four sampling periods; 290 mg/L (May), 91 mg/L (July), 220 mg/L (September), and 250 mg/L (November). Concentrations of Total Suspended Solids (TSS) exceeded guidelines in three (3) sampling periods; 90 mg/L (July), 35 mg/L (September), and 57 mg/L (November). Concentrations of Nitrate exceeded guidelines for three (3) sampling periods; 210 mg/L (July), 80 mg/L (September) and 48 mg/L (November).
- SW-9 had concentrations of Ammonia Nitrogen which exceeded guidelines during all four (4) of the sampling periods; 23 mg/L (May), 27 mg/L (July), 14 mg/L (September), and 5.1 mg/L (November). Concentrations of Nitrate exceeded guidelines for two (2) sampling events; 24 mg/L (September) and 16 mg/L (November).
- Discharge - SW-9 recorded two (2) exceedances of Nitrate during the 2025 sampling period; 57 mg/L (October) and 23 mg/L (November).
- The current concentrations of metals and chemical parameters in leachate samples have shown decreases when compared to historical data. This suggests that leachate quality is improving over time, likely due to landfill stabilization as waste ages, and consistent operation of sedimentation.
- Sampling of the influent, effluent, and lift station locations was not required for the 2025 monitoring program as per a letter received from PPD dated November 5, 2019. Previous results and sample locations discussed in this report have been retained in this to support trend evaluation and comparative analysis.

The current concentrations of metals and chemical parameters have shown decreases when compared to the historical data, therefore no immediate action is required at this time. However, based on the 2025 and historical results of the environmental monitoring program at the Norris Arm Waste Management Site, Englobe makes the following recommendations:

- The 2025 annual monitoring report should be submitted to the Newfoundland and Labrador Department of Environment, Conservation and Climate Change for review as per the CoA requirements;
- The groundwater, leachate and surface water monitoring program at the landfill should continue as per the requirements and parameters listed in Appendix C of CoA Section 124, c. (i - iv) WMS 17-12-001;
- Recording of sampling procedures and current site conditions at the time of sampling should be completed. This practice should also include photographic record of the sample location.
- Additional sampling events should be completed if there are any leachate chemistry exceedances of Schedule B guidelines that differs significantly from previous sampling events;
- A review of the groundwater and surface water sampling protocols should be undertaken for future sampling events, specifically related to the taking of duplicate samples. To ensure the reliability of the data, it is recommended an additional field duplicate sample be collected where results have historically been more variable and multiple parameters are known to exceed applicable guidelines (i.e., MW-J, SW-2, SW-3, SW-5, and SW-9);
- The background surface water and monitoring well sampling in 2026 should be continued for the sole purpose of comparing results to those required as part of the CoA. The more data available for review allows to state with confidence that peripheral surface water and groundwater are not being impacted by landfill operations;
- A semi-annual visual inspection (i.e., Spring and Fall) of the surface sample locations and associated drainage systems should be completed to note environmental/hydrological conditions at the time of sampling (i.e., water flow, stagnant water, water depth, discharge path, vegetation, siltation, debris, staining, sheens); and
- Although this report does not analyze waste composition, the persistently elevated concentrations of ammonia and nitrate at SW-5 (leachate treatment area) and SW-9 (final discharge) strongly indicate that the decomposition of organic material is a primary driver of leachate strength. The elevated nitrate concentrations observed in 2025 reflect subsequent nitrification processes. Therefore, reducing the volume of organic material entering the landfill would directly decrease the generation of ammonia, nitrate, and other leachate-related parameters at SW-5 and SW-9. Over time, organics diversion would improve leachate quality and support continued protection of surrounding groundwater and surface water resources.

6 References

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Hydrology Consultants Limited. 1980. "Hydrogeology of the Notre Dame Bay Area". Newfoundland and Labrador Department of Environment, Climate Change and Municipalities - Water Resources Division Groundwater Branch. Water Resources Report 2-2 Groundwater Series. St. John's, Newfoundland.

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Appendix A - Analytical Tables



eNGLOBE

Table 1-A: Current and Historical General Chemistry Analytical Results in Groundwater

		MW-H													
		2/21/2008	6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/18/2017
		Background	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Calculated Parameters	Units														
Anion Sum	me/L	0.48	3.05	0.73	0.19	0.68	0.73	0.66	0.22	0.26	2.43	1.87	1.14	2.46	2.12
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	18	100	19	6.3	22	19	19	6.1	6.5	71	65	41	100	84
Calculated TDS	mg/L	38	310	230	92	280	370	210	17	26	130	100	62	140	120
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND
Cation Sum	me/L	0.73	8.98	7.89	3.20	10.1	13.7	7.43	0.2	0.45	2.4	1.84	1.12	2.54	2
Hardness (CaCO ₃)	mg/L	18	250	130	43	160	230	130	4.8	12	93	74	42	110	88
Ion Balance (% Difference)	%	20.7	49	83	89	87.4	89.9	84	4.76	26.8	0.62	0.81	0.88	1.6	2.91
Langelier Index (@ 20C)	N/A	-2.21	0.165	-1.76	-2.87	-1.49	-1.11	-2.14	-3.76	-3.23	-0.447	-0.677	-1.19	0.105	-0.351
Langelier Index (@ 4C)	N/A	-2.46	(0.09)	(2.01)	(3.12)	-1.75	-1.37	(2.39)	-4.01	-3.48	-0.697	-0.928	-1.45	-0.145	-0.602
Nitrate (N)	mg/L	<0.05	0	0	ND	0.054	--	--	ND	ND	2.8	2.4	0.74	1.9	2.2
Saturation pH (@ 20C)	N/A	9.36	7.60	8.70	9.81	8.56	8.42	8.77	10.4	10	8.23	8.33	8.72	7.95	8.12
Saturation pH (@ 4C)	N/A	9.61	7.85	8.95	10.10	8.81	8.67	9.02	10.7	10.3	8.48	8.58	8.97	8.2	8.37
Inorganics	Units														
Total Alkalinity (Total as CaCO ₃)	mg/L	18	100.000	19.000	6.30	22	19	19.00	6.1	6.5	71	65	41	100 (3)	85
Dissolved Chloride (Cl)	mg/L	3	14.00	12.00	2.40	6.8	10	8.30	3.5	4.6	25	11	9.4	6.2	7.2
Colour	TCU	<5	ND	ND	ND	ND	ND	ND	ND	ND	28	35	42	10	14
Nitrate + Nitrite (N)	mg/L	<0.05	0.15	0.099	ND	0.054	0.13	ND	ND	ND	2.8	2.4	0.74	1.9	2.2
Nitrite (N)	mg/L	<0.01	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	<0.05	0.16	0.086	0.1	0.43	0.16	0.29	0.071	0.079	0.067	0.14	0.062	0.18	ND
Total Organic Carbon (C)	mg/L	<5	4.9	ND	5.2	ND	ND	ND	ND (1)	ND (1)	12 (1)	26 (1)	5.1	2.2	4.8
Orthophosphate (P)	mg/L	<0.01	ND	ND	ND	ND	0.014	0.011	ND	ND	0.012	ND	ND	ND	ND
pH	pH	7.15	7.76	6.94	6.94	7.07	7.3	6.63	6.69	6.8	7.78	7.65	7.52	8.05	7.77
Reactive Silica (SiO ₂)	mg/L	7	7.60	10.00	6.3	8.2	9.9	9.7	6	7.6	6.3	5.6	3.6	13	9.8
Dissolved Sulphate (SO ₄)	mg/L	2	28	ND	ND	2.5	2.3	2.8	ND	ND	4.5	3.7	ND	3	3.2
Turbidity	NTU	450	>1000	580	920	>1000	>1000	>1000	>1000	>1000	320	>1000	54	2.3	42
Conductivity	uS/cm	48	290.00	75.00	22	63	73	63	23	29	220	160	110	230	180
Biochemical Oxygen Demand	mg/L	<5	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--
Total Chemical Oxygen Demand	mg/L	22	50	ND	29	86	60	540	--	--	--	--	--	--	--
Total Dissolved Solids	mg/L	--	190	68	82	63	51	55	--	--	--	--	--	--	--
Dissolved Organic Carbon	mg/L	--	--	--	--	--	--	--	ND	ND	5.9	13	4.9	3.2	4.5
Phenols-4AAP	mg/L	<0.001	0.34	ND	ND	0.0021	ND	ND	ND (2)	0.013 (1)	0.0021 (2)	0.0016	ND	ND	0.001
Total Suspended Solids	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulphide	mg/L	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
Total Phosphorus	mg/L	<0.1	ND	ND	0.87	6.5	8.3	2.2	--	--	--	--	--	--	--
Total Kjeldahl Nitrogen	mg/L	--	3100	290	0.38	2.3	1.2	0.22	--	--	--	--	--	--	--

Table Notes¹ NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = not available

ND - not detected

Bold & Grey Shaded - exceeds applicable guideline

Grey Text - Historical Data

(1) Elevated reporting limit due to turbidity.

MW-H																		
11/28/2017	5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	7/21/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022	7/20/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
2.49	1.3	2.13	2.73	1.72	2.11	2.04	2.57	1.6	1.5	2.74	0.78	0.61	0.65	1.79	1.08	0.62	0.42	-
92	54	87	100	61	71	81	98	54	61	96	17	18	18	26	27	20	14	-
130	79	120	150	93	110	110	140	85	87	150	53	42	45	110	68	42	31	-
ND	ND	ND	1.2	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
2.33	1.42	2.15	2.73	1.74	1.99	1.99	2.59	1.46	1.47	2.65	0.77	0.64	0.65	1.75	0.97	0.58	0.42	-
100	60	95	120	71	82	86	110	58	63	100	23	19	19	43	29	17	13	-
3.32	4.41	0.47	0	0.58	2.93	1.24	0.39	4.58	1.01	1.67	0.65	2.4	0	1.13	5.37	3.33	0	-
-0.184	-0.676	-0.231	0.188	-0.861	-0.406	-0.162	0.165	-0.75	-0.515	-0.145	-2.37	-2.56	-2.52	-1.82	-2.03	-2.57	-2.86	-
-0.434	-0.927	-0.481	-0.063	-1.11	-0.658	-0.413	-0.086	-1	-0.766	-0.395	-2.62	-2.81	-2.77	-2.07	-2.28	-2.82	-3.11	-
3	1.3	1.8	4.3	1.1	2.5	2	2	0.71	1.1	ND	0.078	0.052	0.21	0.24	0.096	0.3	0.48	-
8.06	8.45	8.07	7.91	8.38	8.25	8.15	8	8.51	8.39	7.95	9.33	9.38	9.38	8.92	9.05	9.4	9.66	-
8.31	8.71	8.32	8.16	8.63	8.5	8.4	8.25	8.76	8.64	8.2	9.58	9.63	9.63	9.17	9.3	9.65	9.91	-
92	54	87	100	61	72	82	100 (1)	55	61	97	17	18	18	26	27	20	14	-
12	4.3	4.4	6	13	15	6.7	8.7	13	5	25	10	8.7	7.4	40	15	5.3	3.6	-
13	8.1	8.8	5.7	22	19	14	26	22	9	12	ND	ND	ND	7.3	ND	ND	ND	-
3	1.3	1.9	4.3	1.1	2.5	2	2.0 (1)	0.71	1.1	ND	0.078	0.063	0.21	0.24	0.11	0.3	0.48	-
ND	ND	0.041	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	0.013	ND	ND	-
0.18	ND	0.055	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14	ND	ND	ND	-
ND (1)	4.1	2.8	3.3	7.1 (1)	5.1	3.6	5.8	7.2 (1)	2.3	2.7	ND (1)	ND (1)	ND (1)	6.3 (1)	ND (1)	ND (1)	ND (1)	-
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	ND	ND	ND	ND	-
7.87	7.78	7.84	8.1	7.52	7.84	7.98	8.16	7.76	7.87	7.81	6.96	6.82	6.86	7.1	7.02	6.83	6.8	-
6.6	11	13	10	5.1	5.5	9.8	6.6	6.4	11	13	10	9.4	9.4	9.3	12	9.8	8.5	-
5.1	ND	6.3	7.7	2.6	4.4	3.4	9	3.8	3.2	5.3	7.3	ND	3.3	6.1	5.6	2.3	ND	-
64	12	38	3.7	18	10	94	13	31	18	93	>1000	470	600	410	280	190	510	-
220	130	210	270	160	190	170	250	140	140	270	85	63	66	190	100	59	45	-
--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
3.7	3	2.6	2.8	4.8	4.5	3.2	5.4	4.9	1.9	1.8	0.8	0.8	0.99	2.9	1.2	ND	1.30	-
ND	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
--	--	--	--	--	100	120	30	50	33	170	990	990	290	430	360	220	440	-
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
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[illegible]

Table 1-B: Current and Historical General Chemistry Analytical Results in Groundwater

		MW-1													
		6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/29/2017	11/28/2017
		Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Calculated Parameters	Units														
Anion Sum	me/L	1.82	2.16	1.78	2.41	2.69	2.22	1.74	2.21	2.53	2.49	1.52	2.48	2.75	2.45
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	35	52	39	71	67	53	42	68	72	72	47	73	79	56
Calculated TDS	mg/L	120	550	260	1100	730	520	98	130	140	140	83	130	150	140
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	me/L	2.01	22.6	8.98	48.3	30	21	1.7	2.77	2.54	2.42	1.38	2.42	2.62	2.53
Hardness (CaCO3)	mg/L	73	620	230	1300	790	550	51	84	83	75	45	78	90	84
Ion Balance (% Difference)	%	4.96	82.5	66.9	90.5	83.6	80.9	1.16	11.2	0.2	1.43	4.83	1.22	2.42	1.61
Langelier Index (@ 20C)	N/A	-1.6	-0.841	-1.01	-0.203	-0.59	-1.06	-1.28	-0.903	-0.952	-1.15	-1.41	-1.17	-1.17	-1.22
Langelier Index (@ 4C)	N/A	-1.85	-1.09	-1.26	-0.453	-0.84	-1.31	-1.53	-1.15	-1.2	-1.4	-1.66	-1.42	-1.42	-1.47
Nitrate (N)	mg/L	ND	0.098	0.26	0.15	--	--	0.15	ND	0.11	0.078	0.2	0.21	0.13	0.18
Saturation pH (@ 20C)	N/A	8.53	7.85	8.38	7.49	7.67	8.05	8.66	8.26	8.24	8.29	8.66	8.26	8.17	8.34
Saturation pH (@ 4C)	N/A	8.78	8.1	8.63	7.74	7.92	8.3	8.91	8.51	8.49	8.54	8.91	8.51	8.42	8.59
Inorganics	Units														
Total Alkalinity (Total as CaCO3)	mg/L	35	53	39	71	67	53	42	68	73	72	47	73	79	56
Dissolved Chloride (Cl)	mg/L	35	34	30	30	46	35	27	29	36	33	16	35	42	44
Colour	TCU	ND	9.4	9.7	8.8	10	8	17	23	16	11	13	16	11	7.7
Nitrate + Nitrite	mg/L	ND	0.098	0.26	0.15	0.063	0.2	0.15	ND	0.11	0.078	0.2	0.21	0.13	0.18
Nitrite (N)	mg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.1	0.18	0.24	0.83	0.29	0.085	0.091	0.051	0.093	0.12	0.1	0.093	0.12	0.41
Total Organic Carbon (C)	mg/L	29	19	15	ND	ND	ND	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	7.4 (1)
Orthophosphate (P)	mg/L	ND	ND	ND	ND	0.012	ND	ND	ND	0.012	ND	ND	ND	ND	ND
pH		6.93	7.01	7.37	7.29	7.08	6.99	7.38	7.36	7.29	7.14	7.25	7.09	6.99	7.12
Reactive Silica (SiO2)	mg/L	15	11	5.8	8.8	6.6	6.2	5.8	6	6.8	6.9	6.1	7.9	8.6	8.2
Dissolved Sulphate (SO4)	mg/L	6.7	7.6	6.2	6.5	2.7	8.2	6.2	2.4	2.5	6.1	4.7	ND	ND	4.1
Turbidity	NTU	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	770
Conductivity	uS/cm	210	210	190	220	280	230	180	210	250	240	140	240	250	250
Biochemical Oxygen Demand	mg/L	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
Total Chemical Oxygen Demand	mg/L	130	40	67	140	85	140	--	--	--	--	--	--	--	--
Total Dissolved Solids	mg/L	180	190	250	220	170	170	--	--	--	--	--	--	--	--
Dissolved Organic Carbon	mg/L	--	--	--	--	--	--	3.7	5.6	5.2	19	3.7	5.8	5.9	3.6
Phenols-4AAP	mg/L	8.8	3.3	0.0016	0.0051	0.0027	0.0016	ND (2)	0.0021 (2)	0.0016 (1)	0.0025	ND (2)	0.0020 (2)	ND (1)	ND (1)
Total Suspended Solids	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulphide	mg/L	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Total Phosphorus	mg/L	0.0025	ND	2.4	13	14	7	--	--	--	--	--	--	--	--
Total Kjeldahl Nitrogen	mg/L	33000	8200	2.4	16	5.2	2.8	--	--	--	--	--	--	--	--

Table Notes

¹ NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)² No sample available

-- = not available

ND - not detected

Bold & Grey Shaded - exceeds applicable guideline

Grey Text - Historical Data

(1) Elevated reporting limit due to turbidity.

MW-I																
5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022	7/20/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
1.98	2.82	2.99	2.2	2.61	3.32	3.82	3.14	2.33	3.63	3.43	3.31	4.24	4.51	3.22	2.68	-
51	84	74	48	60	89	85	66	65	110	78	81	110	110	79	77	-
110	150	160	120	140	180	210	170	130	200	190	180	230	250	180	160	-
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
2.14	2.8	2.77	2.23	2.46	3.38	3.73	2.96	2.33	3.79	3.51	3.4	4.28	4.74	3.31	2.75	-
64	91	89	70	72	110	110	92	73	130	110	96	120	140	100	65	-
3.88	0.36	3.82	0.68	2.96	0.9	1.19	2.95	0	2.16	1.15	1.34	0.47	2.49	1.38	1.29	-
-1.3	-0.808	-0.889	-1.34	-1.02	-0.55	-0.462	-0.795	-0.956	-0.241	-0.449	-0.751	-0.552	-0.472	-0.595	-0.718	-
-1.55	-1.06	-1.14	-1.59	-1.28	-0.801	-0.712	-1.05	-1.21	-0.491	-0.7	-1	-0.801	-0.721	-0.845	-0.969	-
0.11	0.087	0.4	0.24	0.14	0.077	0.085	0.19	0.13	0.11	0.18	0.15	0.39	0.1	0.14	2.8	-
8.48	8.13	8.2	8.48	8.36	8.05	8.06	8.26	8.34	7.9	8.11	8.15	7.95	7.89	8.15	8.5	-
8.74	8.38	8.45	8.73	8.61	8.3	8.31	8.52	8.59	8.15	8.36	8.4	8.2	8.14	8.4	8.75	-
51	85	74	49	60	89	86	66	66	110	79	82	110	110	79	77	-
30	40	49	38	44	54	72	58	33	52	61	55	70	80	53	29	-
11	16	12	10	11	15	13	7.2	14	14	11	12	13	17	9.6	25	-
0.11	0.087	0.4	0.24	0.14	0.077	0.085	0.19	0.13	0.11	0.19	0.15	0.39	0.1	0.14	2.8	-
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	ND	ND	ND	-
0.072	0.057	ND	0.16	ND	ND	ND	ND	0.091	ND	ND	0.075	0.067	ND	0.15	ND	-
15 (1)	8.3 (1)	11 (1)	8.8 (1)	6.3 (1)	ND (1)	5.9 (2)	7.9 (1)	5.5 (1)	6.9 (1)	ND (1)	5.3 (1)	7.2	7.3 (1)	7.0 (1)	11.0	-
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
7.19	7.32	7.31	7.15	7.34	7.5	7.6	7.47	7.38	7.66	7.66	7.4	7.4	7.41	7.55	7.78	-
6.3	7.7	8.4	5.3	5.2	6	7.8	6.5	6.7	8.5	7	6.9	7.3	9.5	6.9	4	-
5	ND	5	7	7.4	ND	3.4	8.1	4.4	ND	6.5	4.9	6.3	4.9	6.7	5.9	-
>1000	130	560	>1000	630	250	320	550	200	250	180	190	760	240	160	180	-
210	290	300	240	250	310	390	310	230	380	350	340	430	480	330	280	-
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--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
4.9	6.4	6.6	4.2	4.3	5.2	5.1	4.2	4.4	5.7	5.7	4.5	6.2	6.4	4.2	4.6	-
ND (2)	ND (2)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
--	--	--	--	650	200	320	560	220	270	270	190	540	180	210	440	-
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.069	ND	ND	ND	-
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[illegible]

Table 1-C: Current and Historical General Chemistry Analytical Results in Groundwater

		MW-J												
		6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/29/2017
		Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Calculated Parameters	Units													
Anion Sum	me/L	5.05	4.38	2.35	2.85	2.66	3.97	3.52	3.5	4.41	5.57	2.31	4.37	4.64
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	130	99	45	48	45	34	48	64	90	130	82	100	110
Calculated TDS	mg/L	610	480	380	600	440	1600	220	250	250	320	130	250	260
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	me/L	21	15.1	13.1	22.9	15.7	66.2	3.3	5.07	4.16	5.51	2.21	4.45	4.63
Hardness (CaCO3)	mg/L	560	340	280	580	440	1600	52	86	64	91	36	84	92
Ion Balance (% Difference)	%	61.2	54.9	69.5	77.9	71.1	88.7	3.23	18.3	2.92	0.54	2.21	0.91	0.11
Langelier Index (@ 20C)	N/A	-0.49	-0.712	-1.03	-0.865	-0.971	-0.85	-1.46	-1.22	-1.14	-0.901	-1.18	-0.696	-0.992
Langelier Index (@ 4C)	N/A	-0.739	-0.962	-1.28	-1.11	-1.22	-1.09	-1.71	-1.47	-1.39	-1.15	-1.43	-0.945	-1.24
Nitrate (N)	mg/L	ND	0.14	3.1	2.4	--	--	9.9	3.5	0.12	2.9	2.8	2.9	0.4
Saturation pH (@ 20C)	N/A	7.25	7.67	8.13	7.7	7.76	7.66	8.71	8.35	8.35	8.13	8.69	8.28	8.19
Saturation pH (@ 4C)	N/A	7.5	7.92	8.38	7.95	8.01	7.9	8.96	8.6	8.6	8.37	8.94	8.53	8.44
Inorganics	Units													
Total Alkalinity (Total as CaCO3)	mg/L	130	99	46	48	45	34	48	64	90	130	83	100 (3)	110 (3)
Dissolved Chloride (Cl)	mg/L	89	76	36	55	55	89	60	64	88	89	16	70	78
Colour	TCU	15	28	21	31	25	11	24	54	40	36	35	46	35
Nitrate + Nitrite	mg/L	ND	0.22	3.1	2.4	1	6.8	9.9	3.5	0.12	2.9	2.9	3	0.45
Nitrite (N)	mg/L	ND	0.079	0.014	ND	--	--	0.012	0.01	ND	0.013	0.082	0.067	0.044
Nitrogen (Ammonia Nitrogen)	mg/L	8.2	6.3	1.5	3.3	0.6	0.36	0.67	0.26	0.11	2.3	4.3	3.5	1.5
Total Organic Carbon (C)	mg/L	47	21	32	ND	91	ND	ND (1)	42 (1)	ND (1)	ND (1)	7.8 (1)	17 (1)	15 (3)
Orthophosphate (P)	mg/L	ND	ND	ND	ND	0.01	ND	ND	ND	0.01	ND	ND	ND	ND
pH	pH	6.76	6.96	7.1	6.83	6.79	6.81	7.25	7.13	7.21	7.22	7.52	7.58	7.2
Reactive Silica (SiO2)	mg/L	4.4	5.3	5.9	4.8	4.4	3.9	3.5	4.2	4.1	3.5	2.8	3.4	3.7
Dissolved Sulphate (SO4)	mg/L	ND	12	9.9	8.5	6.6	14	7.6	7.3	6.2	8.4	ND	6.3	6.1
Turbidity	NTU	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	440	400	130
Conductivity	uS/cm	540	450	250	300	290	440	370	370	430	550	220	450	470
Biochemical Oxygen Demand	mg/L	17	2.1	ND	5.9	29	ND	--	--	--	--	--	--	--
Total Chemical Oxygen Demand	mg/L	240	130	140	210	160	350	--	--	--	--	--	--	--
Total Dissolved Solids	mg/L	300	270	220	220	190	240	--	--	--	--	--	--	--
Dissolved Organic Carbon (C)	mg/L	--	--	--	--	--	--	7.9	13 (3)	12	33 (3)	7.7	13 (3)	14 (3)
Phenols-4AAP	mg/L	16	6.5	0.0034	0.003	0.0055	0.0045	0.0025 (1)	0.0023 (2)	0.0029 (2)	0.003	ND	0.0016	0.0015
Total Suspended Solids		--	--	--	--	--	--	--	--	--	--	--	--	--
Sulphide	mg/L	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
Total Phosphorus	mg/L	0.079	0.0047	2.1	10	30	49	--	--	--	--	--	--	--
Total Kjeldahl Nitrogen	mg/L	5600	310	4.6	6.3	6.9	4.6	--	--	--	--	--	--	--

Table Notes

1 NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = not available

ND - not detected

Bold & Grey Shaded - exceeds applicable guideline

Grey Text - Historical Data

(1) Elevated reporting limit due to turbidity.

(2) The sample was decanted due to sediment.

MW-J																
11/28/2017	5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
3.8	3.88	4.25	3.2	4.69	5.02	5.23	5.44	6.85	5.68	5.38	5.47	7.77	7.88	5.92	4.83	2.68
83	73	100	95	98	94	110	120	88	89	110	97	180	140	130	100	77
210	240	240	170	280	310	300	310	400	370	310	330	480	500	360	280	160
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3.82	4.2	4.37	2.97	4.73	5.12	5.22	5.47	6.32	5.7	5.44	5.8	8.35	8.39	6.26	4.97	2.75
75	89	76	73	84	95	84	90	120	92	100	100	120	140	120	88	65
0.26	3.96	1.39	3.73	0.42	0.99	0.1	0.27	4.02	0.18	0.55	2.93	3.6	3.13	2.79	1.43	1.29
-1.05	-0.945	-0.759	-0.591	-0.911	-0.808	-0.624	-0.764	-0.977	-0.849	-0.724	-0.683	-0.399	-0.685	-0.778	-0.602	-0.718
-1.3	-1.19	-1.01	-0.841	-1.16	-1.06	-0.874	-1.01	-1.23	-1.1	-0.973	-0.932	-0.647	-0.933	-1.03	-0.851	-0.969
1.4	12	0.97	0.074	8.3	14	2.6	2.2	14	24	2.9	5.5	19	24	9	3.7	2.8
8.4	8.41	8.29	8.24	8.32	8.27	8.24	8.17	8.24	8.34	8.15	8.22	7.97	7.99	8.05	8.27	8.5
8.65	8.65	8.54	8.49	8.56	8.52	8.49	8.42	8.49	8.59	8.4	8.47	8.21	8.24	8.3	8.52	8.75
83	73	100	95	98	94 (2)	110	120	88	89	110	98	180	140	130	100	77
70	53	68	38	65	69	93	88	130	73	92	100	96	110	83	81	29
25	19	46	25	26	29	48	41	19	32	39	31	50	49	54	44	25
1.4	12	0.97	0.074	8.3	14	2.6	2.2	14	24	2.9	5.5	19	24	9.1	3.7	2.8
0.021	ND	ND	ND	ND	ND	ND	ND	ND	0.018	0.02	0.012	0.1	0.43	0.056	ND	ND
0.49	0.098	0.086	ND	0.057	0.96	0.4	ND	0.055	5.3	0.1	ND	15	4.8	0.22	ND	ND
9.4 (1)	15 (1)	19 (1)	12 (1)	12 (1)	18 (1)	17	16	15 (1)	13	16 (1)	13 (1)	20 (1)	25 (1)	20	16	11
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND
7.34	7.46	7.53	7.65	7.4	7.46	7.62	7.41	7.27	7.49	7.43	7.54	7.57	7.3	7.27	7.67	7.78
3.5	3.4	4.1	5.4	3.2	3.5	3.4	3.7	3.7	3.8	4.3	4	3.7	4.3	5	4.2	4
3.6	5.1	9.9	10	15	9.7	10	18	17	7.1	14	9.5	7.3	12	14	11	5.9
46	390	7.1	480	100	620	150	130	280	130	200	63	94	480	120	54	180
380	410	470	320	500	540	530	560	710	640	590	620	890	870	640	520	280
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9	8.7	14	9.3	11	12	16	14	11	11	15	15	19	19	18	13	7.6
ND	ND (2)	ND (2)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
--	--	--	--	--	650	160	170	270	270	270	270	210	240	140	260	300
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.064	ND	ND	ND
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MW-J															Provincial1 Environmental Sewage Control Regulations, 2003 Schedule A
7/20/2022	9/22/2022	11/23/2022	5/4/2023	7/26/2023	9/27/2023	11/28/2023	5/29/2024	8/12/2024	10/24/2024	12/18/2024	5/20/2025	7/15/2025	9/10/2025	11/19/2025	
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Current	Current	Current	Current	
3.99	5.78	4	8.6	8.19	5.89	13.3	10.1	11.4	6.34	4.17	3.10	3.77	4.18	5.61	--
92	130	88	180	130	150	160	120	150	120	100	89	120	130	99	--
230	350	230	520	500	350	920	680	710	390	260	180	230	250	330	--
ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	--
4.32	6.32	4.14	7.94	8.5	6.66	15.6	10.9	11.6	7.31	4.73	3.52	4.61	4.89	5.78	--
110	140	88	110	130	110	270	160	170	98	96	76	81	100	110	--
3.97	4.46	1.72	3.99	1.86	6.14	7.98	3.87	0.91	7.11	6.29	6.34	10.0	7.83	1.49	--
-0.083	-0.012	-0.515	-0.381	-0.443	-0.269	-0.219	-0.134	-0.095	-0.485	-0.444	-0.320	-0.404	-0.119	-0.294	--
-0.333	-0.26	-0.765	-0.629	-0.691	-0.518	-0.465	-0.381	-0.342	-0.734	-0.694	-0.570	-0.653	-0.369	-0.543	--
2.4	6.5	1.2	27	13	0.77	60	45	28	3.7	5.4	1.6	0.63	0.16	7.6	10
8.06	7.98	8.31	7.97	8.02	8.01	7.75	8.06	7.9	8.19	8.26	8.38	8.22	8.11	8.16	--
8.31	8.23	8.56	8.22	8.27	8.25	8	8.31	8.14	8.44	8.51	8.63	8.47	8.36	8.41	--
93	130	89	180	130	160	160	120	150	120	100	90	120	130	100	--
66	85	67	100	150	92	200	150	220	120	53	37	46	52	100	--
32	38	32	45	73	67	47	70	69	64	46 (2)	41	91	56	39	--
2.4	6.5	1.2	27	13	0.77	60	45	28	3.7	5.4	1.6	0.64	0.16	7.6	--
ND	0.011	ND	0.028	0.21	ND	0.055	0.15	0.2	ND	ND	ND	0.014	ND	ND	--
ND	0.077	ND	12	0.98	0.15	0.12	11	1.2	0.13	0.056	ND	0.13	0.090	0.071	2
11	11 (1)	12	21 (2)	19 (2)	20	20 (1)	25 (1)	31 (1)	19 (1)	13	11	25	19 (1)	16 (1)	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
7.98	7.97	7.79	7.59	7.58	7.74	7.53	7.93	7.8	7.7	7.81	8.06	7.81	7.99	7.87	5.5 - 9.0
5.2	4.4	3.6	2.8	3.7	4	4.2	3.7	4.5	4.6	4.2	3.7	3.9	4.1	4.2	--
3.9	14	11	9.7	12	6.3	12	8.4	13	7.3	9.8	6.9	3.6	7.3	8.2	--
210	160	11	170	180	76	48	32	240	80	62	37	420	24	42	--
430	670	450	920	960	690	1600	1200	1300	740	460	360	430	490	660	--
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000
9.2	13	12	19	21	19	20 (1)	23	25	20 (1)	11	10	22	16	14	--
ND	ND	ND	ND	0.0018	ND	ND	ND	0.0013	ND	ND	ND	ND	ND	ND	0.1
610	170	120	110	190	85	39	17	240	54	45	4.8	92	26	22	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table 1-D: Current and Historical General Chemistry Analytical Results in Groundwater

		MW-K													
		6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/29/2017	11/28/2017
		Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Calculated Parameters	Units														
Anion Sum	me/L	1.87	2.13	2.19	2.2	2.19	2.26	2.16	2.16	2.13	2.09	2.1	2.09	2.19	2.24
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	82	93	98	98	98	100	97	96	96	92	95	93	100	100
Calculated TDS	mg/L	120	540	180	1700	1100	1800	120	130	120	120	120	120	130	130
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	1.6	1.2	ND	ND	ND	ND	ND	1	ND	1.2	ND	1.6	ND	ND
Cation Sum	me/L	2.14	22	4.59	79.2	50.6	83.1	1.98	2.38	2.11	2.14	2.01	2.07	2.21	2.23
Hardness (CaCO ₃)	mg/L	85	650	140	2300	1500	2300	78	91	83	83	81	82	88	87
Ion Balance (% Difference)	%	6.73	82.3	35.4	94.6	91.7	94.7	4.35	4.85	0.47	1.18	2.19	0.48	0.45	0.22
Langelier Index (@ 20C)	N/A	0.236	0.764	0.057	1.25	0.815	0.846	-0.048	0.077	-0.074	-0.091	-0.132	0.224	-0.074	-0.049
Langelier Index (@ 4C)	N/A	-0.0150	0.514	-0.194	1	0.565	0.602	-0.299	-0.174	-0.325	-0.16	-0.383	-0.027	-0.325	-0.3
Nitrate (N)	mg/L	0.14	0.072	0.081	0.072	--	--	0.073	0.11	0.095	0.11	0.11	0.16	0.14	0.11
Saturation pH (@ 20C)	N/A	8.07	7.36	7.93	6.77	6.99	7.08	8.05	7.98	8.03	8.05	8.04	8.04	7.97	7.97
Saturation pH (@ 4C)	N/A	8.32	7.61	8.18	7.02	7.24	7.33	8.3	8.23	8.28	8.3	8.29	8.3	8.22	8.22
Inorganics	Units														
Total Alkalinity (Total as CaCO ₃)	mg/L	97	94	99	99	99	100	98	98	97	93	95 (3)	95 (3)	100 (3)	100 (3)
Dissolved Chloride (Cl)	mg/L	3.7	4.2	4.3	4.4	4.2	4.3	4.1	4.5	3.5	4.9	3.9	4.4	3.7	4
Colour	TCU	ND	ND	5.1	7.4	ND	ND	5.2	ND	ND	5.4	ND	ND	ND	ND
Nitrate + Nitrite	mg/L	0.075	0.072	0.081	0.072	0.15	0.056	0.073	0.11	0.095	0.11	0.11	0.16	0.14	0.11
Nitrite (N)	mg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.1	0.1	ND	0.68	0.16	0.16	ND	ND	0.069	0.14	0.073	0.15	ND	0.44
Total Organic Carbon (C)	mg/L	19	11	ND	ND	ND	ND	ND (1)	5.1 (1)	ND (1)	ND (1)	ND (2)	ND (1)	1.5	1.1
Orthophosphate (P)	mg/L	ND	ND	0.01	ND	0.017	0.015	ND	0.013	0.02	0.018	0.011	ND	ND	0.011
pH	pH	7.97	8.12	7.98	8.02	7.8	7.93	8	8.06	7.95	8.14	7.91	8.27	7.9	7.92
Reactive Silica (SiO ₂)	mg/L	13	15	16	16	15	15	15	17	18	18	16	18	20	18
Dissolved Sulphate (SO ₄)	mg/L	3.5	5.8	4	4.6	4.1	5.1	3.5	3.8	3.8	4	3.7	3	3.1	3.1
Turbidity	NTU	>1000	>1000	>1000	>1000	>1000	>1000	400	560	550	>1000	290	560	160	15
Conductivity	uS/cm	200	200	190	200	210	210	200	180	180	180	180	190	200	200
Biochemical Oxygen Demand	mg/L	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
Total Chemical Oxygen Demand	mg/L	140	98	ND	290	180	300	--	--	--	--	--	--	--	--
Total Dissolved Solids	mg/L	130	150	140	140	140	130	--	--	--	--	--	--	--	--
Dissolved Organic Carbon (C)	mg/L	--	--	--	--	--	--	0.78	0.74	0.82	5.6	0.88	0.9	1.2	0.76
Phenols-4AAP	mg/L	0.72	4.6	0.005	ND	0.0012	ND	ND	ND (2)	ND (2)	ND	ND	ND (2)	ND	ND
Total Suspended Solids	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulphide	mg/L	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Total Phosphorus	mg/L	ND	ND	0.41	12	10	15	--	--	--	--	--	--	--	--
Total Kjeldahl Nitrogen	mg/L	16000	5200	0.25	4.9	2.9	4.1	--	--	--	--	--	--	--	--

Table Notes

¹NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = not available

ND - not detected

Bold & Grey Shaded - exceeds applicable guideline

Grey Text - Historical Data

(1) Elevated reporting limit due to turbidity.

(2) The sample was decanted due to sediment.

MW-K																	
5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	7/21/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022	7/20/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
1.97	2.06	2.21	2.15	2.26	2.23	2.17	2.16	2.12	2.17	2.2	2.08	2.07	2.13	2.14	2.17	2.05	2.04
89	92	100	97	100	98	97	96	95	97	98	94	94	93	95	98	90	91
120	120	130	130	130	130	130	120	120	120	130	120	120	130	130	130	120	120
ND	ND	1.1	ND	1.4	ND	ND	ND	1.1	ND	1.2	ND	ND	ND	ND	1	ND	ND
2.15	2.06	2.08	2.2	2.14	2.13	2.14	2.07	2.04	1.98	2.14	2.13	2.21	2.07	2.12	2.2	1.97	2.16
86	82	83	88	87	86	86	82	82	80	86	85	88	81	84	86	79	85
4.37	0	3.03	1.15	2.73	2.29	0.7	2.13	1.92	4.58	1.38	1.19	3.27	1.43	0.47	0.69	1.99	2.86
-0.108	-0.057	0.054	-0.124	0.219	-0.038	-0.012	0.004	0.064	-0.191	0.117	-0.035	0.008	-0.01	-0.21	0.054	-0.002	0.003
-0.359	-0.308	-0.197	-0.374	-0.032	-0.289	-0.263	-0.246	-0.187	-0.442	-0.134	-0.286	-0.243	-0.262	-0.46	-0.197	-0.253	-0.248
0.091	0.14	0.1	0.057	0.076	0.072	0.11	0.1	0.092	0.13	0.13	0.091	0.089	0.19	0.12	0.075	0.11	0.12
8.04	8.04	7.99	7.99	7.96	8	8	8.03	8.03	8.02	8	8.02	8	8.04	8.01	8	8.07	8.04
8.29	8.29	8.25	8.24	8.21	8.25	8.25	8.28	8.28	8.27	8.25	8.27	8.26	8.29	8.26	8.25	8.32	8.29
90	93	100	97	100	99	98 (1)	97 (2)	96	98	99	95	95	94	96	99	91	92
3.5	3	4	3.9	4.6	4.6	3.1	4.3	4.3	4.5	3.8	3.7	3.6	3.9	3.8	3.8	4.4	4.5
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
0.091	0.14	0.1	0.057	0.076	0.072	0.11	0.1	0.092	0.13	0.13	0.091	0.089	0.19	0.12	0.075	0.11	0.12
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	0.064	0.071	ND	0.063	ND	ND	ND	ND	ND	ND	ND
ND (1)	0.9	ND (1)	ND (1)	2	1	1.5	ND	1.3	1.6	ND	ND	ND (1)	1.4	0.84	1.5	1.3	35
ND	0.011	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND	0.011	ND	ND	ND
7.93	7.98	8.05	7.86	8.18	7.96	7.98	8.03	8.1	7.83	8.11	7.99	8.01	8.03	7.8	8.05	8.06	8.04
16	18	20	18	17	17	19 (1)	18	17	18	19	17	17	18	18	18	17	17
2.9	4.6	3.3	4.3	3.5	5.2	5.4	4.2	3.6	3.8	4.5	2.9	2.8	6.2	5.1	3.7	4.4	3.3
160	84	290	100	220	120	120	140	89	71	99	79	160	55	57	120	120	87
190	200	200	200	190	190	190	190	190	190	200	190	190	180	190	200	190	190

MW-K														Provincial ¹ Environmental Sewage Control Regulations, 2003 Schedule A
9/22/2022	11/23/2022	5/4/2023	7/26/2023	9/27/2023	11/28/2023	5/29/2024	8/12/2024	10/24/2024	12/18/2024	5/20/2025	7/15/2025	9/10/2025	11/19/2025	
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Current	Current	Current	Current	
2.21	1.68	1.96	2.35	1.96	1.99	1.86	1.87	1.91	1.81	1.82	1.85	1.87	1.90	--
100	65	87	99	88	89	80	82	85	81	81	81	82	86	--
130	110	120	130	120	120	110	120	120	120	110	120	120	120	--
1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	--
2.19	1.79	2.04	1.99	2.21	2.34	1.96	2.04	2.23	2.29	2.09	2.12	2.14	2.03	--
86	72	82	78	87	92	77	79	87	91	83	83	85	80	--
0.45	3.17	2	8.29	6	8.08	2.62	4.35	7.73	11.7	6.91	6.80	6.73	3.31	--
0.234	-0.585	-0.22	-0.057	-0.024	0.001	-0.071	-0.043	-0.111	-0.016	-0.0820	-0.0640	0.236	-0.132	--
-0.017	-0.836	-0.471	-0.308	-0.275	-0.249	-0.322	-0.293	-0.362	-0.267	-0.333	-0.315	-0.0150	-0.383	--
ND	0.073	ND	0.14	0.12	0.14	0.2	0.35	0.085	0.076	0.15	0.18	0.14	ND	10
7.98	8.24	8.06	8.03	8.03	8.01	8.13	8.1	8.04	8.05	8.08	8.10	8.07	8.07	--
8.23	8.49	8.31	8.28	8.28	8.26	8.38	8.35	8.3	8.3	8.33	8.35	8.32	8.32	--
100	66	88	100	89	90	81	82	86	81	82	82	84	87	--
3.4	4.2	4.3	8.9	3.8	3.5	5.1	4.7	4.3	3	3.9	4.6	4.0	3.1	--
6.9	16	ND	ND	ND	ND	ND	6.3	5.1	21	ND	ND	ND	ND	--
ND	0.073	0.051	0.15	0.12	0.15	0.2	0.35	0.085	0.076	0.15	0.18	0.14	ND	--
ND	ND	0.019	0.017	ND	0.011	ND	ND	ND	ND	ND	ND	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2
ND (1)	5.4	ND (2)	ND (1)	ND (1)	ND (1)	1.7	1.9	1.1	0.83	ND (2)	2.4	1.2	0.98	--
ND	ND	0.011	ND	ND	0.01	ND	ND	0.01	ND	ND	ND	ND	ND	--
8.22	7.66	7.84	7.97	8.01	8.01	8.06	8.06	7.93	8.04	8.00	8.03	8.31	7.94	5.5 - 9.0
19	16	16	18	19	17	17	18	18	18	15	17	18	18	--
3.5	12	3.7	4	3.1	3.5	3.9	3.1	3.3	4.2	3.3	3.2	3.3	3.3	--
200	30	99 (2)	88	130	110	25	38	68	44	95	310	30	21	--
200	170	190	190	200	210	210	200	190	200	200	190	200	200	--
--	--	-	-	-	-	-	-	-	-	-	-	-	-	--
--	--	-	-	-	-	-	-	-	-	-	-	-	-	--
--	--	-	-	-	-	-	-	-	-	-	-	-	-	1000
0.8	3.3	1	1.2	0.93	1	1.3	0.81	0.96	0.99	0.81	1.1	1.1	1.2	--
ND	ND	ND	0.002	ND	ND	ND	0.0012	ND	ND	ND	ND	ND	ND	0.1
280	93	59	69	140	86	9.6	50	42	31	66	230	71	92	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5
--	--	-	-	-	-	-	-	-	-	-	-	-	-	--
--	--	-	-	-	-	-	-	-	-	-	-	-	-	--

Table 1-E: Current and Historical General Chemistry Analytical Results in Groundwater

		MW-L													
		6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/29/2017	11/28/2017
		Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Calculated Parameters	Units														
Anion Sum	me/L	1.17	1.9	0.89	1.45	1.56	1.33	0.76	0.99	1.2	1.18	0.72	1.05	1.09	1.2
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	20	77	19	57	62	32	13	27	38	26	7.1	39	41	46
Calculated TDS	mg/L	100	580	230	320	410	360	53	66	80	81	53	68	73	75
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	me/L	1.88	22.8	8.33	11.6	15.9	13.8	0.68	0.98	1.2	1.09	0.65	1.08	1.17	1.27
Hardness (CaCO3)	mg/L	65	560	190	300	420	360	26	39	50	45	27	42	46	48
Ion Balance (% Difference)	%	23.3	84.6	80.7	77.8	82.2	82.5	5.56	0.51	0	3.96	5.11	1.41	3.54	2.83
Langelier Index (@ 20C)	N/A	-2.58	-0.819	-2.26	-1.05	-1.06	-1.98	-2.59	-2.08	-2.02	-2.31	-3.41	-2.06	-2.02	-1.4
Langelier Index (@ 4C)	N/A	-2.83	-1.07	-2.51	-1.3	-1.31	-2.23	-2.84	-2.33	-2.27	-2.56	-3.66	-2.31	-2.27	-1.65
Nitrate (N)	mg/L	0.17	0.41	0.17	0.23	--	--	0.17	ND	ND	0.13	0.085	0.068	ND	ND
Saturation pH (@ 20C)	N/A	8.82	7.54	8.66	7.87	7.69	8.16	9.34	8.84	8.59	8.81	9.59	8.64	8.57	8.52
Saturation pH (@ 4C)	N/A	9.07	7.79	8.91	8.12	7.94	8.41	9.59	9.1	8.84	9.07	9.84	8.89	8.83	8.78
Inorganics	Units														
Total Alkalinity (Total as CaCO3)	mg/L	20	77	19	57	62	32	13	27	39	26	7.1	39	41	46
Dissolved Chloride (Cl)	mg/L	2.6	3.7	3.8	3.8	3	4.5	4.1	4	2.3	3.7	3	3.4	1.6	6.4
Colour	TCU	25	35	16	44	47	22	16	53	43	33	6.7	120 (3)	80 (3)	81 (3)
Nitrate + Nitrite	mg/L	0.17	0.44	0.17	0.23	ND	0.13	0.17	ND	ND	0.13	0.085	0.068	ND	ND
Nitrite (N)	mg/L	ND	0.03	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.6	0.68	0.11	0.55	0.45	0.21	0.084	0.19	0.32	0.14	0.059	0.43	0.29	0.62
Total Organic Carbon (C)	mg/L	52	27	18	ND	ND	ND	ND (1)	8.0 (1)	7.3 (1)	9.2 (1)	3.1	11 (3)	9.8	8.6
Orthophosphate (P)	mg/L	ND	ND	ND	ND	0.017	0.01	ND	ND	0.014	0.012	ND	ND	ND	ND
pH	pH	6.24	6.72	6.4	6.82	6.63	6.18	6.75	6.77	6.57	6.51	6.17	6.58	6.56	7.12
Reactive Silica (SiO2)	mg/L	15	18	11	16	14	13	9	11	14	14	9.8	12	14	12
Dissolved Sulphate (SO4)	mg/L	32	11	19	8.8	11	27	18	16	18	26	23	7.7	10	4.8
Turbidity	NTU	>1000	>1000	>1000	>1000	>1000	>1000	420	99	330	360	32	41	10	10
Conductivity	uS/cm	130	170	91	130	140	130	77	96	110	100	76	96	110	110
Biochemical Oxygen Demand	mg/L	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
Total Chemical Oxygen Demand	mg/L	420	270	100	250	380	400	--	--	--	--	--	--	--	--
Total Dissolved Solids	mg/L	140	170	120	140	110	120	--	--	--	--	--	--	--	--
Dissolved Organic Carbon (C)	mg/L	--	--	--	--	--	--	2.4	6.3	6.3	7.7	1.5	9.1 (3)	8.5	7.5
Phenols-4AAP	mg/L	11	7.2	0.001	ND	0.0021	ND	0.001	0.0010 (2)	0.0012 (2)	0.001	ND	ND (2)	0.0013	ND
Total Suspended Solids		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulphide	mg/L	--	--	--	--	--	--	0.03	0.04	0.027	0.05	ND	ND	ND	ND
Total Phosphorus	mg/L	0.007	ND	1.5	4.7	6	4.7	--	--	--	--	--	--	--	--
Total Kjeldahl Nitrogen	mg/L	25000	8100	2.4	6.7	5	7.5	--	--	--	--	--	--	--	--

Table Notes

¹NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = not available

ND - not detected

Bold & Grey Shaded - exceeds applicable guideline

Grey Text - Historical Data

(1) Elevated reporting limit due to turbidity.

(2) The sample was decanted due to sediment.

MW-L																	
5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	7/21/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022	7/20/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
0.59	0.92	1.58	1.22	0.73	1.07	1.33	1.02	0.92	1.23	1.51	0.99	0.82	1.14	1.18	0.96	0.91	1.02
14	24	66	ND	16	26	33	14	14	46	49	22	15	42	35	19	23	42
45	65	96	88	53	68	88	73	66	77	96	69	60	74	78	69	58	67
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
0.67	0.96	1.53	1.03	0.78	0.86	1.33	0.91	0.82	1.2	1.42	0.95	0.81	1.12	1.11	0.89	0.69	1.16
26	37	62	38	32	34	56	38	34	51	60	39	32	46	46	36	28	48
6.35	2.13	1.61	8.44	3.31	10.9	0	5.7	5.75	1.23	3.07	2.06	0.61	0.88	3.06	3.78	13.8	6.42
-2.9	-2.2	-1.28	NC	-2.78	-2.44	-2.07	-2.95	-2.97	-1.63	-1.71	-2.53	-3.12	-1.84	-2.1	-2.59	-2.44	-1.68
-3.15	-2.46	-1.53	NC	-3.03	-2.69	-2.32	-3.2	-3.22	-1.88	-1.96	-2.78	-3.37	-2.09	-2.35	-2.85	-2.69	-1.93
0.06	ND	ND	ND	0.09	0.074	ND	0.06	0.11	0.078	0.071	0.054	0.078	0.059	0.073	ND	0.077	0.1
9.29	8.91	8.26	NC	9.13	8.91	8.61	9.14	9.18	8.51	8.4	8.94	9.19	8.59	8.67	9.02	9.06	8.57
9.54	9.16	8.51	NC	9.39	9.17	8.86	9.39	9.43	8.76	8.66	9.19	9.44	8.84	8.92	9.28	9.31	8.82
14	24	66	ND	16	26	33	14	14	46	49	22	15	42	35	19	23	42
3.6	3.4	4.3	3.5	3.2	2.4	1.8	3.3	3.4	3.9	2.8	2.6	2	2.7	2	2.9	3.7	4.2
29	110	93	13	41	84	43	20	26	43	42	34	58	70	69	34	26	73
0.06	ND	ND	0.09	0.074	ND	0.06	0.11	0.078	0.071	0.054	0.088	0.059	0.073	ND	0.077	0.13	0.052
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	ND	ND	0.025	ND
0.083	0.34	0.51	ND	0.069	0.16	0.16	0.051	ND	0.24	0.25	ND	0.051	0.19	0.11	ND	0.054	0.16
8.5 (1)	10	15 (1)	4.4	6.2	9.5	7	4.8	7.9	14	8.7 (1)	6.6	9.3 (1)	18	8.4	7.1	11	12
ND	ND	ND	0.011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6.39	6.7	6.98	4.00 (3)	6.35	6.48	6.54	6.19	6.21	6.88	6.69	6.41	6.07	6.75	6.57	6.43	6.62	6.89
9.9	12	16	13	10	11	11	13	12	13	15	12	12	14	14	14	11	13
9.6	16	6.7	53	15	23	29	30	26	10	22	23	22	10	20	23	16	2.8
19	17	29	0.76	26	36	9.1	5.9	56	480	140	37	38	110	13	6.4	110	38
73	95	140	190	79	97	130	98	91	120	140	100	81	100	110	99	79	110
--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
5.1	9.1	9.3	3.4	4.9	8.9	6.4	3.9	4.1	8	6.8	6.8	6.8	8.9	7.3	5.7	4.5	10
ND (2)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
--	--	--	--	33	100	37	5.6	110	450	130	130	66	82	22	18	250	58
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.096	ND	ND	ND	ND
--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-
--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-	-	-

MW-L														Provincial ¹ Environmental Control Water and Sewage Regulations, Schedule A, 2003
9/22/2022	11/23/2022	5/4/2023	7/26/2023	9/27/2023	11/28/2023	5/29/2024	8/12/2024	10/24/2024	12/18/2024	5/20/2025	7/15/2025	9/10/2025	11/19/2025	
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Current	Current	Current	Current	
1.41	1.24	0.66	1.31	0.95	0.83	0.73	1.07	0.99	0.93	0.630	0.830	0.990	0.770	--
46	23	6.8	47	26	13	10	40	22	3.5	12	28	31	12	--
95	86	53	80	69	66	56	72	71	76	49	60	68	59	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
1.58	1.27	0.77	1.11	1.04	1	0.73	1.17	1.06	1.09	0.720	0.990	1.05	0.770	--
67	53	31	45	42	41	29	47	43	46	28	40	43	30	--
5.69	1.2	7.69	8.26	4.52	9.29	0	4.46	3.41	7.92	6.67	8.79	2.94	0.00	--
-1.26	-1.94	-3.39	-1.8	-2.45	-2.77	-2.59	-1.43	-2.66	-3.22	-2.58	-2.07	-1.67	-2.58	--
-1.51	-2.19	-3.65	-2.05	-2.7	-3.02	-2.84	-1.68	-2.91	-3.47	-2.84	-2.32	-1.92	-2.83	--
0.089	0.058	0.13	ND	0.07	0.098	0.19	ND	0.069	0.084	0.11	ND	ND	ND	10
8.4	8.8	9.53	8.55	8.82	9.14	9.38	8.59	8.9	9.67	9.33	8.81	8.74	9.28	--
8.65	9.05	9.78	8.8	9.08	9.4	9.63	8.85	9.15	9.92	9.58	9.06	8.99	9.54	--
46	23	6.8	47	26	13	10	40	22	4	12	28	31	12	--
3	5.1	4.3	3.1	2.9	4.8	5	5	5	6	3.6	3.7	3.4	4.7	--
56	47	34	86	52	40	43	88	42 (2)	46	47	85	53	32	--
0.089	0.075	0.13	ND	0.07	0.098	0	ND	0	0	0.11	ND	ND	ND	--
ND	0.017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
0.27	0.11	ND	0.12	0.067	ND	ND	0	0	ND	0.10	0.15	0.098	0.066	2
10	12 (1)	7.5	9.5 (1)	12 (1)	8.0	6	13	9	5	7.5	13	10	9.4 (1)	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
7.14	6.86	6.13	6.75	6.37	6.38	7	7	6	6	6.74	6.74	7.07	6.70	5.5 - 9.0
15	12	10	13	14	13	12	14	13	14	11	13	13	14	--
19	31	19	14	16	20	18	6	19	33	13	7.6	13	19	--
24	45	12	25	87	15	2	26	41	8	3.5	54	15	63	--
150	140	85	110	110	110	94	130	110	120	81	91	110	89	--
-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000
8.2	8.1	5.4	9.7	8	6.6	5	11	8	4	6.8	11	8.6	4.9	--
0.001	0.0011	ND	0.0019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1
62	120	8.4	23	150	12	2	93	28	5	4.2	42	22	70	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.021	0.5
-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
-	-	-	-	-	-	-	-	-	-	-	-	-	-	--

Table 2-A: Current and Historical Summary of Metal Analytical Results in Groundwater

Metals	Units	MW-H														
		12/21/2008	6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/29/2017	11/28/2017
		Background	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Dissolved Aluminum (Al)	µg/L	13.1	72000	79000	36000	110000	--	--	7	6200	69	71	42	18	32	32
Dissolved Antimony (Sb)	µg/L	<2.0	ND	ND	ND	1.2	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Arsenic (As)	µg/L	<2.0	31	38	19	49	59	36	ND	ND	ND	1.3	1.7	1.2	ND	ND
Dissolved Barium (Ba)	µg/L	8	830	1000	490	1400	1700	840	1.6	300	69	75	66	140	85	83
Dissolved Beryllium (Be)	µg/L	<2.0	ND	ND	1.3	4	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Bismuth (Bi)	µg/L	<2.0	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Boron (B)	µg/L	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Cadmium (Cd)	µg/L	0.026	0.22	0.21	0.095	0.34	0.46	0.21	0.012	0.029	ND	ND	ND	ND	0.016	0.013
Dissolved Calcium (Ca)	µg/L	4.9	60000	22000	5300	26000	40000	23000	1100	2800	19000	16000	9700	25000	20000	22000
Dissolved Chromium (Cr)	µg/L	<2.0	110	140	62	190	260	140	ND	4.4	ND	ND	ND	ND	ND	ND
Dissolved Cobalt (Co)	µg/L	0.43	61	64	24	80	--	--	ND	4.3	0.65	0.43	ND	ND	ND	ND
Dissolved Copper (Cu)	µg/L	2.6	83	110	65	160	200	110	ND	7.3	ND	ND	ND	ND	ND	ND
Dissolved Iron (Fe)	µg/L	<50	91000	130000	59000	170000	230000	120000	ND	2000	50	64	63	ND	ND	ND
Dissolved Lead (Pb)	µg/L	<0.50	26	31	15	44	56	29	ND	3.5	ND	ND	ND	ND	ND	ND
Dissolved Magnesium (Mg)	µg/L	1.3	24000	18000	7100	23000	31000	17000	480	1200	11000	8300	4200	10000	9100	12000
Dissolved Manganese (Mn)	µg/L	73.9	2300	2500	990	3500	5100	2400	ND	200	4.6	2.3	2	ND	11	9.3
Dissolved Molybdenum (Mo)	µg/L	<2.0	ND	ND	ND	ND	--	--	ND	ND	ND	3	ND	ND	ND	ND
Dissolved Nickel (Ni)	µg/L	<2.0	83	120	54	150	--	--	ND	3	ND	ND	ND	ND	ND	ND
Dissolved Phosphorus (P)	µg/L	--	4300	3900	1000	4100	--	--	ND	310	ND	ND	ND	ND	ND	ND
Dissolved Potassium (K)	µg/L	1.1	5800	7200	4000	9100	11000	7000	200	670	1400	1300	720	1300	1000	930
Dissolved Selenium (Se)	µg/L	<1.0	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Silver (Ag)	µg/L	<0.10	1.2	2	1.2	2.8	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Sodium (Na)	µg/L	8.1	13000	11000	3300	9800	14000	11000	2200	2700	12000	7400	6000	8900	5100	5800
Dissolved Strontium (Sr)	µg/L	20.2	250	110	32	130	--	--	4.4	16	80	66	36	74	61	72
Dissolved Thallium (Tl)	µg/L	<0.10	ND	ND	0.25	0.6	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Tin (Sn)	µg/L	<2.0	ND	ND	ND	4.2	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Titanium (Ti)	µg/L	<2.0	2400	2800	1200	3900	--	--	ND	39	ND	ND	ND	ND	ND	ND
Dissolved Uranium (U)	µg/L	<0.10	3.4	2.8	1.5	5	--	--	ND	0.48	0.41	0.58	0.34	0.57	0.38	0.57
Dissolved Vanadium (V)	µg/L	<2.0	140	190	88	260	--	--	ND	5.9	ND	ND	ND	ND	ND	ND
Dissolved Zinc (Zn)	µg/L	21.4	160	220	100	290	390	200	ND	12	ND	ND	ND	300	ND	120
Dissolved Mercury (Hg)	µg/L	<0.01	0.022	ND	0.042	0.08	0.08	ND	0.068	0.04	0.027	0.06	ND	ND	ND	ND

Table Notes

¹NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = Not Available

ND - Not Detected

Black and bold text, shaded grey - exceeds applicable guideline

Grey Text - Historical Data

MW-H																	
5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	5/26/2020	7/21/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
30	24	19	34	37	32	23	31	22	22	11	ND	6.5	ND	13	ND	9.8	12.0
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND	ND	ND
37	83	99	60	69	69	96	47	50	50	85	6.1	5.8	5.7	15	14	5.0	5.4
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
0.036	ND	ND	ND	ND	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
14000	22000	28000	15000	18000	20000	23000	12000	15000	15000	27000	5800	4700	4700	10000	7000	4000	3000
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51
ND	ND	ND	ND	1.2	0.67	1.6	1.2	0.56	0.56	0.65	ND	ND	ND	0.87	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6200	9600	13000	8100	9200	9000	13000	6700	6500	6500	8900	2200	1800	1800	4100	2700	1600	1200
2.2	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	5.2	4.8	4.0	24	8.2	ND	6.4
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
810	1200	1200	650	840	950	1000	510	670	670	2300	290	330	290	400	330	340	220
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4700	5200	5000	7200	7400	5800	6800	6600	4300	4300	12000	6900	5800	5900	20000	9000	5500	3800
40	60	82	47	58	57	74	36	36	36	170	20	17	16	36	25	15	12
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
0.21	0.34	0.61	0.29	0.28	0.28	0.6	0.16	0.13	0.13	0.84	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4	ND	ND	ND	ND	ND	ND	ND
ND	9.6	5.9	ND	7.1	ND	ND	ND	ND	ND	7.5	ND	ND	ND	9.2	140	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.025	ND	ND	0.015	ND	ND	ND

MW-H															Provincial ¹ Environmental Sewage Control Regulations, 2003 - Schedule A
7/20/2022	9/22/2022	11/23/2022	5/4/2023	7/26/2023	9/27/2023	11/28/2023	5/29/2024	8/12/2024	10/24/2024	12/18/2024	5/20/2025	7/15/2025	9/10/2025	11/19/2025	
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Current	Current	Current	Current	
-	6.7	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	ND	19	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	500
-	6.6	8.3	5.7	7.9	8.8	8.8	6.4	6.1	7.1	6.4	5.5	7.2	8.6	4.1	5000
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5000
-	ND	ND	0.01	ND	ND	ND	ND	ND	ND	ND	ND	0.020	ND	ND	50
-	6400	6800	3000	6700	7100	5100	3700	5800	6000	4600	4000	5600	8700	1600	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	0.83	ND	ND	ND	ND	ND	ND	ND	ND	0.94	ND	300
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10000
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
-	2400	2600	990	2600	2600	2000	1500	2300	2300	1800	1500	2200	2900	530	--
-	ND	ND	5.1	ND	4.4	3.1	2.8	ND	ND	ND	4.2	33	4.6	4.7	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	500
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	350	320	250	300	320	400	280	330	340	380	340	440	770	200	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50
-	8200	8300	3300	7900	8100	6100	4300	7300	7700	5400	4200	6800	6100	2300	--
-	21	23	15	23	25	19	14	21	21	19	14	21	34	7.1	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
-	ND	6.3	ND	ND	8.6	5.1	ND	ND	ND	ND	ND	ND	ND	5.9	500
-	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND	5

Table 2-B: Current and Historical Summary of Metal Analytical Results in Groundwater

		MW-1													
		6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/18/2017	11/28/2017
		Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Metals	Units														
Dissolved Aluminum (Al)	µg/L	1800	240000	86000	500000	--	--	19	6200	17	22	26	29	23	23
Dissolved Antimony (Sb)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Arsenic (As)	µg/L	ND	65	32	140	96	72	ND	2	ND	ND	ND	ND	ND	ND
Dissolved Barium (Ba)	µg/L	24	2400	880	4200	2400	1300	7.9	290	8.2	8.9	4.3	8.8	11	8.4
Dissolved Beryllium (Be)	µg/L	ND	12	ND	24	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Bismuth (Bi)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Boron (B)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Cadmium (Cd)	µg/L	0.087	1.6	0.47	3.3	2	1.2	ND	0.13	ND	ND	ND	0.014	0.2	ND
Dissolved Calcium (Ca)	µg/L	20000	65000	27000	110000	76000	49000	12000	18000	18000	16000	10000	17000	20000	19000
Dissolved Chromium (Cr)	µg/L	2.7	460	160	990	560	370	ND	6.5	ND	ND	ND	ND	ND	ND
Dissolved Cobalt (Co)	µg/L	0.55	180	63	420	--	--	ND	4.5	ND	ND	ND	ND	ND	ND
Dissolved Copper (Cu)	µg/L	ND	320	140	670	390	240	2.1	16	2.2	ND	ND	2.2	2.5	ND
Dissolved Iron (Fe)	µg/L	1200	240000	91000	570000	340000	240000	ND	4600	ND	ND	ND	ND	ND	ND
Dissolved Lead (Pb)	µg/L	0.79	99	40	250	140	95	ND	7	ND	ND	ND	ND	ND	ND
Dissolved Magnesium (Mg)	µg/L	5600	110000	40000	240000	150000	100000	5500	9200	9100	8300	4800	8400	9500	9200
Dissolved Manganese (Mn)	µg/L	110	5300	1900	17000	10000	6900	2.3	400	2	2.1	2.1	2.1	270	ND
Dissolved Molybdenum (Mo)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Nickel (Ni)	µg/L	2.6	510	180	1100	--	--	ND	4.7	ND	ND	ND	ND	ND	ND
Dissolved Phosphorus (P)	µg/L	ND	7600	1900	15000	--	--	ND	400	ND	ND	ND	ND	ND	ND
Dissolved Potassium (K)	µg/L	1500	19000	9800	40000	25000	19000	1200	1900	1200	1300	860	1400	1400	1000
Dissolved Selenium (Se)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Silver (Ag)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Sodium (Na)	µg/L	11000	21000	19000	28000	31000	23000	15000	20000	19000	20000	10000	19000	18000	18000
Dissolved Strontium (Sr)	µg/L	96	490	220	980	--	--	66	160	110	100	56	110	120	110
Dissolved Thallium (Tl)	µg/L	ND	1.3	ND	3.5	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Tin (Sn)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Titanium (Ti)	µg/L	43	2900	1500	5200	--	--	ND	70	ND	ND	ND	ND	ND	ND
Dissolved Uranium (U)	µg/L	0.12	9.4	4.2	25	--	--	0.15	1.6	0.33	0.4	0.24	0.32	0.3	0.23
Dissolved Vanadium (V)	µg/L	3.9	420	190	860	--	--	ND	11	ND	ND	ND	ND	ND	ND
Dissolved Zinc (Zn)	µg/L	ND	770	280	1700	960	660	ND	1400	ND	18	ND	ND	ND	ND
Dissolved Mercury (Hg)	µg/L	0.075	0.23	0.12	0.13	0.032	ND	0.028	0.035	0.027	0.11	0.037	0.042	0.11	0.017

Table Notes

¹NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = Not Available

ND - Not Detected

Black and bold text, shaded grey - exceed applicable guidelines

Grey Text - Historical Data

MW-1

[illegible]

MW-I														Provincial [†] Environmental Sewage Control Regulations, 2003 -
9/22/2022	11/23/2022	5/4/2023	7/26/2023	9/27/2023	11/28/2023	5/29/2024	8/12/2024	10/24/2024	12/18/2024	5/20/2025	7/15/2025	9/10/2025	11/19/2025	
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Current	Current	Current	Current	
35	8	10	9.7	11	11	9	12	7	10	9.0	-	7.6	9.0	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	1.8	ND	500
14	13	11	18	12	11	12	9	18	13	14	-	19	13	5000
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	5000
0.062	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	50
23000	20000	17000	27000	29000	20000	18000	23000	27000	21000	17000	-	23000	17000	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	1000
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
2.8	1.4	1.9	3.5	2.4	1.1	2	3	2	2	1.9	-	1.4	2.1	300
89	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	10000
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	200
9000	11000	8400	14000	14000	11000	9800	12000	13000	11000	8600	-	9000	8800	--
36	2.1	ND	ND	ND	ND	ND	ND	ND	ND	2.1	-	ND	3.1	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	500
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
1100	1500	1300	1900	1600	1400	1500	1800	2000	1600	1500	-	1900	1500	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	10
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	50
19000	33000	22000	31000	33000	25000	23000	29000	32000	26000	23000	-	18000	22000	--
120	110	95	160	160	110	110	130	150	120	100	-	240	93	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
0.48	0.61	0.42	0.92	1.2	0.56	1	1	1	1	0.34	-	0.68	0.45	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	--
5.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	28	-	ND	ND	500
0.02	ND	ND	ND	0.018	ND	0	ND	ND	ND	ND	-	0.025	0.017	5

Table 2-C: Current and Historical Summary of Metal Analytical Results in Groundwater

		MW-J												
		6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/18/2017
		Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Metals	Units													
Dissolved Aluminum (Al)	µg/L	190000	120000	110000	210000	--	--	45	26000	79	70	70	82	87
Dissolved Antimony (Sb)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND
Dissolved Arsenic (As)	µg/L	49	33	53	99	19	210	ND	9.6	ND	ND	ND	ND	ND
Dissolved Barium (Ba)	µg/L	690	540	580	740	950	2500	19	430	32	36	6.5	16	18
Dissolved Beryllium (Be)	µg/L	ND	ND	ND	ND	--	--	ND	1.5	ND	ND	ND	ND	ND
Dissolved Bismuth (Bi)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND
Dissolved Boron (B)	µg/L	ND	ND	ND	ND	97	ND	100	190	200	160	100	230	220
Dissolved Cadmium (Cd)	µg/L	0.81	0.44	0.49	0.64	1.1	1.4	0.036	0.28	0.035	0.11	0.04	0.044	0.061
Dissolved Calcium (Ca)	µg/L	120000	55000	40000	100000	92000	260000	10000	18000	13000	15000	5600	13000	15000
Dissolved Chromium (Cr)	µg/L	290	230	250	370	180	1200	ND	28	ND	ND	ND	ND	ND
Dissolved Cobalt (Co)	µg/L	110	80	89	140	--	--	0.94	19	0.8	1.1	ND	0.68	0.77
Dissolved Copper (Cu)	µg/L	180	170	190	220	300	700	5.8	63	6.7	5.6	2.3	3.3	2.4
Dissolved Iron (Fe)	µg/L	160000	130000	150000	220000	140000	760000	53	27000	88	110	ND	ND	ND
Dissolved Lead (Pb)	µg/L	66	60	71	89	150	320	0.52	40	ND	ND	ND	ND	ND
Dissolved Magnesium (Mg)	µg/L	65000	49000	44000	79000	51000	240000	6400	10000	8000	13000	5300	13000	13000
Dissolved Manganese (Mn)	µg/L	3800	2800	2000	3300	3100	9800	120	620	180	220	12	220	280
Dissolved Molybdenum (Mo)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND
Dissolved Nickel (Ni)	µg/L	160	150	140	210	--	--	5.6	18	6.7	8.5	2.8	6.1	6
Dissolved Phosphorus (P)	µg/L	12000	3400	2300	9300	--	--	ND	670	ND	ND	ND	ND	ND
Dissolved Potassium (K)	µg/L	24000	18000	18000	31000	22000	79000	11000	13000	14000	22000	11000	17000	17000
Dissolved Selenium (Se)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND
Dissolved Silver (Ag)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND
Dissolved Sodium (Na)	µg/L	68000	61000	36000	55000	35000	100000	45000	46000	58000	68000	21000	48000	52000
Dissolved Strontium (Sr)	µg/L	370	240	160	360	--	--	41	79	53	59	21	52	60
Dissolved Thallium (Tl)	µg/L	1.4	ND	ND	1.5	--	--	ND	0.17	ND	ND	ND	ND	ND
Dissolved Tin (Sn)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND
Dissolved Titanium (Ti)	µg/L	8300	6000	5700	9700	--	--	ND	97	ND	ND	ND	ND	ND
Dissolved Uranium (U)	µg/L	9.4	4.4	3.5	8.8	--	--	ND	1.6	ND	ND	ND	ND	ND
Dissolved Vanadium (V)	µg/L	350	300	350	480	--	--	ND	78	ND	ND	ND	ND	ND
Dissolved Zinc (Zn)	µg/L	330	260	280	460	430	1400	19	97	ND	ND	ND	ND	ND
Dissolved Mercury (Hg)	µg/L	0.055	0.033	0.15	0.052	0.11	0.037	0.062	0.23	0.087	0.11	0.017	0.015	ND

Table Notes

¹NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = Not Available

ND - Not Detected

Black and bold text, shaded grey - exceeds applicable guideline

Grey Text - Historical Data

MW-J																
11/28/2017	5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
60	53	90	34	44	38	85	74	41	48	92	60	64	78	92	61	58
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12	13	15	13	14	18	17	18	21	18	25	19	26	34	24	13	8
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
120	150	280	120	150	210	360	350	190	360	430	250	420	470	510	250	150
0.028	0.1	0.063	0.021	0.18	0.12	0.056	0.022	0.083	0.16	0.023	0.043	0.17	0.058	0.025	0.012	0.021
12000	14000	13000	14000	13000	15000	14000	15000	18000	14000	16000	16000	18000	21000	18000	14000	9700
ND	ND	ND	ND	ND	1	1.3	ND	ND	1.1	1.2	ND	1.9	1.9	1.2	ND	ND
0.46	0.4	0.57	ND	0.56	0.5	0.75	0.44	0.54	0.67	0.47	0.47	1.5	0.94	0.61	0.44	ND
ND	3	4	2.9	3.2	2.6	3.3	3.3	2.6	3.8	3.4	2.5	5.6	6.6	4.6	2.7	1.9
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11000	13000	11000	8900	13000	14000	12000	13000	18000	14000	15000	15000	18000	20000	17000	13000	10000
170	27	95	37	9.8	36	47	9.1	3.2	5.1	3.4	3	70	44	5.5	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4.3	4.5	6.4	3	5.8	5.4	7.8	6.2	7.1	5.9	6	6.3	9.4	11	7.3	5.6	2.4
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13000	14000	16000	8800	17000	19000	20000	21000	20000	28000	23000	22000	43000	35000	28000	20000	11000
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
45000	47000	56000	30000	60000	61000	69000	72000	79000	64000	65000	72000	87000	100000	74000	62000	27000
48	55	52	62	49	62	59	62	76	62	74	71	81	98	85	65	43
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
5.5	11	12	88	1000	1100	5.8	11	30	7.1	28	7.1	9.8	18	ND	12	ND
ND	0.025	ND	0.017	ND	0.028	0.015	ND	0.022	ND	0.017	ND	ND	0.015	ND	ND	ND

MW-J															Provincial ¹ Environmental Sewage Control Regulations, 2003 - Schedule A
7/20/2022	9/22/2022	11/23/2022	5/4/2023	7/26/2023	9/27/2023	11/28/2023	5/29/2024	8/12/2024	10/24/2024	12/18/2024	5/20/2025	7/15/2025	9/10/2025	11/19/2025	
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Current	Current	Current	Current	
49	76	64	54	76	94	37	49	78	75	56	63	130	110	45	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	500
25	29	15	24	32	25	45	31	51	20	12	11	31	22	21	5000
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
110	370	220	250	530	440	370	570	560	410	220	240	350	360	200	5000
ND	0.015	0.018	0.34	0.065	0.025	0.18	0	0	0	0	0.014	0.020	0.029	0.056	50
24000	22000	14000	18000	21000	17000	39000	23000	27000	15000	14000	11000	13000	16000	19000	--
ND	1.2	ND	2.3	2.1	1.6	2.6	3	3	1	ND	ND	2.0	1.4	ND	1000
ND	ND	ND	1.2	0.97	0.64	1.2	2	1	1	0	ND	0.70	0.45	0.58	--
2.1	3.5	2.5	5.4	6.6	6.0	4.2	7	9	4	2	2.5	8.3	4.4	2.6	300
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10000
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
13000	20000	13000	15000	18000	15000	42000	24000	25000	15000	15000	12000	12000	15000	16000	--
2.5	6.7	9.2	5.2	15	3.5	17	63	32	ND	ND	2.8	3.7	13	10	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
2.3	5.6	4.0	9.6	11	7.7	14	13	13	8	4	2.9	5.8	4.5	6.0	500
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
8400	24000	15000	36000	35000	29000	62000	49000	49000	35000	20000	16000	21000	22000	19000	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50
42000	68000	46000	91000	110000	87000	200000	130000	160000	100000	53000	37000	56000	52000	69000	--
130	98	64	85	100	86	190	120	140	78	68	59	75	81	93	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
0.16	ND	ND	0.13	ND	ND	0.24	0	0	0	0	ND	0.11	ND	ND	--
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
6	11	7	9.3	11	11	14	15	18	ND	ND	ND	5.5	16	14	500
ND	0.017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.018	ND	0.015	5

Table 2-D: Current and Historical Summary of Metal Analytical Results in Groundwater

		MW-K													
		6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	5/9/2017	7/17/2017	9/18/2017	11/28/2017
		Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Metals	Units														
Dissolved Aluminum (Al)	µg/L	460000	150000	24000	540000	--	--	20	3300	17	23	15	15	13	8.3
Dissolved Antimony (Sb)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Arsenic (As)	µg/L	200	64	14	230	150	250	5.5	7.6	6.3	5.5	4.6	5.3	5.2	5.4
Dissolved Barium (Ba)	µg/L	3400	1200	250	4600	2800	4700	54	170	50	29	42	51	52	53
Dissolved Beryllium (Be)	µg/L	15	ND	ND	17	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Bismuth (Bi)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Boron (B)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Cadmium (Cd)	µg/L	1	0.28	0.023	1	0.61	0.9	ND	0.014	ND	ND	ND	ND	ND	ND
Dissolved Calcium (Ca)	µg/L	440000	110000	28000	400000	240000	350000	21000	25000	22000	22000	22000	22000	24000	24000
Dissolved Chromium (Cr)	µg/L	1000	330	50	1300	800	1400	ND	5.1	ND	ND	ND	ND	ND	ND
Dissolved Cobalt (Co)	µg/L	370	120	16	460	--	--	ND	3.4	ND	ND	ND	ND	ND	ND
Dissolved Copper (Cu)	µg/L	1000	240	33	1100	670	1100	ND	17	ND	ND	ND	ND	ND	ND
Dissolved Iron (Fe)	µg/L	690000	230000	33000	870000	560000	960000	ND	3800	ND	ND	ND	ND	ND	ND
Dissolved Lead (Pb)	µg/L	190	51	7.1	200	130	210	ND	4.3	ND	ND	ND	ND	ND	ND
Dissolved Magnesium (Mg)	µg/L	250000	91000	18000	320000	210000	350000	6400	7100	6600	6600	6300	6500	6600	6600
Dissolved Manganese (Mn)	µg/L	16000	4700	590	19000	12000	19000	28	110	5.8	ND	ND	ND	ND	4.6
Dissolved Molybdenum (Mo)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	3.3	ND	ND	ND
Dissolved Nickel (Ni)	µg/L	800	270	41	1000	--	--	ND	4.1	ND	ND	ND	ND	ND	ND
Dissolved Phosphorus (P)	µg/L	15000	3900	420	12000	--	--	ND	250	ND	ND	ND	ND	ND	ND
Dissolved Potassium (K)	µg/L	28000	12000	4400	33000	23000	37000	1800	2100	1900	2000	1600	1700	2000	1900
Dissolved Selenium (Se)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Silver (Ag)	µg/L	1.1	ND	ND	1.3	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Sodium (Na)	µg/L	20000	13000	9300	19000	17000	22000	8600	8400	9200	9800	8100	8900	9200	9400
Dissolved Strontium (Sr)	µg/L	2200	820	400	2300	--	--	340	360	350	330	320	340	350	360
Dissolved Thallium (Tl)	µg/L	1.7	ND	ND	1.4	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Tin (Sn)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Titanium (Ti)	µg/L	4800	1200	280	3200	--	--	ND	19	ND	ND	ND	ND	ND	ND
Dissolved Uranium (U)	µg/L	13	3.6	0.99	12	--	--	0.39	0.57	0.37	0.47	0.35	0.35	0.32	0.35
Dissolved Vanadium (V)	µg/L	980	320	53	1200	--	--	ND	5.6	ND	ND	ND	ND	ND	ND
Dissolved Zinc (Zn)	µg/L	1300	420	60	1600	1000	1700	ND	52	ND	ND	ND	ND	ND	ND
Dissolved Mercury (Hg)	µg/L	0.077	0.11	ND	0.06	0.083	ND	ND	0.013	ND	0.085	ND	0.015	ND	ND

Table Notes

¹NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = Not Available

ND - Not Detected

Black and bold text, shaded grey - exceeds applicable guidelines

Grey Text - Historical Data

MW-K

5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	7/21/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022	7/20/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
10	14	8.3	12	11	9.4	8.6	7.5	8.6	14	9	8.2	8.8	8.7	7.7	6.7	6.0	9.3
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4.8	5.3	5.4	4.9	4	5	4.5	5	4.1	4.7	4.8	5	4.7	4.8	4.7	5.0	4.2	5.1
49	49	53	45	40	47	44	44	43	46	46	47	47	46	44	47	39	50
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
23000	22000	23000	24000	25000	23000	24000	22000	22000	22000	23000	23000	24000	22000	23000	23000	21000	23000
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	0.75	0.76	ND	0.79	ND	0.5	0.99	0.83	0.51	0.67	0.67	0.81
ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51	ND	ND	ND	ND	ND	ND	ND	ND
6800	6400	6200	6700	6200	6700	6600	6500	6500	5900	6700	6700	6900	6300	6400	6800	6200	6800
ND	4.9	ND	2.9	5	11	2.3	ND	ND	ND	ND	ND	4.0	6.5	3.9	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1700	1700	1900	1800	1600	1800	1900	1700	1600	1700	1800	1800	1900	1800	1900	1900	1500	1800
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9000	8500	8500	9200	8200	8400	8600	8700	8100	7900	8700	9100	9300	9200	9100	9700	8200	9400
350	330	340	340	320	340	320	330	320	320	330	330	340	320	300	340	290	330
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
0.33	0.35	0.3	0.34	0.36	0.38	0.3	0.35	0.35	0.32	0.32	0.34	0.35	0.33	0.26	0.35	0.33	0.35
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	6.3	30	ND	6.7	9.2	5.4
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

[illegible]

Table 2-E: Current and Historical Summary of Metal Analytical Results in Groundwater

		MW-L													
		6/16/2014	10/2/2014	5/8/2015	8/26/2015	10/20/2015	12/16/2015	5/10/2016	7/5/2016	9/13/2016	11/22/2016	9/18/2017	7/17/2017	5/9/2017	11/28/2017
		Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
Metals	Units														
Dissolved Aluminum (Al)	µg/L	8000	180000	67000	87000	--	--	52	570	110	87	180	190	88	140
Dissolved Antimony (Sb)	µg/L	ND	ND	1.4	1.2	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Arsenic (As)	µg/L	12	230	81	110	120	110	ND	3.8	1.4	1	3.5	3.2	ND	3.6
Dissolved Barium (Ba)	µg/L	95	1000	410	670	630	540	8.8	21	15	12	11	12	17	12
Dissolved Beryllium (Be)	µg/L	ND	ND	2.3	3.5	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Bismuth (Bi)	µg/L	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Boron (B)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Cadmium (Cd)	µg/L	0.07	0.69	0.3	0.58	0.7	0.52	0.017	0.031	0.012	0.01	0.024	0.04	0.13	0.026
Dissolved Calcium (Ca)	µg/L	17000	89000	26000	54000	72000	60000	7200	11000	14000	13000	14000	12000	7500	14000
Dissolved Chromium (Cr)	µg/L	14	410	160	190	330	280	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Cobalt (Co)	µg/L	5.4	150	57	74	--	--	1.1	1.3	1.2	0.55	0.64	1.2	0.84	0.89
Dissolved Copper (Cu)	µg/L	20	390	150	210	290	250	ND	4.3	3.4	ND	ND	ND	ND	ND
Dissolved Iron (Fe)	µg/L	8900	290000	110000	140000	180000	160000	85	1200	230	290	1100	1100	ND	1200
Dissolved Lead (Pb)	µg/L	5.8	120	42	61	61	49	ND	0.59	ND	ND	ND	ND	ND	ND
Dissolved Magnesium (Mg)	µg/L	5300	82000	30000	39000	58000	50000	1900	2600	3400	3200	3000	2900	1900	3200
Dissolved Manganese (Mn)	µg/L	330	3700	1500	1900	2400	2000	140	180	210	140	170	240	87	250
Dissolved Molybdenum (Mo)	µg/L	ND	ND	2.9	3.4	--	--	ND	ND	ND	ND	ND	ND	2.2	ND
Dissolved Nickel (Ni)	µg/L	13	280	110	140	--	--	2.5	5.2	3.7	2.8	4.7	6.6	11	4.2
Dissolved Phosphorus (P)	µg/L	210	6100	1200	2500	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Potassium (K)	µg/L	2100	21000	9300	11000	14000	13000	240	400	460	410	350	350	310	360
Dissolved Selenium (Se)	µg/L	ND	ND	1.5	1.7	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Silver (Ag)	µg/L	ND	ND	0.15	0.17	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Sodium (Na)	µg/L	3800	16000	7100	9900	13000	13000	3500	3400	3800	3800	4000	3500	2200	5000
Dissolved Strontium (Sr)	µg/L	71	350	120	230	--	--	32	47	58	54	57	52	39	58
DissolvedThallium (Tl)	µg/L	ND	1.4	0.62	0.67	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Tin (Sn)	µg/L	ND	ND	2.8	2.9	--	--	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Titanium (Ti)	µg/L	260	9600	3500	3900	--	--	ND	6.9	ND	ND	ND	ND	ND	ND
Dissolved Uranium (U)	µg/L	2.4	27	14	23	--	--	0.12	0.83	0.38	0.21	0.28	0.58	ND	0.35
Dissolved Vanadium (V)	µg/L	29	570	240	350	--	--	ND	5.6	2.6	2.5	ND	2.4	ND	ND
Dissolved Zinc (Zn)	µg/L	25	680	270	370	450	430	120	16	6.7	13	42	20	76	16
Dissolved Mercury (Hg)	µg/L	0.027	0.12	0.098	0.015	0.098	0.043	0.022	0.02	0.017	0.033	ND	ND	ND	ND

Table Notes

¹NL Environmental Control Water and Sewage Regulations, Schedule A, 2003 (Maximum Allowable Concentrations)

-- = Not Available

ND - Not Detected

Black and bold text, shaded grey - exceeds applicable guideline

Grey Text - Historical Data

MW-L																	
5/15/2018	7/23/2018	9/17/2018	12/5/2018	5/22/2019	7/16/2019	10/1/2019	11/26/2019	5/26/2020	7/21/2020	9/15/2020	11/17/2020	5/19/2021	7/7/2021	9/15/2021	11/23/2021	5/3/2022	7/20/2022
Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical	Historical
100	190	110	150	110	160	110	110	97	86	92	110	160	140	150	86	86	150
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	2.2	6.5	ND	ND	1.4	ND	ND	ND	1	ND	ND	ND	ND	1.1	ND	ND	1.1
8.9	11	15	15	8.7	10	14	13	11	7.2	16	11	9.8	12	13	11	9	14
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
0.038	0.036	0.021	0.09	0.036	0.034	0.034	0.049	0.041	0.075	0.025	0.021	0.036	0.031	0.035	0.046	0.033	0.038
7200	11000	18000	11000	9300	9700	16000	11000	9500	15000	18000	11000	9200	13000	13000	10000	7700	13000
ND	ND	1.4	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	1	ND	ND	ND	1.2
0.84	0.64	0.71	0.58	0.62	1.2	0.73	0.47	0.57	0.6	0.7	0.44	0.82	1.2	0.8	0.61	0.68	0.87
ND	ND	ND	ND	0.63	1.5	0.82	0.52	0.63	3.6	1.5	0.88	1.3	2.5	1.2	0.58	1.30	2.50
200	760	1900	180	210	560	350	92	130	150	370	170	380	390	520	130	150	370
ND	ND	ND	ND	ND	ND	ND	ND	ND	0.87	ND	ND	ND	ND	ND	ND	ND	ND
1900	2600	3900	2700	2100	2400	3800	2700	2500	3400	3900	2900	2300	3300	3100	2600	2000	3400
170	190	190	120	140	260	190	110	130	340	200	120	160	220	210	160	140	200
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6.2	7.1	3.1	10	6	7	5.4	8.5	7.3	5.8	4.1	4.4	6.5	8.2	6.8	8.7	7.8	9.3
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
200	310	550	240	220	250	370	140	180	500	420	170	160	290	200	130	100	340
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3100	3700	4000	3600	3000	3400	4300	3300	3000	3600	4000	3700	3200	3800	3700	3600	2900	4100
34	46	67	52	39	45	71	54	47	63	69	54	43	55	59	52	36	58
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	2.1	ND	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND
0.15	0.36	0.64	0.14	0.17	0.28	0.22	0.11	0.13	0.43	0.32	0.17	0.19	0.43	0.25	0.14	0.14	0.48
ND	ND	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
16	43	19	50	19	33	35	49	39	7.5	16	26	25	21	35	65	23	28
ND	ND	ND	ND	ND	ND	ND	ND	ND	0.017	ND	ND	ND	ND	ND	ND	ND	ND

[illegible]

Appendix B - Laboratory Certificate 2025



eNGLOBE



Your Project #: Monitoring Well Samples
 Site#: 00012
 Your C.O.C. #: C#1032143-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
 P.O. Box 254, Route 3-1-09
 Norris Arm, NL
 CANADA A0G 3M0

Report Date: 2025/06/02
 Report #: R8549273
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C558361

Received: 2025/05/22, 09:15

Sample Matrix: Water
 # Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	1	N/A	2025/05/28	N/A	SM 24 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	4	N/A	2025/05/29	N/A	SM 24 4500-CO2 D
Alkalinity	1	N/A	2025/05/27	ATL SOP 00142	SM 24 2320 B
Alkalinity	4	N/A	2025/05/28	ATL SOP 00142	SM 24 2320 B
Chloride	5	N/A	2025/05/29	ATL SOP 00014	SM 24 4500-Cl- E m
Colour	5	N/A	2025/05/29	ATL SOP 00020	SM 24 2120C m
Organic carbon - Diss (DOC)-Lab Filtered (2)	2	N/A	2025/05/26	ATL SOP 00203	SM 24 5310B m
Organic carbon - Diss (DOC)-Lab Filtered (2)	3	N/A	2025/05/27	ATL SOP 00203	SM 24 5310B m
Conductance - water	1	N/A	2025/05/27	ATL SOP 00004	SM 24 2510B m
Conductance - water	4	N/A	2025/05/28	ATL SOP 00004	SM 24 2510B m
Hardness (calculated as CaCO3)	3	N/A	2025/05/27	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	2	N/A	2025/05/28	ATL SOP 00048	Auto Calc
Mercury - Total (CVAA,LL)	5	2025/05/29	2025/05/29	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS- Lab Filtered (3)	5	N/A	2025/05/27	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	5	N/A	2025/05/30	N/A	Auto Calc.
Anion and Cation Sum	1	N/A	2025/05/28	N/A	Auto Calc.
Anion and Cation Sum	4	N/A	2025/05/29	N/A	Auto Calc.
Nitrogen Ammonia - water	5	N/A	2025/05/27	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	4	N/A	2025/05/29	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/05/30	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	5	N/A	2025/05/29	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	5	N/A	2025/05/30	ATL SOP 00018	ASTM D3867-16
Phenols (4AAP) (1)	5	N/A	2025/05/29	CAM SOP-00444	OMOE E3179 m
pH (4)	1	N/A	2025/05/27	ATL SOP 00003	SM 24 4500-H+ B m
pH (4)	4	N/A	2025/05/28	ATL SOP 00003	SM 24 4500-H+ B m
Phosphorus - ortho	5	N/A	2025/05/29	ATL SOP 00021	SM 24 4500-P E m
Sat. pH and Langelier Index (@ 20C)	5	N/A	2025/05/30	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	5	N/A	2025/05/30	ATL SOP 00049	Auto Calc.
Reactive Silica	5	N/A	2025/05/29	ATL SOP 00022	EPA 366.0 m
Sulphate	5	N/A	2025/05/29	ATL SOP 00023	ASTM D516-16 m
Sulphide (1)	5	N/A	2025/05/27	CAM SOP-00455	SM 24 4500-S G m
Total Dissolved Solids (TDS calc)	5	N/A	2025/05/30	N/A	Auto Calc.



Your Project #: Monitoring Well Samples
Site#: 00012
Your C.O.C. #: C#1032143-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/06/02
Report #: R8549273
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C558361

Received: 2025/05/22, 09:15

Sample Matrix: Water
Samples Received: 5

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Organic carbon - Total (TOC) (2)	5	N/A	2025/05/23	ATL SOP 00203	SM 24 5310B m
Total Suspended Solids	5	2025/05/23	2025/05/26	ATL SOP 00007	SM 24 2540D m
Turbidity	5	N/A	2025/05/30	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

(3) Sample filtered in laboratory prior to analysis for dissolved metals.

(4) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



Your Project #: Monitoring Well Samples
Site#: 00012
Your C.O.C. #: C#1032143-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/06/02
Report #: R8549273
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C558361

Received: 2025/05/22, 09:15

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Jaspreet Kaur, Project Manager 1

Email: jaspreet.kaur@bureauveritas.com

Phone# (902)420-0203

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



**BUREAU
VERITAS**

Bureau Veritas Job #: C558361

Report Date: 2025/06/02

Central Newfoundland Waste Management Authority

Client Project #: Monitoring Well Samples

ATL RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		ARCF35			ARCF36			ARCF37		
Sampling Date		2025/05/20 07:30			2025/05/20 07:40			2025/05/20 07:50		
COC Number		C#1032143-01-01			C#1032143-01-01			C#1032143-01-01		
Sample #		00300			00301			00302		
	UNITS	MW-H	RDL	QC Batch	MW-I	RDL	QC Batch	MW-J	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	0.430	N/A	9933236	2.51	N/A	9933236	3.10	N/A	9933236
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	13	1.0	9933233	69	1.0	9933233	89	1.0	9933233
Calculated TDS	mg/L	34	1.0	9933242	140	1.0	9933242	180	1.0	9933242
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	9933233	ND	1.0	9933233	ND	1.0	9933233
Cation Sum	me/L	0.510	N/A	9933236	2.61	N/A	9933236	3.52	N/A	9933236
Hardness (CaCO ₃)	mg/L	16	1.0	9933234	78	1.0	9933234	76	1.0	9933234
Ion Balance (% Difference)	%	8.51	N/A	9933235	1.95	N/A	9933235	6.34	N/A	9933235
Langelier Index (@ 20C)	N/A	-2.59		9933240	-0.497		9933240	-0.320		9933240
Langelier Index (@ 4C)	N/A	-2.84		9933241	-0.748		9933241	-0.570		9933241
Nitrate (N)	mg/L	0.73	0.050	9933237	0.057	0.050	9933237	1.6	0.050	9933237
Saturation pH (@ 20C)	N/A	9.59		9933240	8.30		9933240	8.38		9933240
Saturation pH (@ 4C)	N/A	9.84		9933241	8.55		9933241	8.63		9933241

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	13	2.0	9936843	69	2.0	9936849	90	2.0	9935982
Dissolved Chloride (Cl ⁻)	mg/L	4.2	1.0	9937551	36	1.0	9937640	37	1.0	9937551
Colour	TCU	ND	5.0	9937621	13	5.0	9937627	41	5.0	9937621
Nitrate + Nitrite (N)	mg/L	0.73	0.050	9937623	0.057	0.050	9937626	1.6	0.050	9937623
Nitrite (N)	mg/L	ND	0.010	9937624	ND	0.010	9937557	ND	0.010	9937624
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	9935879	ND	0.050	9935879	ND	0.050	9935878
Total Organic Carbon (C)	mg/L	ND	0.50	9934377	5.7 (1)	5.0	9934377	11	0.50	9934377
Orthophosphate (P)	mg/L	ND	0.010	9937622	ND	0.010	9937645	ND	0.010	9937622
pH	pH	7.01		9936840	7.80		9936845	8.06		9935977
Reactive Silica (SiO ₂)	mg/L	8.5	0.50	9937620	4.9	0.50	9937644	3.7	0.50	9937620
Dissolved Sulphate (SO ₄)	mg/L	ND	2.0	9937619	5.2	2.0	9937643	6.9	2.0	9937619
Turbidity	NTU	380	1.0	9938200	53	0.10	9938229	37	0.10	9938229
Conductivity	uS/cm	55	1.0	9936841	290	1.0	9936848	360	1.0	9935981

Metals

Dissolved Aluminum (Al)	ug/L	ND	5.0	9935855	9.0	5.0	9935855	63	5.0	9935855
Dissolved Antimony (Sb)	ug/L	ND	1.0	9935855	ND	1.0	9935855	ND	1.0	9935855
Dissolved Arsenic (As)	ug/L	ND	1.0	9935855	ND	1.0	9935855	ND	1.0	9935855
Dissolved Barium (Ba)	ug/L	5.5	1.0	9935855	14	1.0	9935855	11	1.0	9935855
Dissolved Beryllium (Be)	ug/L	ND	0.10	9935855	ND	0.10	9935855	ND	0.10	9935855

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to turbidity.



ATL RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		ARCF35			ARCF36			ARCF37		
Sampling Date		2025/05/20 07:30			2025/05/20 07:40			2025/05/20 07:50		
COC Number		C#1032143-01-01			C#1032143-01-01			C#1032143-01-01		
Sample #		00300			00301			00302		
	UNITS	MW-H	RDL	QC Batch	MW-I	RDL	QC Batch	MW-J	RDL	QC Batch
Dissolved Bismuth (Bi)	ug/L	ND	2.0	9935855	ND	2.0	9935855	ND	2.0	9935855
Dissolved Boron (B)	ug/L	ND	50	9935855	ND	50	9935855	240	50	9935855
Dissolved Cadmium (Cd)	ug/L	ND	0.010	9935855	ND	0.010	9935855	0.014	0.010	9935855
Dissolved Calcium (Ca)	ug/L	4000	100	9935855	17000	100	9935855	11000	100	9935855
Dissolved Chromium (Cr)	ug/L	ND	1.0	9935855	ND	1.0	9935855	ND	1.0	9935855
Dissolved Cobalt (Co)	ug/L	ND	0.40	9935855	ND	0.40	9935855	ND	0.40	9935855
Dissolved Copper (Cu)	ug/L	ND	0.50	9935855	1.9	0.50	9935855	2.5	0.50	9935855
Dissolved Iron (Fe)	ug/L	ND	50	9935855	ND	50	9935855	ND	50	9935855
Dissolved Lead (Pb)	ug/L	ND	0.50	9935855	ND	0.50	9935855	ND	0.50	9935855
Dissolved Magnesium (Mg)	ug/L	1500	100	9935855	8600	100	9935855	12000	100	9935855
Dissolved Manganese (Mn)	ug/L	4.2	2.0	9935855	2.1	2.0	9935855	2.8	2.0	9935855
Dissolved Molybdenum (Mo)	ug/L	ND	2.0	9935855	ND	2.0	9935855	ND	2.0	9935855
Dissolved Nickel (Ni)	ug/L	ND	2.0	9935855	ND	2.0	9935855	2.9	2.0	9935855
Dissolved Phosphorus (P)	ug/L	ND	100	9935855	ND	100	9935855	ND	100	9935855
Dissolved Potassium (K)	ug/L	340	100	9935855	1500	100	9935855	16000	100	9935855
Dissolved Selenium (Se)	ug/L	ND	0.50	9935855	ND	0.50	9935855	ND	0.50	9935855
Dissolved Silver (Ag)	ug/L	ND	0.10	9935855	ND	0.10	9935855	ND	0.10	9935855
Dissolved Sodium (Na)	ug/L	4200	100	9935855	23000	100	9935855	37000	100	9935855
Dissolved Strontium (Sr)	ug/L	14	2.0	9935855	100	2.0	9935855	59	2.0	9935855
Dissolved Thallium (Tl)	ug/L	ND	0.10	9935855	ND	0.10	9935855	ND	0.10	9935855
Dissolved Tin (Sn)	ug/L	ND	2.0	9935855	ND	2.0	9935855	ND	2.0	9935855
Dissolved Titanium (Ti)	ug/L	ND	2.0	9935855	ND	2.0	9935855	ND	2.0	9935855
Dissolved Uranium (U)	ug/L	ND	0.10	9935855	0.34	0.10	9935855	ND	0.10	9935855
Dissolved Vanadium (V)	ug/L	ND	2.0	9935855	ND	2.0	9935855	ND	2.0	9935855
Dissolved Zinc (Zn)	ug/L	ND	5.0	9935855	28	5.0	9935855	ND	5.0	9935855

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

**ATL. RCAP-MS DISSOLVED (LABFILT) IN W**

Bureau Veritas ID		ARCF38			ARCF39		
Sampling Date		2025/05/20 08:00			2025/05/20 08:15		
COC Number		C#1032143-01-01			C#1032143-01-01		
Sample #		00303			00304		
	UNITS	MW-K	RDL	QC Batch	MW-L	RDL	QC Batch

Calculated Parameters							
Anion Sum	me/L	1.82	N/A	9933236	0.630	N/A	9933236
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	81	1.0	9933233	12	1.0	9933233
Calculated TDS	mg/L	110	1.0	9933242	49	1.0	9933242
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	9933233	ND	1.0	9933233
Cation Sum	me/L	2.09	N/A	9933236	0.720	N/A	9933236
Hardness (CaCO ₃)	mg/L	83	1.0	9933234	28	1.0	9933234
Ion Balance (% Difference)	%	6.91	N/A	9933235	6.67	N/A	9933235
Langelier Index (@ 20C)	N/A	-0.0820		9933240	-2.58		9933240
Langelier Index (@ 4C)	N/A	-0.333		9933241	-2.84		9933241
Nitrate (N)	mg/L	0.15	0.050	9933237	0.11	0.050	9933597
Saturation pH (@ 20C)	N/A	8.08		9933240	9.33		9933240
Saturation pH (@ 4C)	N/A	8.33		9933241	9.58		9933241

Inorganics							
Total Alkalinity (Total as CaCO ₃)	mg/L	82	2.0	9936849	12	2.0	9936849
Dissolved Chloride (Cl ⁻)	mg/L	3.9	1.0	9937551	3.6	1.0	9937551
Colour	TCU	ND	5.0	9937621	47	10	9937621
Nitrate + Nitrite (N)	mg/L	0.15	0.050	9937623	0.11	0.050	9937623
Nitrite (N)	mg/L	ND	0.010	9937624	ND	0.010	9937624
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	9935879	0.10	0.050	9935878
Total Organic Carbon (C)	mg/L	ND (1)	5.0	9934377	7.5	0.50	9934377
Orthophosphate (P)	mg/L	ND	0.010	9937622	ND	0.010	9937622
pH	pH	8.00		9936845	6.74		9936845
Reactive Silica (SiO ₂)	mg/L	15	0.50	9937620	11	0.50	9937620
Dissolved Sulphate (SO ₄)	mg/L	3.3	2.0	9937619	13	2.0	9937619
Turbidity	NTU	95	0.10	9938229	3.5	0.10	9938229
Conductivity	uS/cm	200	1.0	9936848	81	1.0	9936848

Metals							
Dissolved Aluminum (Al)	ug/L	ND	5.0	9935855	170	5.0	9935855
Dissolved Antimony (Sb)	ug/L	ND	1.0	9935855	ND	1.0	9935855
Dissolved Arsenic (As)	ug/L	4.4	1.0	9935855	ND	1.0	9935855
Dissolved Barium (Ba)	ug/L	46	1.0	9935855	9.2	1.0	9935855
Dissolved Beryllium (Be)	ug/L	ND	0.10	9935855	ND	0.10	9935855

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.



ATL. RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		ARCF38			ARCF39		
Sampling Date		2025/05/20 08:00			2025/05/20 08:15		
COC Number		C#1032143-01-01			C#1032143-01-01		
Sample #		00303			00304		
	UNITS	MW-K	RDL	QC Batch	MW-L	RDL	QC Batch
Dissolved Bismuth (Bi)	ug/L	ND	2.0	9935855	ND	2.0	9935855
Dissolved Boron (B)	ug/L	ND	50	9935855	ND	50	9935855
Dissolved Cadmium (Cd)	ug/L	ND	0.010	9935855	0.054	0.010	9935855
Dissolved Calcium (Ca)	ug/L	23000	100	9935855	8000	100	9935855
Dissolved Chromium (Cr)	ug/L	ND	1.0	9935855	ND	1.0	9935855
Dissolved Cobalt (Co)	ug/L	ND	0.40	9935855	0.84	0.40	9935855
Dissolved Copper (Cu)	ug/L	0.61	0.50	9935855	0.80	0.50	9935855
Dissolved Iron (Fe)	ug/L	ND	50	9935855	250	50	9935855
Dissolved Lead (Pb)	ug/L	ND	0.50	9935855	ND	0.50	9935855
Dissolved Magnesium (Mg)	ug/L	6400	100	9935855	2000	100	9935855
Dissolved Manganese (Mn)	ug/L	ND	2.0	9935855	190	2.0	9935855
Dissolved Molybdenum (Mo)	ug/L	ND	2.0	9935855	ND	2.0	9935855
Dissolved Nickel (Ni)	ug/L	ND	2.0	9935855	8.9	2.0	9935855
Dissolved Phosphorus (P)	ug/L	ND	100	9935855	ND	100	9935855
Dissolved Potassium (K)	ug/L	1600	100	9935855	150	100	9935855
Dissolved Selenium (Se)	ug/L	ND	0.50	9935855	ND	0.50	9935855
Dissolved Silver (Ag)	ug/L	ND	0.10	9935855	ND	0.10	9935855
Dissolved Sodium (Na)	ug/L	8900	100	9935855	3100	100	9935855
Dissolved Strontium (Sr)	ug/L	330	2.0	9935855	41	2.0	9935855
Dissolved Thallium (Tl)	ug/L	ND	0.10	9935855	ND	0.10	9935855
Dissolved Tin (Sn)	ug/L	ND	2.0	9935855	ND	2.0	9935855
Dissolved Titanium (Ti)	ug/L	ND	2.0	9935855	ND	2.0	9935855
Dissolved Uranium (U)	ug/L	0.37	0.10	9935855	0.16	0.10	9935855
Dissolved Vanadium (V)	ug/L	ND	2.0	9935855	ND	2.0	9935855
Dissolved Zinc (Zn)	ug/L	ND	5.0	9935855	44	5.0	9935855
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.							



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ARCF35			ARCF36			ARCF37		
Sampling Date		2025/05/20 07:30			2025/05/20 07:40			2025/05/20 07:50		
COC Number		C#1032143-01-01			C#1032143-01-01			C#1032143-01-01		
Sample #		00300			00301			00302		
	UNITS	MW-H	RDL	QC Batch	MW-I	RDL	QC Batch	MW-J	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	ND	0.50	9935812	4.6	0.50	9935388	10	0.50	9935812
Phenols-4AAP	mg/L	ND	0.0010	9937979	ND	0.0010	9937979	ND	0.0010	9937979
Total Suspended Solids	mg/L	3.8	1.0	9934053	35	2.0	9934053	4.8	1.0	9934053
Sulphide	mg/L	ND	0.020	9935989	ND	0.020	9935989	ND	0.020	9935989

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		ARCF38			ARCF39		
Sampling Date		2025/05/20 08:00			2025/05/20 08:15		
COC Number		C#1032143-01-01			C#1032143-01-01		
Sample #		00303			00304		
	UNITS	MW-K	RDL	QC Batch	MW-L	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	0.81	0.50	9935812	6.8	0.50	9935388
Phenols-4AAP	mg/L	ND	0.0010	9937979	ND	0.0010	9937979
Total Suspended Solids	mg/L	66	1.7	9934053	4.2	1.0	9934053
Sulphide	mg/L	ND	0.020	9935989	ND	0.020	9935989

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



MERCURY BY COLD VAPOUR AA (WATER)

Bureau Veritas ID		ARCF35	ARCF36	ARCF37	ARCF38	ARCF39		
Sampling Date		2025/05/20 07:30	2025/05/20 07:40	2025/05/20 07:50	2025/05/20 08:00	2025/05/20 08:15		
COC Number		C#1032143-01-01	C#1032143-01-01	C#1032143-01-01	C#1032143-01-01	C#1032143-01-01		
Sample #		00300	00301	00302	00303	00304		
	UNITS	MW-H	MW-I	MW-J	MW-K	MW-L	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	0.013	9937078

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.7°C
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Sample ARCF35 [MW-H] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample ARCF37 [MW-J] : Poor RCap Ion Balance due to sample matrix.

Sample ARCF38 [MW-K] : Poor RCap Ion Balance due to sample matrix.

Sample ARCF39 [MW-L] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.



**BUREAU
VERITAS**

Bureau Veritas Job #: C558361
Report Date: 2025/06/02

Central Newfoundland Waste Management Authority
Client Project #: Monitoring Well Samples

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9934053	ISM	QC Standard	Total Suspended Solids	2025/05/26		98	%	80 - 120
9934053	ISM	Method Blank	Total Suspended Solids	2025/05/26	ND, RDL=1.0		mg/L	
9934053	ISM	RPD [ARCF36-01]	Total Suspended Solids	2025/05/26	2.3		%	20
9934377	SSI	Matrix Spike	Total Organic Carbon (C)	2025/05/23		98	%	85 - 115
9934377	SSI	Spiked Blank	Total Organic Carbon (C)	2025/05/23		99	%	80 - 120
9934377	SSI	Method Blank	Total Organic Carbon (C)	2025/05/23	ND, RDL=0.50		mg/L	
9934377	SSI	RPD	Total Organic Carbon (C)	2025/05/23	NC		%	15
9935388	SSI	Matrix Spike	Dissolved Organic Carbon (C)	2025/05/26		97	%	85 - 115
9935388	SSI	Spiked Blank	Dissolved Organic Carbon (C)	2025/05/26		97	%	80 - 120
9935388	SSI	Method Blank	Dissolved Organic Carbon (C)	2025/05/26	ND, RDL=0.50		mg/L	
9935388	SSI	RPD	Dissolved Organic Carbon (C)	2025/05/26	1.9		%	15
9935812	SSI	Matrix Spike	Dissolved Organic Carbon (C)	2025/05/27		99	%	85 - 115
9935812	SSI	Spiked Blank	Dissolved Organic Carbon (C)	2025/05/27		99	%	80 - 120
9935812	SSI	Method Blank	Dissolved Organic Carbon (C)	2025/05/27	ND, RDL=0.50		mg/L	
9935812	SSI	RPD	Dissolved Organic Carbon (C)	2025/05/27	7.0		%	15
9935855	MTZ	Matrix Spike	Dissolved Aluminum (Al)	2025/05/27		100	%	80 - 120
			Dissolved Antimony (Sb)	2025/05/27		105	%	80 - 120
			Dissolved Arsenic (As)	2025/05/27		101	%	80 - 120
			Dissolved Barium (Ba)	2025/05/27		101	%	80 - 120
			Dissolved Beryllium (Be)	2025/05/27		95	%	80 - 120
			Dissolved Bismuth (Bi)	2025/05/27		100	%	80 - 120
			Dissolved Boron (B)	2025/05/27		96	%	80 - 120
			Dissolved Cadmium (Cd)	2025/05/27		102	%	80 - 120
			Dissolved Calcium (Ca)	2025/05/27		98	%	80 - 120
			Dissolved Chromium (Cr)	2025/05/27		96	%	80 - 120
			Dissolved Cobalt (Co)	2025/05/27		99	%	80 - 120
			Dissolved Copper (Cu)	2025/05/27		98	%	80 - 120
			Dissolved Iron (Fe)	2025/05/27		105	%	80 - 120
			Dissolved Lead (Pb)	2025/05/27		99	%	80 - 120
			Dissolved Magnesium (Mg)	2025/05/27		103	%	80 - 120
			Dissolved Manganese (Mn)	2025/05/27		100	%	80 - 120
			Dissolved Molybdenum (Mo)	2025/05/27		104	%	80 - 120
			Dissolved Nickel (Ni)	2025/05/27		99	%	80 - 120
			Dissolved Phosphorus (P)	2025/05/27		106	%	80 - 120
			Dissolved Potassium (K)	2025/05/27		98	%	80 - 120
			Dissolved Selenium (Se)	2025/05/27		96	%	80 - 120
			Dissolved Silver (Ag)	2025/05/27		96	%	80 - 120
			Dissolved Sodium (Na)	2025/05/27		97	%	80 - 120
			Dissolved Strontium (Sr)	2025/05/27		104	%	80 - 120
			Dissolved Thallium (Tl)	2025/05/27		101	%	80 - 120
			Dissolved Tin (Sn)	2025/05/27		103	%	80 - 120
			Dissolved Titanium (Ti)	2025/05/27		100	%	80 - 120
			Dissolved Uranium (U)	2025/05/27		103	%	80 - 120
			Dissolved Vanadium (V)	2025/05/27		100	%	80 - 120
			Dissolved Zinc (Zn)	2025/05/27		101	%	80 - 120
9935855	MTZ	Spiked Blank	Dissolved Aluminum (Al)	2025/05/27		101	%	80 - 120
			Dissolved Antimony (Sb)	2025/05/27		105	%	80 - 120
			Dissolved Arsenic (As)	2025/05/27		99	%	80 - 120
			Dissolved Barium (Ba)	2025/05/27		102	%	80 - 120
			Dissolved Beryllium (Be)	2025/05/27		95	%	80 - 120
			Dissolved Bismuth (Bi)	2025/05/27		103	%	80 - 120



BUREAU
VERITAS

Bureau Veritas Job #: C558361
Report Date: 2025/06/02

Central Newfoundland Waste Management Authority
Client Project #: Monitoring Well Samples

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Boron (B)	2025/05/27		97	%	80 - 120
			Dissolved Cadmium (Cd)	2025/05/27		100	%	80 - 120
			Dissolved Calcium (Ca)	2025/05/27		98	%	80 - 120
			Dissolved Chromium (Cr)	2025/05/27		96	%	80 - 120
			Dissolved Cobalt (Co)	2025/05/27		98	%	80 - 120
			Dissolved Copper (Cu)	2025/05/27		98	%	80 - 120
			Dissolved Iron (Fe)	2025/05/27		104	%	80 - 120
			Dissolved Lead (Pb)	2025/05/27		100	%	80 - 120
			Dissolved Magnesium (Mg)	2025/05/27		100	%	80 - 120
			Dissolved Manganese (Mn)	2025/05/27		100	%	80 - 120
			Dissolved Molybdenum (Mo)	2025/05/27		102	%	80 - 120
			Dissolved Nickel (Ni)	2025/05/27		98	%	80 - 120
			Dissolved Phosphorus (P)	2025/05/27		106	%	80 - 120
			Dissolved Potassium (K)	2025/05/27		97	%	80 - 120
			Dissolved Selenium (Se)	2025/05/27		96	%	80 - 120
			Dissolved Silver (Ag)	2025/05/27		97	%	80 - 120
			Dissolved Sodium (Na)	2025/05/27		99	%	80 - 120
			Dissolved Strontium (Sr)	2025/05/27		101	%	80 - 120
			Dissolved Thallium (Tl)	2025/05/27		102	%	80 - 120
			Dissolved Tin (Sn)	2025/05/27		102	%	80 - 120
			Dissolved Titanium (Ti)	2025/05/27		98	%	80 - 120
			Dissolved Uranium (U)	2025/05/27		105	%	80 - 120
			Dissolved Vanadium (V)	2025/05/27		100	%	80 - 120
			Dissolved Zinc (Zn)	2025/05/27		101	%	80 - 120
9935855	MTZ	Method Blank	Dissolved Aluminum (Al)	2025/05/27	ND, RDL=5.0		ug/L	
			Dissolved Antimony (Sb)	2025/05/27	ND, RDL=1.0		ug/L	
			Dissolved Arsenic (As)	2025/05/27	ND, RDL=1.0		ug/L	
			Dissolved Barium (Ba)	2025/05/27	ND, RDL=1.0		ug/L	
			Dissolved Beryllium (Be)	2025/05/27	ND, RDL=0.10		ug/L	
			Dissolved Bismuth (Bi)	2025/05/27	ND, RDL=2.0		ug/L	
			Dissolved Boron (B)	2025/05/27	ND, RDL=50		ug/L	
			Dissolved Cadmium (Cd)	2025/05/27	ND, RDL=0.010		ug/L	
			Dissolved Calcium (Ca)	2025/05/27	ND, RDL=100		ug/L	
			Dissolved Chromium (Cr)	2025/05/27	ND, RDL=1.0		ug/L	
			Dissolved Cobalt (Co)	2025/05/27	ND, RDL=0.40		ug/L	
			Dissolved Copper (Cu)	2025/05/27	ND, RDL=0.50		ug/L	
			Dissolved Iron (Fe)	2025/05/27	ND, RDL=50		ug/L	
			Dissolved Lead (Pb)	2025/05/27	ND, RDL=0.50		ug/L	
			Dissolved Magnesium (Mg)	2025/05/27	ND, RDL=100		ug/L	
			Dissolved Manganese (Mn)	2025/05/27	ND, RDL=2.0		ug/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Molybdenum (Mo)	2025/05/27	ND, RDL=2.0		ug/L	
			Dissolved Nickel (Ni)	2025/05/27	ND, RDL=2.0		ug/L	
			Dissolved Phosphorus (P)	2025/05/27	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2025/05/27	ND, RDL=100		ug/L	
			Dissolved Selenium (Se)	2025/05/27	ND, RDL=0.50		ug/L	
			Dissolved Silver (Ag)	2025/05/27	ND, RDL=0.10		ug/L	
			Dissolved Sodium (Na)	2025/05/27	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2025/05/27	ND, RDL=2.0		ug/L	
			Dissolved Thallium (Tl)	2025/05/27	ND, RDL=0.10		ug/L	
			Dissolved Tin (Sn)	2025/05/27	ND, RDL=2.0		ug/L	
			Dissolved Titanium (Ti)	2025/05/27	ND, RDL=2.0		ug/L	
			Dissolved Uranium (U)	2025/05/27	ND, RDL=0.10		ug/L	
			Dissolved Vanadium (V)	2025/05/27	ND, RDL=2.0		ug/L	
			Dissolved Zinc (Zn)	2025/05/27	ND, RDL=5.0		ug/L	
9935855	MTZ	RPD	Dissolved Potassium (K)	2025/05/27	1.4		%	20
			Dissolved Sodium (Na)	2025/05/27	0.24		%	20
9935878	MCN	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/05/27		94	%	80 - 120
9935878	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/05/27		94	%	80 - 120
9935878	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/05/27	ND, RDL=0.050		mg/L	
9935878	MCN	RPD	Nitrogen (Ammonia Nitrogen)	2025/05/27	0.50		%	20
9935879	MCN	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/05/27		NC	%	80 - 120
9935879	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/05/27		111	%	80 - 120
9935879	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/05/27	ND, RDL=0.050		mg/L	
9935879	MCN	RPD	Nitrogen (Ammonia Nitrogen)	2025/05/27	2.3		%	20
9935977	M2C	Spiked Blank	pH	2025/05/27		102	%	97 - 103
9935977	M2C	RPD [ARCF37-02]	pH	2025/05/27	0.050		%	N/A
9935981	M2C	Spiked Blank	Conductivity	2025/05/27		98	%	80 - 120
9935981	M2C	Method Blank	Conductivity	2025/05/28	ND, RDL=1.0		uS/cm	
9935981	M2C	RPD [ARCF37-02]	Conductivity	2025/05/27	0.57		%	10
9935982	M2C	Spiked Blank	Total Alkalinity (Total as CaCO ₃)	2025/05/27		96	%	80 - 120
9935982	M2C	Method Blank	Total Alkalinity (Total as CaCO ₃)	2025/05/27	ND, RDL=2.0		mg/L	
9935982	M2C	RPD [ARCF37-02]	Total Alkalinity (Total as CaCO ₃)	2025/05/27	1.3		%	20
9935989	NGI	Matrix Spike	Sulphide	2025/05/27		96	%	80 - 120
9935989	NGI	Spiked Blank	Sulphide	2025/05/27		96	%	80 - 120
9935989	NGI	Method Blank	Sulphide	2025/05/27	ND, RDL=0.020		mg/L	
9935989	NGI	RPD	Sulphide	2025/05/27	6.4		%	20
9936840	M2C	Spiked Blank	pH	2025/05/28		99	%	97 - 103



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9936840	M2C	RPD	pH	2025/05/28	0.051		%	N/A
9936841	M2C	Spiked Blank	Conductivity	2025/05/28		103	%	80 - 120
9936841	M2C	Method Blank	Conductivity	2025/05/28	ND, RDL=1.0		uS/cm	
9936841	M2C	RPD	Conductivity	2025/05/28	0		%	10
9936843	M2C	Spiked Blank	Total Alkalinity (Total as CaCO ₃)	2025/05/28		98	%	80 - 120
9936843	M2C	Method Blank	Total Alkalinity (Total as CaCO ₃)	2025/05/28	ND, RDL=2.0		mg/L	
9936843	M2C	RPD	Total Alkalinity (Total as CaCO ₃)	2025/05/28	1.4		%	20
9936845	M2C	Spiked Blank	pH	2025/05/28		99	%	97 - 103
9936845	M2C	RPD	pH	2025/05/28	1.3		%	N/A
9936848	M2C	Spiked Blank	Conductivity	2025/05/28		102	%	80 - 120
9936848	M2C	Method Blank	Conductivity	2025/05/28	ND, RDL=1.0		uS/cm	
9936848	M2C	RPD	Conductivity	2025/05/28	4.7		%	10
9936849	M2C	Spiked Blank	Total Alkalinity (Total as CaCO ₃)	2025/05/28		104	%	80 - 120
9936849	M2C	Method Blank	Total Alkalinity (Total as CaCO ₃)	2025/05/28	ND, RDL=2.0		mg/L	
9936849	M2C	RPD	Total Alkalinity (Total as CaCO ₃)	2025/05/28	4.4		%	20
9937078	JEP	Matrix Spike [ARCF35-06]	Total Mercury (Hg)	2025/05/29		98	%	80 - 120
9937078	JEP	Spiked Blank	Total Mercury (Hg)	2025/05/29		98	%	80 - 120
9937078	JEP	Method Blank	Total Mercury (Hg)	2025/05/29	ND, RDL=0.013		ug/L	
9937078	JEP	RPD	Total Mercury (Hg)	2025/05/29	NC		%	20
9937551	MCN	Matrix Spike	Dissolved Chloride (Cl ⁻)	2025/05/29		91	%	80 - 120
9937551	MCN	Spiked Blank	Dissolved Chloride (Cl ⁻)	2025/05/29		91	%	80 - 120
9937551	MCN	Method Blank	Dissolved Chloride (Cl ⁻)	2025/05/29	ND, RDL=1.0		mg/L	
9937551	MCN	RPD	Dissolved Chloride (Cl ⁻)	2025/05/29	1.1		%	20
9937557	MCN	Matrix Spike [ARCF36-02]	Nitrite (N)	2025/05/29		105	%	80 - 120
9937557	MCN	Spiked Blank	Nitrite (N)	2025/05/29		106	%	80 - 120
9937557	MCN	Method Blank	Nitrite (N)	2025/05/29	ND, RDL=0.010		mg/L	
9937557	MCN	RPD [ARCF36-02]	Nitrite (N)	2025/05/29	9.2		%	20
9937619	MCN	Matrix Spike	Dissolved Sulphate (SO ₄)	2025/05/29		98	%	80 - 120
9937619	MCN	Spiked Blank	Dissolved Sulphate (SO ₄)	2025/05/29		93	%	80 - 120
9937619	MCN	Method Blank	Dissolved Sulphate (SO ₄)	2025/05/29	ND, RDL=2.0		mg/L	
9937619	MCN	RPD	Dissolved Sulphate (SO ₄)	2025/05/29	NC		%	20
9937620	MCN	Matrix Spike	Reactive Silica (SiO ₂)	2025/05/29		92	%	80 - 120
9937620	MCN	Spiked Blank	Reactive Silica (SiO ₂)	2025/05/29		95	%	80 - 120
9937620	MCN	Method Blank	Reactive Silica (SiO ₂)	2025/05/29	ND, RDL=0.50		mg/L	
9937620	MCN	RPD	Reactive Silica (SiO ₂)	2025/05/29	4.7		%	20
9937621	MCN	Spiked Blank	Colour	2025/05/29		99	%	80 - 120
9937621	MCN	Method Blank	Colour	2025/05/29	ND, RDL=5.0		TCU	
9937621	MCN	RPD	Colour	2025/05/29	2.3		%	20
9937622	MCN	Matrix Spike	Orthophosphate (P)	2025/05/29		92	%	80 - 120
9937622	MCN	Spiked Blank	Orthophosphate (P)	2025/05/29		97	%	80 - 120
9937622	MCN	Method Blank	Orthophosphate (P)	2025/05/29	ND, RDL=0.010		mg/L	
9937622	MCN	RPD	Orthophosphate (P)	2025/05/29	NC		%	20
9937623	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/05/29		100	%	80 - 120
9937623	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/05/29		97	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9937623	MCN	Method Blank	Nitrate + Nitrite (N)	2025/05/30	ND, RDL=0.050		mg/L	
9937623	MCN	RPD	Nitrate + Nitrite (N)	2025/05/29	3.6		%	20
9937624	MCN	Matrix Spike	Nitrite (N)	2025/05/29		93	%	80 - 120
9937624	MCN	Spiked Blank	Nitrite (N)	2025/05/29		92	%	80 - 120
9937624	MCN	Method Blank	Nitrite (N)	2025/05/29	ND, RDL=0.010		mg/L	
9937624	MCN	RPD	Nitrite (N)	2025/05/30	NC		%	20
9937626	MCN	Matrix Spike [ARCF36-02]	Nitrate + Nitrite (N)	2025/05/29		99	%	80 - 120
9937626	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/05/29		101	%	80 - 120
9937626	MCN	Method Blank	Nitrate + Nitrite (N)	2025/05/29	ND, RDL=0.050		mg/L	
9937626	MCN	RPD [ARCF36-02]	Nitrate + Nitrite (N)	2025/05/30	7.2		%	20
9937627	MCN	Spiked Blank	Colour	2025/05/29		99	%	80 - 120
9937627	MCN	Method Blank	Colour	2025/05/29	ND, RDL=5.0		TCU	
9937627	MCN	RPD [ARCF36-02]	Colour	2025/05/29	2.6		%	20
9937640	MCN	Matrix Spike [ARCF36-02]	Dissolved Chloride (Cl-)	2025/05/29		87	%	80 - 120
9937640	MCN	Spiked Blank	Dissolved Chloride (Cl-)	2025/05/29		91	%	80 - 120
9937640	MCN	Method Blank	Dissolved Chloride (Cl-)	2025/05/29	ND, RDL=1.0		mg/L	
9937640	MCN	RPD [ARCF36-02]	Dissolved Chloride (Cl-)	2025/05/29	0.82		%	20
9937643	MCN	Matrix Spike [ARCF36-02]	Dissolved Sulphate (SO4)	2025/05/29		95	%	80 - 120
9937643	MCN	Spiked Blank	Dissolved Sulphate (SO4)	2025/05/29		93	%	80 - 120
9937643	MCN	Method Blank	Dissolved Sulphate (SO4)	2025/05/29	ND, RDL=2.0		mg/L	
9937643	MCN	RPD [ARCF36-02]	Dissolved Sulphate (SO4)	2025/05/29	2.2		%	20
9937644	MCN	Matrix Spike [ARCF36-02]	Reactive Silica (SiO2)	2025/05/29		87	%	80 - 120
9937644	MCN	Spiked Blank	Reactive Silica (SiO2)	2025/05/29		92	%	80 - 120
9937644	MCN	Method Blank	Reactive Silica (SiO2)	2025/05/29	ND, RDL=0.50		mg/L	
9937644	MCN	RPD [ARCF36-02]	Reactive Silica (SiO2)	2025/05/29	1.1		%	20
9937645	MCN	Matrix Spike [ARCF36-02]	Orthophosphate (P)	2025/05/29		91	%	80 - 120
9937645	MCN	Spiked Blank	Orthophosphate (P)	2025/05/29		96	%	80 - 120
9937645	MCN	Method Blank	Orthophosphate (P)	2025/05/29	ND, RDL=0.010		mg/L	
9937645	MCN	RPD [ARCF36-02]	Orthophosphate (P)	2025/05/29	NC		%	20
9937979	SSV	Matrix Spike	Phenols-4AAP	2025/05/29		105	%	80 - 120
9937979	SSV	Spiked Blank	Phenols-4AAP	2025/05/29		105	%	80 - 120
9937979	SSV	Method Blank	Phenols-4AAP	2025/05/29	ND, RDL=0.0010		mg/L	
9937979	SSV	RPD	Phenols-4AAP	2025/05/29	0		%	20
9938200	M2C	QC Standard	Turbidity	2025/05/30		117	%	80 - 120
9938200	M2C	Spiked Blank	Turbidity	2025/05/30		105	%	80 - 120
9938200	M2C	Method Blank	Turbidity	2025/05/30	ND, RDL=0.10		NTU	
9938200	M2C	RPD	Turbidity	2025/05/30	17		%	20
9938229	M2C	QC Standard	Turbidity	2025/05/30		116	%	80 - 120
9938229	M2C	Spiked Blank	Turbidity	2025/05/30		106	%	80 - 120
9938229	M2C	Method Blank	Turbidity	2025/05/30	ND, RDL=0.10		NTU	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC									
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
9938229	M2C	RPD	Turbidity	2025/05/30	0.59		%	20	
N/A = Not Applicable									
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.									
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.									
QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.									
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.									
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.									
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)									
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).									



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Ernlie Publicover

Ernlie Publicover, Scientific Specialist

Janah M. Rhyno

Janah Rhyno, Scientific Specialist

Janah M. Rhyno

Bureau Veritas Certified by Janah Rhyno, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



Your Project #: Monitoring Well Samples
Site#: 00012
Your C.O.C. #: C#1043054-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/08/05
Report #: R8587600
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C585936

Received: 2025/07/17, 09:29

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	4	N/A	2025/07/22	N/A	SM 24 4500-CO2 D
Alkalinity	4	N/A	2025/07/21	ATL SOP 00142	SM 24 2320 B
Chloride	4	N/A	2025/07/22	ATL SOP 00014	SM 24 4500-Cl- E m
Colour	4	N/A	2025/07/23	ATL SOP 00020	SM 24 2120C m
Organic carbon - Diss (DOC)-Lab Filtered (2)	4	N/A	2025/07/23	ATL SOP 00203	SM 24 5310B m
Conductance - water	4	N/A	2025/07/21	ATL SOP 00004	SM 24 2510B m
Hardness (calculated as CaCO3)	4	N/A	2025/07/22	ATL SOP 00048	Auto Calc
Mercury - Total (CVAA,LL)	4	2025/07/21	2025/07/22	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS- Lab Filtered (3)	4	N/A	2025/07/21	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	4	N/A	2025/07/23	N/A	Auto Calc.
Anion and Cation Sum	4	N/A	2025/07/22	N/A	Auto Calc.
Nitrogen Ammonia - water	4	N/A	2025/07/21	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	4	N/A	2025/07/23	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	4	N/A	2025/07/22	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	4	N/A	2025/07/23	ATL SOP 00018	ASTM D3867-16
Phenols (4AAP) (1)	2	N/A	2025/07/26	CAM SOP-00444	OMOE E3179 m
Phenols (4AAP) (1)	2	N/A	2025/08/01	CAM SOP-00444	OMOE E3179 m
pH (4)	4	N/A	2025/07/21	ATL SOP 00003	SM 24 4500-H+ B m
Phosphorus - ortho	4	N/A	2025/07/22	ATL SOP 00021	SM 24 4500-P E m
Sat. pH and Langelier Index (@ 20C)	4	N/A	2025/07/23	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	4	N/A	2025/07/23	ATL SOP 00049	Auto Calc.
Reactive Silica	4	N/A	2025/07/22	ATL SOP 00022	EPA 366.0 m
Sulphate	4	N/A	2025/07/22	ATL SOP 00023	ASTM D516-16 m
Sulphide (1)	4	N/A	2025/07/22	CAM SOP-00455	SM 24 4500-S G m
Total Dissolved Solids (TDS calc)	4	N/A	2025/07/23	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	4	N/A	2025/07/23	ATL SOP 00203	SM 24 5310B m
Total Suspended Solids	4	2025/07/21	2025/07/22	ATL SOP 00007	SM 24 2540D m
Turbidity	4	N/A	2025/07/22	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.



Your Project #: Monitoring Well Samples
Site#: 00012
Your C.O.C. #: C#1043054-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/08/05
Report #: R8587600
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C585936

Received: 2025/07/17, 09:29

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

(3) Sample filtered in laboratory prior to analysis for dissolved metals.

(4) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Augustina Isesele, Customer Solutions Representative

Email: Augustina.isesele@bureauveritas.com

Phone# (902) 420-0203

=====

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**BUREAU
VERITAS**

Bureau Veritas Job #: C585936

Report Date: 2025/08/05

Central Newfoundland Waste Management Authority

Client Project #: Monitoring Well Samples

ATL RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		ATBA26			ATBA27			ATBA28		
Sampling Date		2025/07/15 10:30			2025/07/15 10:40			2025/07/15 10:50		
COC Number		C#1043054-01-01			C#1043054-01-01			C#1043054-01-01		
Sample #		00300			00302			00303		
	UNITS	MW-H	RDL	QC Batch	MW-J	RDL	QC Batch	MW-K	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	0.750	N/A	9971616	3.77	N/A	9971616	1.85	N/A	9971616
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	23	1.0	9971613	120	1.0	9971613	81	1.0	9971613
Calculated TDS	mg/L	51	1.0	9971621	230	1.0	9971621	120	1.0	9971621
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	9971613	ND	1.0	9971613	ND	1.0	9971613
Cation Sum	me/L	0.770	N/A	9971616	4.61	N/A	9971616	2.12	N/A	9971616
Hardness (CaCO ₃)	mg/L	23	1.0	9971369	81	1.0	9971760	83	1.0	9971762
Ion Balance (% Difference)	%	1.32	N/A	9971615	10.0	N/A	9971615	6.80	N/A	9971615
Langelier Index (@ 20C)	N/A	-2.09		9971619	-0.404		9971619	-0.0640		9971619
Langelier Index (@ 4C)	N/A	-2.34		9971620	-0.653		9971620	-0.315		9971620
Nitrate (N)	mg/L	0.58	0.050	9971617	0.63	0.050	9971617	0.18	0.050	9971617
Saturation pH (@ 20C)	N/A	9.20		9971619	8.22		9971619	8.10		9971619
Saturation pH (@ 4C)	N/A	9.45		9971620	8.47		9971620	8.35		9971620

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	23	2.0	9973507	120	2.0	9973507	82	2.0	9973507
Dissolved Chloride (Cl ⁻)	mg/L	7.3	1.0	9973320	46	1.0	9973320	4.6	1.0	9973320
Colour	TCU	ND	5.0	9973439	91	25	9973439	ND	5.0	9973439
Nitrate + Nitrite (N)	mg/L	0.58	0.050	9973443	0.64	0.050	9973443	0.18	0.050	9973443
Nitrite (N)	mg/L	ND	0.010	9973444	0.014	0.010	9973444	ND	0.010	9973444
Nitrogen (Ammonia Nitrogen)	mg/L	0.056	0.050	9972345	0.13	0.050	9972345	ND	0.050	9972345
Total Organic Carbon (C)	mg/L	ND (1)	5.0	9975083	25	0.50	9975083	2.4	0.50	9974543
Orthophosphate (P)	mg/L	ND	0.010	9973442	ND	0.010	9973442	ND	0.010	9973442
pH	pH	7.11		9973504	7.81		9973504	8.03		9973504
Reactive Silica (SiO ₂)	mg/L	10	0.50	9973437	3.9	0.50	9973437	17	0.50	9973437
Dissolved Sulphate (SO ₄)	mg/L	2.2	2.0	9973434	3.6	2.0	9973434	3.2	2.0	9973434
Turbidity	NTU	690	1.0	9973708	420	1.0	9973708	310	1.0	9973708
Conductivity	uS/cm	75	1.0	9973505	430	1.0	9973505	190	1.0	9973505

Metals

Dissolved Aluminum (Al)	ug/L	ND	5.0	9973404	130	5.0	9973404	38	5.0	9973404
Dissolved Antimony (Sb)	ug/L	ND	1.0	9973404	ND	1.0	9973404	ND	1.0	9973404
Dissolved Arsenic (As)	ug/L	ND	1.0	9973404	ND	1.0	9973404	4.7	1.0	9973404
Dissolved Barium (Ba)	ug/L	7.2	1.0	9973404	31	1.0	9973404	35	1.0	9973404
Dissolved Beryllium (Be)	ug/L	ND	0.10	9973404	ND	0.10	9973404	ND	0.10	9973404

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to turbidity.



ATL RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		ATBA26			ATBA27			ATBA28		
Sampling Date		2025/07/15 10:30			2025/07/15 10:40			2025/07/15 10:50		
COC Number		C#1043054-01-01			C#1043054-01-01			C#1043054-01-01		
Sample #		00300			00302			00303		
	UNITS	MW-H	RDL	QC Batch	MW-J	RDL	QC Batch	MW-K	RDL	QC Batch
Dissolved Bismuth (Bi)	ug/L	ND	2.0	9973404	ND	2.0	9973404	ND	2.0	9973404
Dissolved Boron (B)	ug/L	ND	50	9973404	350	50	9973404	ND	50	9973404
Dissolved Cadmium (Cd)	ug/L	0.020	0.010	9973404	0.020	0.010	9973404	ND	0.010	9973404
Dissolved Calcium (Ca)	ug/L	5600	100	9973404	13000	100	9973404	22000	100	9973404
Dissolved Chromium (Cr)	ug/L	ND	1.0	9973404	2.0	1.0	9973404	ND	1.0	9973404
Dissolved Cobalt (Co)	ug/L	ND	0.40	9973404	0.70	0.40	9973404	ND	0.40	9973404
Dissolved Copper (Cu)	ug/L	ND	0.50	9973404	8.3	0.50	9973404	0.66	0.50	9973404
Dissolved Iron (Fe)	ug/L	ND	50	9973404	ND	50	9973404	ND	50	9973404
Dissolved Lead (Pb)	ug/L	ND	0.50	9973404	ND	0.50	9973404	ND	0.50	9973404
Dissolved Magnesium (Mg)	ug/L	2200	100	9973404	12000	100	9973404	6800	100	9973404
Dissolved Manganese (Mn)	ug/L	33	2.0	9973404	3.7	2.0	9973404	ND	2.0	9973404
Dissolved Molybdenum (Mo)	ug/L	ND	2.0	9973404	ND	2.0	9973404	ND	2.0	9973404
Dissolved Nickel (Ni)	ug/L	ND	2.0	9973404	5.8	2.0	9973404	ND	2.0	9973404
Dissolved Phosphorus (P)	ug/L	ND	100	9973404	ND	100	9973404	ND	100	9973404
Dissolved Potassium (K)	ug/L	440	100	9973404	21000	100	9973404	2000	100	9973404
Dissolved Selenium (Se)	ug/L	ND	0.50	9973404	ND	0.50	9973404	ND	0.50	9973404
Dissolved Silver (Ag)	ug/L	ND	0.10	9973404	ND	0.10	9973404	ND	0.10	9973404
Dissolved Sodium (Na)	ug/L	6800	100	9973404	56000	100	9973404	9400	100	9973404
Dissolved Strontium (Sr)	ug/L	21	2.0	9973404	75	2.0	9973404	310	2.0	9973404
Dissolved Thallium (Tl)	ug/L	ND	0.10	9973404	ND	0.10	9973404	ND	0.10	9973404
Dissolved Tin (Sn)	ug/L	ND	2.0	9973404	ND	2.0	9973404	ND	2.0	9973404
Dissolved Titanium (Ti)	ug/L	ND	2.0	9973404	ND	2.0	9973404	ND	2.0	9973404
Dissolved Uranium (U)	ug/L	ND	0.10	9973404	0.11	0.10	9973404	0.32	0.10	9973404
Dissolved Vanadium (V)	ug/L	ND	2.0	9973404	ND	2.0	9973404	ND	2.0	9973404
Dissolved Zinc (Zn)	ug/L	ND	5.0	9973404	5.5	5.0	9973404	ND	5.0	9973404

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATL. RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		ATBA29		
Sampling Date		2025/07/15 11:20		
COC Number		C#1043054-01-01		
Sample #		00304		
	UNITS	MW-L	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	0.830	N/A	9971616
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	28	1.0	9971613
Calculated TDS	mg/L	60	1.0	9971621
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	9971613
Cation Sum	me/L	0.990	N/A	9971616
Hardness (CaCO ₃)	mg/L	40	1.0	9971762
Ion Balance (% Difference)	%	8.79	N/A	9971615
Langelier Index (@ 20C)	N/A	-2.07		9971619
Langelier Index (@ 4C)	N/A	-2.32		9971620
Nitrate (N)	mg/L	ND	0.050	9971617
Saturation pH (@ 20C)	N/A	8.81		9971619
Saturation pH (@ 4C)	N/A	9.06		9971620
Inorganics				
Total Alkalinity (Total as CaCO ₃)	mg/L	28	2.0	9973507
Dissolved Chloride (Cl ⁻)	mg/L	3.7	1.0	9973320
Colour	TCU	85	25	9973439
Nitrate + Nitrite (N)	mg/L	ND	0.050	9973443
Nitrite (N)	mg/L	ND	0.010	9973444
Nitrogen (Ammonia Nitrogen)	mg/L	0.15	0.050	9972345
Total Organic Carbon (C)	mg/L	13	0.50	9975082
Orthophosphate (P)	mg/L	ND	0.010	9973442
pH	pH	6.74		9973504
Reactive Silica (SiO ₂)	mg/L	13	0.50	9973437
Dissolved Sulphate (SO ₄)	mg/L	7.6	2.0	9973434
Turbidity	NTU	54	0.10	9973708
Conductivity	uS/cm	91	1.0	9973505
Metals				
Dissolved Aluminum (Al)	ug/L	210	5.0	9973404
Dissolved Antimony (Sb)	ug/L	ND	1.0	9973404
Dissolved Arsenic (As)	ug/L	1.1	1.0	9973404
Dissolved Barium (Ba)	ug/L	12	1.0	9973404
Dissolved Beryllium (Be)	ug/L	ND	0.10	9973404
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



ATL. RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		ATBA29		
Sampling Date		2025/07/15 11:20		
COC Number		C#1043054-01-01		
Sample #		00304		
	UNITS	MW-L	RDL	QC Batch
Dissolved Bismuth (Bi)	ug/L	ND	2.0	9973404
Dissolved Boron (B)	ug/L	ND	50	9973404
Dissolved Cadmium (Cd)	ug/L	0.044	0.010	9973404
Dissolved Calcium (Ca)	ug/L	11000	100	9973404
Dissolved Chromium (Cr)	ug/L	ND	1.0	9973404
Dissolved Cobalt (Co)	ug/L	2.3	0.40	9973404
Dissolved Copper (Cu)	ug/L	2.6	0.50	9973404
Dissolved Iron (Fe)	ug/L	400	50	9973404
Dissolved Lead (Pb)	ug/L	ND	0.50	9973404
Dissolved Magnesium (Mg)	ug/L	2900	100	9973404
Dissolved Manganese (Mn)	ug/L	350	2.0	9973404
Dissolved Molybdenum (Mo)	ug/L	ND	2.0	9973404
Dissolved Nickel (Ni)	ug/L	9.8	2.0	9973404
Dissolved Phosphorus (P)	ug/L	ND	100	9973404
Dissolved Potassium (K)	ug/L	230	100	9973404
Dissolved Selenium (Se)	ug/L	ND	0.50	9973404
Dissolved Silver (Ag)	ug/L	ND	0.10	9973404
Dissolved Sodium (Na)	ug/L	3800	100	9973404
Dissolved Strontium (Sr)	ug/L	52	2.0	9973404
Dissolved Thallium (Tl)	ug/L	ND	0.10	9973404
Dissolved Tin (Sn)	ug/L	ND	2.0	9973404
Dissolved Titanium (Ti)	ug/L	ND	2.0	9973404
Dissolved Uranium (U)	ug/L	0.53	0.10	9973404
Dissolved Vanadium (V)	ug/L	ND	2.0	9973404
Dissolved Zinc (Zn)	ug/L	25	5.0	9973404
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ATBA26		ATBA27		ATBA28	ATBA29		
Sampling Date		2025/07/15 10:30		2025/07/15 10:40		2025/07/15 10:50	2025/07/15 11:20		
COC Number		C#1043054-01-01		C#1043054-01-01		C#1043054-01-01	C#1043054-01-01		
Sample #		00300		00302		00303	00304		
	UNITS	MW-H	RDL	MW-J	QC Batch	MW-K	MW-L	RDL	QC Batch

Inorganics									
Dissolved Organic Carbon (C)	mg/L	0.89	0.50	22	9975080	1.1	11	0.50	9975080
Phenols-4AAP	mg/L	ND	0.0010	ND	9976443	ND	ND	0.0010	9976319
Total Suspended Solids	mg/L	160	10	92	9973314	230	42	5.0	9973314
Sulphide	mg/L	ND	0.020	ND	9974299	ND	ND	0.020	9974299

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



MERCURY BY COLD VAPOUR AA (WATER)

Bureau Veritas ID		ATBA26	ATBA27	ATBA28	ATBA29		
Sampling Date		2025/07/15 10:30	2025/07/15 10:40	2025/07/15 10:50	2025/07/15 11:20		
COC Number		C#1043054-01-01	C#1043054-01-01	C#1043054-01-01	C#1043054-01-01		
Sample #		00300	00302	00303	00304		
	UNITS	MW-H	MW-J	MW-K	MW-L	RDL	QC Batch

Metals							
Total Mercury (Hg)	ug/L	0.013	0.018	ND	ND	0.013	9972317

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	21.3°C
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Sample ATBA27 [MW-J] : Poor RCap Ion Balance due to sample matrix. Possibly due to fine particulate matter. Anion sum does not include contribution from Total Organic Carbon.

Sample ATBA28 [MW-K] : Poor RCap Ion Balance due to sample matrix. Possibly due to fine particulate matter.

Sample ATBA29 [MW-L] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9972317	JEP	Matrix Spike	Total Mercury (Hg)	2025/07/22		101	%	80 - 120
9972317	JEP	Spiked Blank	Total Mercury (Hg)	2025/07/22		97	%	80 - 120
9972317	JEP	Method Blank	Total Mercury (Hg)	2025/07/22	ND, RDL=0.013		ug/L	
9972317	JEP	RPD	Total Mercury (Hg)	2025/07/22	NC		%	20
9972345	EMT	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/07/21		108	%	80 - 120
9972345	EMT	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/07/21		107	%	80 - 120
9972345	EMT	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/07/21	ND, RDL=0.050		mg/L	
9972345	EMT	RPD	Nitrogen (Ammonia Nitrogen)	2025/07/21	NC		%	20
9973314	DME	QC Standard	Total Suspended Solids	2025/07/22		97	%	80 - 120
9973314	DME	Method Blank	Total Suspended Solids	2025/07/22	ND, RDL=1.0		mg/L	
9973314	DME	RPD [ATBA26-01]	Total Suspended Solids	2025/07/22	1.2		%	20
9973320	EMT	Matrix Spike	Dissolved Chloride (Cl-)	2025/07/22		NC	%	80 - 120
9973320	EMT	Spiked Blank	Dissolved Chloride (Cl-)	2025/07/22		97	%	80 - 120
9973320	EMT	Method Blank	Dissolved Chloride (Cl-)	2025/07/22	ND, RDL=1.0		mg/L	
9973320	EMT	RPD	Dissolved Chloride (Cl-)	2025/07/22	0.29		%	20
9973404	LKE	Matrix Spike	Dissolved Aluminum (Al)	2025/07/21		99	%	80 - 120
			Dissolved Antimony (Sb)	2025/07/21		103	%	80 - 120
			Dissolved Arsenic (As)	2025/07/21		101	%	80 - 120
			Dissolved Barium (Ba)	2025/07/21		95	%	80 - 120
			Dissolved Beryllium (Be)	2025/07/21		97	%	80 - 120
			Dissolved Bismuth (Bi)	2025/07/21		96	%	80 - 120
			Dissolved Boron (B)	2025/07/21		93	%	80 - 120
			Dissolved Cadmium (Cd)	2025/07/21		100	%	80 - 120
			Dissolved Calcium (Ca)	2025/07/21		NC	%	80 - 120
			Dissolved Chromium (Cr)	2025/07/21		98	%	80 - 120
			Dissolved Cobalt (Co)	2025/07/21		98	%	80 - 120
			Dissolved Copper (Cu)	2025/07/21		95	%	80 - 120
			Dissolved Iron (Fe)	2025/07/21		102	%	80 - 120
			Dissolved Lead (Pb)	2025/07/21		96	%	80 - 120
			Dissolved Magnesium (Mg)	2025/07/21		NC	%	80 - 120
			Dissolved Manganese (Mn)	2025/07/21		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2025/07/21		101	%	80 - 120
			Dissolved Nickel (Ni)	2025/07/21		96	%	80 - 120
			Dissolved Phosphorus (P)	2025/07/21		103	%	80 - 120
			Dissolved Potassium (K)	2025/07/21		94	%	80 - 120
			Dissolved Selenium (Se)	2025/07/21		97	%	80 - 120
			Dissolved Silver (Ag)	2025/07/21		81	%	80 - 120
			Dissolved Sodium (Na)	2025/07/21		91	%	80 - 120
			Dissolved Strontium (Sr)	2025/07/21		NC	%	80 - 120
			Dissolved Thallium (Tl)	2025/07/21		98	%	80 - 120
			Dissolved Tin (Sn)	2025/07/21		102	%	80 - 120
			Dissolved Titanium (Ti)	2025/07/21		97	%	80 - 120
			Dissolved Uranium (U)	2025/07/21		105	%	80 - 120
			Dissolved Vanadium (V)	2025/07/21		101	%	80 - 120
			Dissolved Zinc (Zn)	2025/07/21		98	%	80 - 120
9973404	LKE	Spiked Blank	Dissolved Aluminum (Al)	2025/07/21		99	%	80 - 120
			Dissolved Antimony (Sb)	2025/07/21		100	%	80 - 120
			Dissolved Arsenic (As)	2025/07/21		100	%	80 - 120
			Dissolved Barium (Ba)	2025/07/21		98	%	80 - 120
			Dissolved Beryllium (Be)	2025/07/21		96	%	80 - 120
			Dissolved Bismuth (Bi)	2025/07/21		98	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9973404	LKE	Method Blank	Dissolved Boron (B)	2025/07/21		93	%	80 - 120
			Dissolved Cadmium (Cd)	2025/07/21		101	%	80 - 120
			Dissolved Calcium (Ca)	2025/07/21		97	%	80 - 120
			Dissolved Chromium (Cr)	2025/07/21		98	%	80 - 120
			Dissolved Cobalt (Co)	2025/07/21		100	%	80 - 120
			Dissolved Copper (Cu)	2025/07/21		99	%	80 - 120
			Dissolved Iron (Fe)	2025/07/21		103	%	80 - 120
			Dissolved Lead (Pb)	2025/07/21		97	%	80 - 120
			Dissolved Magnesium (Mg)	2025/07/21		102	%	80 - 120
			Dissolved Manganese (Mn)	2025/07/21		100	%	80 - 120
			Dissolved Molybdenum (Mo)	2025/07/21		99	%	80 - 120
			Dissolved Nickel (Ni)	2025/07/21		100	%	80 - 120
			Dissolved Phosphorus (P)	2025/07/21		100	%	80 - 120
			Dissolved Potassium (K)	2025/07/21		95	%	80 - 120
			Dissolved Selenium (Se)	2025/07/21		95	%	80 - 120
			Dissolved Silver (Ag)	2025/07/21		96	%	80 - 120
			Dissolved Sodium (Na)	2025/07/21		98	%	80 - 120
			Dissolved Strontium (Sr)	2025/07/21		99	%	80 - 120
			Dissolved Thallium (Tl)	2025/07/21		98	%	80 - 120
			Dissolved Tin (Sn)	2025/07/21		100	%	80 - 120
			Dissolved Titanium (Ti)	2025/07/21		100	%	80 - 120
			Dissolved Uranium (U)	2025/07/21		104	%	80 - 120
			Dissolved Vanadium (V)	2025/07/21		100	%	80 - 120
			Dissolved Zinc (Zn)	2025/07/21		100	%	80 - 120
			Dissolved Aluminum (Al)	2025/07/21	ND, RDL=5.0		ug/L	
			Dissolved Antimony (Sb)	2025/07/21	ND, RDL=1.0		ug/L	
			Dissolved Arsenic (As)	2025/07/21	ND, RDL=1.0		ug/L	
			Dissolved Barium (Ba)	2025/07/21	ND, RDL=1.0		ug/L	
			Dissolved Beryllium (Be)	2025/07/21	ND, RDL=0.10		ug/L	
			Dissolved Bismuth (Bi)	2025/07/21	ND, RDL=2.0		ug/L	
			Dissolved Boron (B)	2025/07/21	ND, RDL=50		ug/L	
			Dissolved Cadmium (Cd)	2025/07/21	ND, RDL=0.010		ug/L	
			Dissolved Calcium (Ca)	2025/07/21	ND, RDL=100		ug/L	
			Dissolved Chromium (Cr)	2025/07/21	ND, RDL=1.0		ug/L	
			Dissolved Cobalt (Co)	2025/07/21	ND, RDL=0.40		ug/L	
			Dissolved Copper (Cu)	2025/07/21	ND, RDL=0.50		ug/L	
			Dissolved Iron (Fe)	2025/07/21	ND, RDL=50		ug/L	
			Dissolved Lead (Pb)	2025/07/21	ND, RDL=0.50		ug/L	
			Dissolved Magnesium (Mg)	2025/07/21	ND, RDL=100		ug/L	
			Dissolved Manganese (Mn)	2025/07/21	ND, RDL=2.0		ug/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Molybdenum (Mo)	2025/07/21	ND, RDL=2.0		ug/L	
			Dissolved Nickel (Ni)	2025/07/21	ND, RDL=2.0		ug/L	
			Dissolved Phosphorus (P)	2025/07/21	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2025/07/21	ND, RDL=100		ug/L	
			Dissolved Selenium (Se)	2025/07/21	ND, RDL=0.50		ug/L	
			Dissolved Silver (Ag)	2025/07/21	ND, RDL=0.10		ug/L	
			Dissolved Sodium (Na)	2025/07/21	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2025/07/21	ND, RDL=2.0		ug/L	
			Dissolved Thallium (Tl)	2025/07/21	ND, RDL=0.10		ug/L	
			Dissolved Tin (Sn)	2025/07/21	ND, RDL=2.0		ug/L	
			Dissolved Titanium (Ti)	2025/07/21	ND, RDL=2.0		ug/L	
			Dissolved Uranium (U)	2025/07/21	ND, RDL=0.10		ug/L	
			Dissolved Vanadium (V)	2025/07/21	ND, RDL=2.0		ug/L	
			Dissolved Zinc (Zn)	2025/07/21	ND, RDL=5.0		ug/L	
9973404	LKE	RPD	Dissolved Aluminum (Al)	2025/07/21	2.4		%	20
			Dissolved Antimony (Sb)	2025/07/21	NC		%	20
			Dissolved Arsenic (As)	2025/07/21	NC		%	20
			Dissolved Barium (Ba)	2025/07/21	1.6		%	20
			Dissolved Beryllium (Be)	2025/07/21	NC		%	20
			Dissolved Bismuth (Bi)	2025/07/21	NC		%	20
			Dissolved Boron (B)	2025/07/21	1.1		%	20
			Dissolved Cadmium (Cd)	2025/07/21	3.5		%	20
			Dissolved Calcium (Ca)	2025/07/21	2.9		%	20
			Dissolved Chromium (Cr)	2025/07/21	NC		%	20
			Dissolved Cobalt (Co)	2025/07/21	2.2		%	20
			Dissolved Copper (Cu)	2025/07/21	1.4		%	20
			Dissolved Iron (Fe)	2025/07/21	NC		%	20
			Dissolved Lead (Pb)	2025/07/21	NC		%	20
			Dissolved Magnesium (Mg)	2025/07/21	1.1		%	20
			Dissolved Manganese (Mn)	2025/07/21	0.51		%	20
			Dissolved Molybdenum (Mo)	2025/07/21	NC		%	20
			Dissolved Nickel (Ni)	2025/07/21	NC		%	20
			Dissolved Phosphorus (P)	2025/07/21	NC		%	20
			Dissolved Potassium (K)	2025/07/21	3.9		%	20
			Dissolved Selenium (Se)	2025/07/21	NC		%	20
			Dissolved Silver (Ag)	2025/07/21	NC		%	20
			Dissolved Sodium (Na)	2025/07/21	1.6		%	20
			Dissolved Strontium (Sr)	2025/07/21	0.95		%	20
			Dissolved Thallium (Tl)	2025/07/21	NC		%	20
			Dissolved Tin (Sn)	2025/07/21	NC		%	20
			Dissolved Titanium (Ti)	2025/07/21	NC		%	20
			Dissolved Uranium (U)	2025/07/21	5.1		%	20



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Vanadium (V)	2025/07/21	NC		%	20
			Dissolved Zinc (Zn)	2025/07/21	NC		%	20
9973434	EMT	Matrix Spike	Dissolved Sulphate (SO4)	2025/07/22		100	%	80 - 120
9973434	EMT	Spiked Blank	Dissolved Sulphate (SO4)	2025/07/22		101	%	80 - 120
9973434	EMT	Method Blank	Dissolved Sulphate (SO4)	2025/07/22	ND, RDL=2.0		mg/L	
9973434	EMT	RPD	Dissolved Sulphate (SO4)	2025/07/22	NC		%	20
9973437	EMT	Matrix Spike	Reactive Silica (SiO2)	2025/07/22		NC	%	80 - 120
9973437	EMT	Spiked Blank	Reactive Silica (SiO2)	2025/07/22		96	%	80 - 120
9973437	EMT	Method Blank	Reactive Silica (SiO2)	2025/07/22	ND, RDL=0.50		mg/L	
9973437	EMT	RPD	Reactive Silica (SiO2)	2025/07/22	0.69		%	20
9973439	EMT	Spiked Blank	Colour	2025/07/23		102	%	80 - 120
9973439	EMT	Method Blank	Colour	2025/07/23	ND, RDL=5.0		TCU	
9973439	EMT	RPD	Colour	2025/07/23	7.8		%	20
9973442	EMT	Matrix Spike	Orthophosphate (P)	2025/07/22		92	%	80 - 120
9973442	EMT	Spiked Blank	Orthophosphate (P)	2025/07/22		93	%	80 - 120
9973442	EMT	Method Blank	Orthophosphate (P)	2025/07/22	ND, RDL=0.010		mg/L	
9973442	EMT	RPD	Orthophosphate (P)	2025/07/22	NC		%	20
9973443	EMT	Matrix Spike	Nitrate + Nitrite (N)	2025/07/23		100	%	80 - 120
9973443	EMT	Spiked Blank	Nitrate + Nitrite (N)	2025/07/23		102	%	80 - 120
9973443	EMT	Method Blank	Nitrate + Nitrite (N)	2025/07/23	ND, RDL=0.050		mg/L	
9973443	EMT	RPD	Nitrate + Nitrite (N)	2025/07/23	2.7		%	20
9973444	EMT	Matrix Spike	Nitrite (N)	2025/07/22		102	%	80 - 120
9973444	EMT	Spiked Blank	Nitrite (N)	2025/07/22		108	%	80 - 120
9973444	EMT	Method Blank	Nitrite (N)	2025/07/22	ND, RDL=0.010		mg/L	
9973444	EMT	RPD	Nitrite (N)	2025/07/22	NC		%	20
9973504	M2C	Spiked Blank	pH	2025/07/21		100	%	97 - 103
9973504	M2C	RPD	pH	2025/07/21	0.71		%	N/A
9973505	M2C	Spiked Blank	Conductivity	2025/07/21		95	%	80 - 120
9973505	M2C	Method Blank	Conductivity	2025/07/21	ND, RDL=1.0		uS/cm	
9973505	M2C	RPD	Conductivity	2025/07/21	0.31		%	10
9973507	M2C	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/07/21		94	%	80 - 120
9973507	M2C	Method Blank	Total Alkalinity (Total as CaCO3)	2025/07/21	ND, RDL=2.0		mg/L	
9973507	M2C	RPD	Total Alkalinity (Total as CaCO3)	2025/07/21	0.92		%	20
9973708	KMC	QC Standard	Turbidity	2025/07/22		107	%	80 - 120
9973708	KMC	Spiked Blank	Turbidity	2025/07/22		103	%	80 - 120
9973708	KMC	Method Blank	Turbidity	2025/07/22	ND, RDL=0.10		NTU	
9973708	KMC	RPD	Turbidity	2025/07/22	1.1		%	20
9974299	SRT	Matrix Spike	Sulphide	2025/07/22		102	%	80 - 120
9974299	SRT	Spiked Blank	Sulphide	2025/07/22		94	%	80 - 120
9974299	SRT	Method Blank	Sulphide	2025/07/22	ND, RDL=0.020		mg/L	
9974299	SRT	RPD	Sulphide	2025/07/22	4.0		%	20
9974543	S6S	Matrix Spike	Total Organic Carbon (C)	2025/07/23		98	%	85 - 115
9974543	S6S	Spiked Blank	Total Organic Carbon (C)	2025/07/23		98	%	80 - 120
9974543	S6S	Method Blank	Total Organic Carbon (C)	2025/07/23	ND, RDL=0.50		mg/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9974543	S6S	RPD	Total Organic Carbon (C)	2025/07/23	NC		%	15
9975080	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/07/23		100	%	85 - 115
9975080	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/07/23		99	%	80 - 120
9975080	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/07/23	ND, RDL=0.50		mg/L	
9975080	S6S	RPD	Dissolved Organic Carbon (C)	2025/07/23	NC		%	15
9975082	S6S	Matrix Spike	Total Organic Carbon (C)	2025/07/23		99	%	85 - 115
9975082	S6S	Spiked Blank	Total Organic Carbon (C)	2025/07/23		99	%	80 - 120
9975082	S6S	Method Blank	Total Organic Carbon (C)	2025/07/23	ND, RDL=0.50		mg/L	
9975082	S6S	RPD	Total Organic Carbon (C)	2025/07/23	NC		%	15
9975083	S6S	Matrix Spike	Total Organic Carbon (C)	2025/07/23		97	%	85 - 115
9975083	S6S	Spiked Blank	Total Organic Carbon (C)	2025/07/23		99	%	80 - 120
9975083	S6S	Method Blank	Total Organic Carbon (C)	2025/07/23	ND, RDL=0.50		mg/L	
9975083	S6S	RPD	Total Organic Carbon (C)	2025/07/23	NC (1)		%	15
9976319	JJH	Matrix Spike	Phenols-4AAP	2025/07/26		NC	%	80 - 120
9976319	JJH	Spiked Blank	Phenols-4AAP	2025/07/26		90	%	80 - 120
9976319	JJH	Method Blank	Phenols-4AAP	2025/07/26	ND, RDL=0.0010		mg/L	
9976319	JJH	RPD	Phenols-4AAP	2025/07/26	NC		%	20
9976443	JJH	Matrix Spike	Phenols-4AAP	2025/08/01		95	%	80 - 120
9976443	JJH	Spiked Blank	Phenols-4AAP	2025/08/01		104	%	80 - 120
9976443	JJH	Method Blank	Phenols-4AAP	2025/08/01	ND, RDL=0.0010		mg/L	
9976443	JJH	RPD	Phenols-4AAP	2025/08/01	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).

(1) Elevated reporting limit due to turbidity.



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere, Senior Scientific Specialist

Ernie Publicover, Scientific Specialist

Louise Harding, Scientific Specialist

Bureau Veritas Certified by Ernie Publicover, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



Your Project #: MONITORING WELL SAMPLES
Site#: 00012
Your C.O.C. #: C#1054828-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/09/24
Report #: R8618632
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5B3323

Received: 2025/09/12, 09:21

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	1	N/A	2025/09/18	N/A	SM 24 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	4	N/A	2025/09/22	N/A	SM 24 4500-CO2 D
Alkalinity	1	N/A	2025/09/18	ATL SOP 00142	SM 24 2320 B
Alkalinity	4	N/A	2025/09/20	ATL SOP 00142	SM 24 2320 B
Chloride	5	N/A	2025/09/19	ATL SOP 00014	SM 24 4500-Cl- E m
Colour	5	N/A	2025/09/19	ATL SOP 00020	SM 24 2120C m
Organic carbon - Diss (DOC)-Lab Filtered (2)	2	N/A	2025/09/22	ATL SOP 00203	SM 24 5310B m
Organic carbon - Diss (DOC)-Lab Filtered (2)	3	N/A	2025/09/23	ATL SOP 00203	SM 24 5310B m
Conductance - water	1	N/A	2025/09/18	ATL SOP 00004	SM 24 2510B m
Conductance - water	4	N/A	2025/09/20	ATL SOP 00004	SM 24 2510B m
Hardness (calculated as CaCO3)	5	N/A	2025/09/17	ATL SOP 00048	Auto Calc
Mercury - Total (CVAA,LL)	5	2025/09/20	2025/09/20	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS- Lab Filtered (3)	5	N/A	2025/09/17	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	5	N/A	2025/09/24	N/A	Auto Calc.
Anion and Cation Sum	5	N/A	2025/09/24	N/A	Auto Calc.
Nitrogen Ammonia - water	5	N/A	2025/09/23	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	5	N/A	2025/09/19	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	5	N/A	2025/09/19	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	5	N/A	2025/09/22	ATL SOP 00018	ASTM D3867-16
Phenols (4AAP) (1)	5	N/A	2025/09/17	CAM SOP-00444	OMOE E3179 m
pH (4)	1	N/A	2025/09/18	ATL SOP 00003	SM 24 4500-H+ B m
pH (4)	4	N/A	2025/09/20	ATL SOP 00003	SM 24 4500-H+ B m
Phosphorus - ortho	5	N/A	2025/09/19	ATL SOP 00021	SM 24 4500-P E m
Sat. pH and Langelier Index (@ 20C)	5	N/A	2025/09/24	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	5	N/A	2025/09/24	ATL SOP 00049	Auto Calc.
Reactive Silica	5	N/A	2025/09/19	ATL SOP 00022	EPA 366.0 m
Sulphate	5	N/A	2025/09/19	ATL SOP 00023	ASTM D516-16 m
Sulphide (1)	5	N/A	2025/09/17	CAM SOP-00455	SM 24 4500-S G m
Total Dissolved Solids (TDS calc)	5	N/A	2025/09/24	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	5	N/A	2025/09/23	ATL SOP 00203	SM 24 5310B m
Total Suspended Solids	5	2025/09/17	2025/09/18	ATL SOP 00007	SM 24 2540D m
Turbidity	3	N/A	2025/09/20	ATL SOP 00011	EPA 180.1 R2 m



Your Project #: MONITORING WELL SAMPLES
Site#: 00012
Your C.O.C. #: C#1054828-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/09/24
Report #: R8618632
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5B3323

Received: 2025/09/12, 09:21

Sample Matrix: Water
Samples Received: 5

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
Turbidity	1	N/A	2025/09/21 ATL SOP 00011	EPA 180.1 R2 m
Turbidity	1	N/A	2025/09/22 ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

(3) Sample filtered in laboratory prior to analysis for dissolved metals.

(4) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



Your Project #: MONITORING WELL SAMPLES
Site#: 00012
Your C.O.C. #: C#1054828-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/09/24
Report #: R8618632
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5B3323

Received: 2025/09/12, 09:21

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Augustina Isesele, Customer Solutions Representative
Email: Augustina.isesele@bureauveritas.com
Phone# (902) 420-0203

=====

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ATL RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		AVBE80		AVBE81			AVBE82		
Sampling Date		2025/09/10 10:00		2025/09/10 10:15			2025/09/10 10:25		
COC Number		C#1054828-01-01		C#1054828-01-01			C#1054828-01-01		
Sample #		00300		00301			00302		
	UNITS	MW-H	QC Batch	MW-I	RDL	QC Batch	MW-J	RDL	QC Batch

Calculated Parameters									
Anion Sum	me/L	0.850	A009311	2.36	N/A	A009311	4.18	N/A	A009311
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	30	A009302	83	1.0	A009302	130	1.0	A009302
Calculated TDS	mg/L	57	A009317	140	1.0	A009317	250	1.0	A009317
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	A009302	ND	1.0	A009302	1.2	1.0	A009302
Cation Sum	me/L	0.960	A009311	2.72	N/A	A009311	4.89	N/A	A009311
Hardness (CaCO ₃)	mg/L	34	A009130	95	1.0	A009130	100	1.0	A009130
Ion Balance (% Difference)	%	6.08	A009310	7.09	N/A	A009310	7.83	N/A	A009310
Langelier Index (@ 20C)	N/A	-1.43	A009314	-0.0130		A009314	-0.119		A009314
Langelier Index (@ 4C)	N/A	-1.68	A009315	-0.263		A009315	-0.369		A009315
Nitrate (N)	mg/L	0.25	A009131	ND	0.050	A009131	0.16	0.050	A009131
Saturation pH (@ 20C)	N/A	8.89	A009314	8.08		A009314	8.11		A009314
Saturation pH (@ 4C)	N/A	9.14	A009315	8.33		A009315	8.36		A009315

Inorganics									
Total Alkalinity (Total as CaCO ₃)	mg/L	30	A012081	84	2.0	A014186	130	2.0	A014186
Dissolved Chloride (Cl ⁻)	mg/L	6.3	A014013	21	1.0	A014013	52	1.0	A014013
Colour	TCU	22	A014016	9.8	5.0	A014016	56	25	A014016
Nitrate + Nitrite (N)	mg/L	0.25	A014018	ND	0.050	A014018	0.16	0.050	A014018
Nitrite (N)	mg/L	ND	A014019	ND	0.010	A014019	ND	0.010	A014019
Nitrogen (Ammonia Nitrogen)	mg/L	ND	A015731	0.060	0.050	A015731	0.090	0.050	A015735
Total Organic Carbon (C)	mg/L	7.4 (1)	A015791	6.4 (1)	5.0	A016390	19 (1)	5.0	A015791
Orthophosphate (P)	mg/L	ND	A014017	ND	0.010	A014017	ND	0.010	A014017
pH	pH	7.46	A012075	8.06		A014181	7.99		A014181
Reactive Silica (SiO ₂)	mg/L	11	A014015	15	0.50	A014015	4.1	0.50	A014015
Dissolved Sulphate (SO ₄)	mg/L	2.2	A014014	3.8	2.0	A014014	7.3	2.0	A014014
Turbidity	NTU	340	A015253	760	1.0	A014622	24	0.10	A014622
Conductivity	uS/cm	97	A012080	260	1.0	A014184	490	1.0	A014184

Metals									
Dissolved Aluminum (Al)	ug/L	19	A012112	7.6	5.0	A012112	110	5.0	A012112
Dissolved Antimony (Sb)	ug/L	ND	A012112	ND	1.0	A012112	ND	1.0	A012112
Dissolved Arsenic (As)	ug/L	ND	A012112	1.8	1.0	A012112	ND	1.0	A012112
Dissolved Barium (Ba)	ug/L	8.6	A012112	19	1.0	A012112	22	1.0	A012112
Dissolved Beryllium (Be)	ug/L	ND	A012112	ND	0.10	A012112	ND	0.10	A012112

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 N/A = Not Applicable
 ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.
 (1) Elevated reporting limit due to turbidity.



ATL. RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		AVBE80		AVBE81			AVBE82		
Sampling Date		2025/09/10 10:00		2025/09/10 10:15			2025/09/10 10:25		
COC Number		C#1054828-01-01		C#1054828-01-01			C#1054828-01-01		
Sample #		00300		00301			00302		
	UNITS	MW-H	QC Batch	MW-I	RDL	QC Batch	MW-J	RDL	QC Batch
Dissolved Bismuth (Bi)	ug/L	ND	A012112	ND	2.0	A012112	ND	2.0	A012112
Dissolved Boron (B)	ug/L	ND	A012112	ND	50	A012112	360	50	A012112
Dissolved Cadmium (Cd)	ug/L	ND	A012112	ND	0.010	A012112	0.029	0.010	A012112
Dissolved Calcium (Ca)	ug/L	8700	A012112	23000	100	A012112	16000	100	A012112
Dissolved Chromium (Cr)	ug/L	ND	A012112	ND	1.0	A012112	1.4	1.0	A012112
Dissolved Cobalt (Co)	ug/L	ND	A012112	ND	0.40	A012112	0.45	0.40	A012112
Dissolved Copper (Cu)	ug/L	0.94	A012112	1.4	0.50	A012112	4.4	0.50	A012112
Dissolved Iron (Fe)	ug/L	ND	A012112	ND	50	A012112	ND	50	A012112
Dissolved Lead (Pb)	ug/L	ND	A012112	ND	0.50	A012112	ND	0.50	A012112
Dissolved Magnesium (Mg)	ug/L	2900	A012112	9000	100	A012112	15000	100	A012112
Dissolved Manganese (Mn)	ug/L	4.6	A012112	ND	2.0	A012112	13	2.0	A012112
Dissolved Molybdenum (Mo)	ug/L	ND	A012112	ND	2.0	A012112	ND	2.0	A012112
Dissolved Nickel (Ni)	ug/L	ND	A012112	ND	2.0	A012112	4.5	2.0	A012112
Dissolved Phosphorus (P)	ug/L	ND	A012112	ND	100	A012112	ND	100	A012112
Dissolved Potassium (K)	ug/L	770	A012112	1900	100	A012112	22000	100	A012112
Dissolved Selenium (Se)	ug/L	ND	A012112	ND	0.50	A012112	ND	0.50	A012112
Dissolved Silver (Ag)	ug/L	ND	A012112	ND	0.10	A012112	ND	0.10	A012112
Dissolved Sodium (Na)	ug/L	6100	A012112	18000	100	A012112	52000	100	A012112
Dissolved Strontium (Sr)	ug/L	34	A012112	240	2.0	A012112	81	2.0	A012112
Dissolved Thallium (Tl)	ug/L	ND	A012112	ND	0.10	A012112	ND	0.10	A012112
Dissolved Tin (Sn)	ug/L	ND	A012112	ND	2.0	A012112	ND	2.0	A012112
Dissolved Titanium (Ti)	ug/L	ND	A012112	ND	2.0	A012112	ND	2.0	A012112
Dissolved Uranium (U)	ug/L	ND	A012112	0.68	0.10	A012112	ND	0.10	A012112
Dissolved Vanadium (V)	ug/L	ND	A012112	ND	2.0	A012112	ND	2.0	A012112
Dissolved Zinc (Zn)	ug/L	ND	A012112	ND	5.0	A012112	16	5.0	A012112

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

**ATL. RCAP-MS DISSOLVED (LABFILT) IN W**

Bureau Veritas ID		AVBE83			AVBE84		
Sampling Date		2025/09/10 10:35			2025/09/10 10:45		
COC Number		C#1054828-01-01			C#1054828-01-01		
Sample #		00303			00304		
	UNITS	MW-K	RDL	QC Batch	MW-L	RDL	QC Batch

Calculated Parameters							
Anion Sum	me/L	1.87	N/A	A009311	0.990	N/A	A009311
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	82	1.0	A009302	31	1.0	A009302
Calculated TDS	mg/L	120	1.0	A009317	68	1.0	A009317
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	1.6	1.0	A009302	ND	1.0	A009302
Cation Sum	me/L	2.14	N/A	A009311	1.05	N/A	A009311
Hardness (CaCO ₃)	mg/L	85	1.0	A009130	43	1.0	A009130
Ion Balance (% Difference)	%	6.73	N/A	A009310	2.94	N/A	A009310
Langelier Index (@ 20C)	N/A	0.236		A009314	-1.67		A009314
Langelier Index (@ 4C)	N/A	-0.0150		A009315	-1.92		A009315
Nitrate (N)	mg/L	0.14	0.050	A009131	ND	0.050	A009131
Saturation pH (@ 20C)	N/A	8.07		A009314	8.74		A009314
Saturation pH (@ 4C)	N/A	8.32		A009315	8.99		A009315

Inorganics							
Total Alkalinity (Total as CaCO ₃)	mg/L	84	2.0	A014186	31	2.0	A014186
Dissolved Chloride (Cl ⁻)	mg/L	4.0	1.0	A014013	3.4	1.0	A014013
Colour	TCU	ND	5.0	A014016	53	25	A014016
Nitrate + Nitrite (N)	mg/L	0.14	0.050	A014018	ND	0.050	A014018
Nitrite (N)	mg/L	ND	0.010	A014019	ND	0.010	A014019
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	A015735	0.098	0.050	A015735
Total Organic Carbon (C)	mg/L	1.2	0.50	A015791	10	0.50	A015791
Orthophosphate (P)	mg/L	ND	0.010	A014017	ND	0.010	A014017
pH	pH	8.31		A014181	7.07		A014181
Reactive Silica (SiO ₂)	mg/L	18	0.50	A014015	13	0.50	A014015
Dissolved Sulphate (SO ₄)	mg/L	3.3	2.0	A014014	13	2.0	A014014
Turbidity	NTU	30	0.10	A014622	15	0.10	A015641
Conductivity	uS/cm	200	1.0	A014184	110	1.0	A014184

Metals							
Dissolved Aluminum (Al)	ug/L	5.8	5.0	A012112	150	5.0	A012112
Dissolved Antimony (Sb)	ug/L	ND	1.0	A012112	ND	1.0	A012112
Dissolved Arsenic (As)	ug/L	4.9	1.0	A012112	1.0	1.0	A012112
Dissolved Barium (Ba)	ug/L	46	1.0	A012112	13	1.0	A012112
Dissolved Beryllium (Be)	ug/L	ND	0.10	A012112	ND	0.10	A012112
Dissolved Bismuth (Bi)	ug/L	ND	2.0	A012112	ND	2.0	A012112

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATL. RCAP-MS DISSOLVED (LABFILT) IN W

Bureau Veritas ID		AVBE83			AVBE84		
Sampling Date		2025/09/10 10:35			2025/09/10 10:45		
COC Number		C#1054828-01-01			C#1054828-01-01		
Sample #		00303			00304		
	UNITS	MW-K	RDL	QC Batch	MW-L	RDL	QC Batch
Dissolved Boron (B)	ug/L	ND	50	A012112	ND	50	A012112
Dissolved Cadmium (Cd)	ug/L	ND	0.010	A012112	0.039	0.010	A012112
Dissolved Calcium (Ca)	ug/L	23000	100	A012112	12000	100	A012112
Dissolved Chromium (Cr)	ug/L	ND	1.0	A012112	ND	1.0	A012112
Dissolved Cobalt (Co)	ug/L	ND	0.40	A012112	0.99	0.40	A012112
Dissolved Copper (Cu)	ug/L	0.65	0.50	A012112	1.8	0.50	A012112
Dissolved Iron (Fe)	ug/L	ND	50	A012112	270	50	A012112
Dissolved Lead (Pb)	ug/L	ND	0.50	A012112	ND	0.50	A012112
Dissolved Magnesium (Mg)	ug/L	6500	100	A012112	2900	100	A012112
Dissolved Manganese (Mn)	ug/L	ND	2.0	A012112	200	2.0	A012112
Dissolved Molybdenum (Mo)	ug/L	ND	2.0	A012112	ND	2.0	A012112
Dissolved Nickel (Ni)	ug/L	ND	2.0	A012112	6.5	2.0	A012112
Dissolved Phosphorus (P)	ug/L	ND	100	A012112	ND	100	A012112
Dissolved Potassium (K)	ug/L	2000	100	A012112	230	100	A012112
Dissolved Selenium (Se)	ug/L	ND	0.50	A012112	ND	0.50	A012112
Dissolved Silver (Ag)	ug/L	ND	0.10	A012112	ND	0.10	A012112
Dissolved Sodium (Na)	ug/L	9200	100	A012112	4100	100	A012112
Dissolved Strontium (Sr)	ug/L	320	2.0	A012112	57	2.0	A012112
Dissolved Thallium (Tl)	ug/L	ND	0.10	A012112	ND	0.10	A012112
Dissolved Tin (Sn)	ug/L	ND	2.0	A012112	ND	2.0	A012112
Dissolved Titanium (Ti)	ug/L	ND	2.0	A012112	ND	2.0	A012112
Dissolved Uranium (U)	ug/L	0.35	0.10	A012112	0.28	0.10	A012112
Dissolved Vanadium (V)	ug/L	ND	2.0	A012112	ND	2.0	A012112
Dissolved Zinc (Zn)	ug/L	ND	5.0	A012112	60	5.0	A012112
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.							



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AVBE80			AVBE81			AVBE82		
Sampling Date		2025/09/10 10:00			2025/09/10 10:15			2025/09/10 10:25		
COC Number		C#1054828-01-01			C#1054828-01-01			C#1054828-01-01		
Sample #		00300			00301			00302		
	UNITS	MW-H	RDL	QC Batch	MW-I	RDL	QC Batch	MW-J	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	4.2	0.50	A015576	3.0	0.50	A016398	16	0.50	A015567
Phenols-4AAP	mg/L	ND	0.0010	A012165	ND	0.0010	A012165	ND	0.0010	A012165
Total Suspended Solids	mg/L	360	5.0	A011982	1500	10	A011982	26	1.0	A011982
Sulphide	mg/L	ND	0.020	A012262	ND	0.020	A012262	ND	0.020	A012262

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		AVBE83		AVBE84		
Sampling Date		2025/09/10 10:35		2025/09/10 10:45		
COC Number		C#1054828-01-01		C#1054828-01-01		
Sample #		00303		00304		
	UNITS	MW-K	QC Batch	MW-L	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	1.1	A015567	8.6	0.50	A015576
Phenols-4AAP	mg/L	ND	A012165	ND	0.0010	A012165
Total Suspended Solids	mg/L	71	A011982	22	2.0	A011982
Sulphide	mg/L	ND	A012262	ND	0.020	A012262

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



MERCURY BY COLD VAPOUR AA (WATER)

Bureau Veritas ID		AVBE80	AVBE81	AVBE82	AVBE83	AVBE84		
Sampling Date		2025/09/10 10:00	2025/09/10 10:15	2025/09/10 10:25	2025/09/10 10:35	2025/09/10 10:45		
COC Number		C#1054828-01-01	C#1054828-01-01	C#1054828-01-01	C#1054828-01-01	C#1054828-01-01		
Sample #		00300	00301	00302	00303	00304		
	UNITS	MW-H	MW-I	MW-J	MW-K	MW-L	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	ND	0.025	ND	ND	ND	0.013	A014548

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
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Sample AVBE80 [MW-H] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample AVBE81 [MW-I] : Poor RCap Ion Balance due to sample matrix. Possibly due to fine particulate matter.

Sample AVBE82 [MW-J] : Poor RCap Ion Balance due to sample matrix.

Sample AVBE83 [MW-K] : Poor RCap Ion Balance due to sample matrix.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A011982	DME	QC Standard	Total Suspended Solids	2025/09/18		99	%	80 - 120
A011982	DME	Method Blank	Total Suspended Solids	2025/09/18	ND, RDL=1.0		mg/L	
A011982	DME	RPD	Total Suspended Solids	2025/09/18	3.9		%	20
A012075	J1A	Spiked Blank	pH	2025/09/17		100	%	97 - 103
A012075	J1A	RPD	pH	2025/09/18	1.1		%	N/A
A012080	J1A	Spiked Blank	Conductivity	2025/09/17		96	%	80 - 120
A012080	J1A	Method Blank	Conductivity	2025/09/18	ND, RDL=1.0		uS/cm	
A012080	J1A	RPD	Conductivity	2025/09/17	0.21		%	10
A012081	J1A	Spiked Blank	Total Alkalinity (Total as CaCO ₃)	2025/09/17		94	%	80 - 120
A012081	J1A	Method Blank	Total Alkalinity (Total as CaCO ₃)	2025/09/17	ND, RDL=2.0		mg/L	
A012081	J1A	RPD	Total Alkalinity (Total as CaCO ₃)	2025/09/17	3.0		%	20
A012112	MTZ	Matrix Spike	Dissolved Aluminum (Al)	2025/09/17		114	%	80 - 120
			Dissolved Antimony (Sb)	2025/09/17		98	%	80 - 120
			Dissolved Arsenic (As)	2025/09/17		102	%	80 - 120
			Dissolved Barium (Ba)	2025/09/17		100	%	80 - 120
			Dissolved Beryllium (Be)	2025/09/17		98	%	80 - 120
			Dissolved Bismuth (Bi)	2025/09/17		98	%	80 - 120
			Dissolved Boron (B)	2025/09/17		92	%	80 - 120
			Dissolved Cadmium (Cd)	2025/09/17		103	%	80 - 120
			Dissolved Calcium (Ca)	2025/09/17		107	%	80 - 120
			Dissolved Chromium (Cr)	2025/09/17		101	%	80 - 120
			Dissolved Cobalt (Co)	2025/09/17		101	%	80 - 120
			Dissolved Copper (Cu)	2025/09/17		100	%	80 - 120
			Dissolved Iron (Fe)	2025/09/17		114	%	80 - 120
			Dissolved Lead (Pb)	2025/09/17		101	%	80 - 120
			Dissolved Magnesium (Mg)	2025/09/17		115	%	80 - 120
			Dissolved Manganese (Mn)	2025/09/17		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2025/09/17		102	%	80 - 120
			Dissolved Nickel (Ni)	2025/09/17		101	%	80 - 120
			Dissolved Phosphorus (P)	2025/09/17		117	%	80 - 120
			Dissolved Potassium (K)	2025/09/17		115	%	80 - 120
			Dissolved Selenium (Se)	2025/09/17		101	%	80 - 120
			Dissolved Silver (Ag)	2025/09/17		95	%	80 - 120
			Dissolved Sodium (Na)	2025/09/17		108	%	80 - 120
			Dissolved Strontium (Sr)	2025/09/17		98	%	80 - 120
			Dissolved Thallium (Tl)	2025/09/17		101	%	80 - 120
			Dissolved Tin (Sn)	2025/09/17		102	%	80 - 120
			Dissolved Titanium (Ti)	2025/09/17		103	%	80 - 120
			Dissolved Uranium (U)	2025/09/17		107	%	80 - 120
			Dissolved Vanadium (V)	2025/09/17		104	%	80 - 120
			Dissolved Zinc (Zn)	2025/09/17		100	%	80 - 120
A012112	MTZ	Spiked Blank	Dissolved Aluminum (Al)	2025/09/17		112	%	80 - 120
			Dissolved Antimony (Sb)	2025/09/17		99	%	80 - 120
			Dissolved Arsenic (As)	2025/09/17		99	%	80 - 120
			Dissolved Barium (Ba)	2025/09/17		98	%	80 - 120
			Dissolved Beryllium (Be)	2025/09/17		97	%	80 - 120
			Dissolved Bismuth (Bi)	2025/09/17		94	%	80 - 120
			Dissolved Boron (B)	2025/09/17		93	%	80 - 120
			Dissolved Cadmium (Cd)	2025/09/17		100	%	80 - 120
			Dissolved Calcium (Ca)	2025/09/17		106	%	80 - 120
			Dissolved Chromium (Cr)	2025/09/17		99	%	80 - 120
			Dissolved Cobalt (Co)	2025/09/17		100	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A012112	MTZ	Method Blank	Dissolved Copper (Cu)	2025/09/17		99	%	80 - 120
			Dissolved Iron (Fe)	2025/09/17		116	%	80 - 120
			Dissolved Lead (Pb)	2025/09/17		96	%	80 - 120
			Dissolved Magnesium (Mg)	2025/09/17		118	%	80 - 120
			Dissolved Manganese (Mn)	2025/09/17		100	%	80 - 120
			Dissolved Molybdenum (Mo)	2025/09/17		102	%	80 - 120
			Dissolved Nickel (Ni)	2025/09/17		100	%	80 - 120
			Dissolved Phosphorus (P)	2025/09/17		115	%	80 - 120
			Dissolved Potassium (K)	2025/09/17		115	%	80 - 120
			Dissolved Selenium (Se)	2025/09/17		96	%	80 - 120
			Dissolved Silver (Ag)	2025/09/17		98	%	80 - 120
			Dissolved Sodium (Na)	2025/09/17		113	%	80 - 120
			Dissolved Strontium (Sr)	2025/09/17		97	%	80 - 120
			Dissolved Thallium (Tl)	2025/09/17		99	%	80 - 120
			Dissolved Tin (Sn)	2025/09/17		101	%	80 - 120
			Dissolved Titanium (Ti)	2025/09/17		101	%	80 - 120
			Dissolved Uranium (U)	2025/09/17		99	%	80 - 120
			Dissolved Vanadium (V)	2025/09/17		101	%	80 - 120
			Dissolved Zinc (Zn)	2025/09/17		101	%	80 - 120
			Dissolved Aluminum (Al)	2025/09/17	ND, RDL=5.0		ug/L	
			Dissolved Antimony (Sb)	2025/09/17	ND, RDL=1.0		ug/L	
			Dissolved Arsenic (As)	2025/09/17	ND, RDL=1.0		ug/L	
			Dissolved Barium (Ba)	2025/09/17	ND, RDL=1.0		ug/L	
			Dissolved Beryllium (Be)	2025/09/17	ND, RDL=0.10		ug/L	
			Dissolved Bismuth (Bi)	2025/09/17	ND, RDL=2.0		ug/L	
			Dissolved Boron (B)	2025/09/17	ND, RDL=50		ug/L	
			Dissolved Cadmium (Cd)	2025/09/17	ND, RDL=0.010		ug/L	
			Dissolved Calcium (Ca)	2025/09/17	ND, RDL=100		ug/L	
			Dissolved Chromium (Cr)	2025/09/17	ND, RDL=1.0		ug/L	
			Dissolved Cobalt (Co)	2025/09/17	ND, RDL=0.40		ug/L	
			Dissolved Copper (Cu)	2025/09/17	ND, RDL=0.50		ug/L	
			Dissolved Iron (Fe)	2025/09/17	ND, RDL=50		ug/L	
			Dissolved Lead (Pb)	2025/09/17	ND, RDL=0.50		ug/L	
			Dissolved Magnesium (Mg)	2025/09/17	ND, RDL=100		ug/L	
			Dissolved Manganese (Mn)	2025/09/17	ND, RDL=2.0		ug/L	
			Dissolved Molybdenum (Mo)	2025/09/17	ND, RDL=2.0		ug/L	
			Dissolved Nickel (Ni)	2025/09/17	ND, RDL=2.0		ug/L	



BUREAU
VERITAS

Bureau Veritas Job #: C5B3323
Report Date: 2025/09/24

Central Newfoundland Waste Management Authority
Client Project #: MONITORING WELL SAMPLES

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A012112	MTZ	RPD	Dissolved Phosphorus (P)	2025/09/17	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2025/09/17	ND, RDL=100		ug/L	
			Dissolved Selenium (Se)	2025/09/17	ND, RDL=0.50		ug/L	
			Dissolved Silver (Ag)	2025/09/17	ND, RDL=0.10		ug/L	
			Dissolved Sodium (Na)	2025/09/17	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2025/09/17	ND, RDL=2.0		ug/L	
			Dissolved Thallium (Tl)	2025/09/17	ND, RDL=0.10		ug/L	
			Dissolved Tin (Sn)	2025/09/17	ND, RDL=2.0		ug/L	
			Dissolved Titanium (Ti)	2025/09/17	ND, RDL=2.0		ug/L	
			Dissolved Uranium (U)	2025/09/17	ND, RDL=0.10		ug/L	
			Dissolved Vanadium (V)	2025/09/17	ND, RDL=2.0		ug/L	
			Dissolved Zinc (Zn)	2025/09/17	ND, RDL=5.0		ug/L	
			Dissolved Aluminum (Al)	2025/09/17	1.1		%	20
			Dissolved Antimony (Sb)	2025/09/17	NC		%	20
			Dissolved Arsenic (As)	2025/09/17	NC		%	20
			Dissolved Barium (Ba)	2025/09/17	1.9		%	20
			Dissolved Beryllium (Be)	2025/09/17	NC		%	20
			Dissolved Bismuth (Bi)	2025/09/17	NC		%	20
			Dissolved Boron (B)	2025/09/17	NC		%	20
			Dissolved Cadmium (Cd)	2025/09/17	NC		%	20
			Dissolved Calcium (Ca)	2025/09/17	1.7		%	20
			Dissolved Chromium (Cr)	2025/09/17	NC		%	20
			Dissolved Cobalt (Co)	2025/09/17	NC		%	20
			Dissolved Copper (Cu)	2025/09/17	NC		%	20
			Dissolved Iron (Fe)	2025/09/17	NC		%	20
			Dissolved Lead (Pb)	2025/09/17	NC		%	20
			Dissolved Magnesium (Mg)	2025/09/17	0.93		%	20
			Dissolved Manganese (Mn)	2025/09/17	1.0		%	20
			Dissolved Molybdenum (Mo)	2025/09/17	NC		%	20
			Dissolved Nickel (Ni)	2025/09/17	NC		%	20
			Dissolved Phosphorus (P)	2025/09/17	NC		%	20
			Dissolved Potassium (K)	2025/09/17	5.5		%	20
			Dissolved Selenium (Se)	2025/09/17	NC		%	20
			Dissolved Silver (Ag)	2025/09/17	NC		%	20
			Dissolved Sodium (Na)	2025/09/17	2.4		%	20
			Dissolved Strontium (Sr)	2025/09/17	4.3		%	20
			Dissolved Thallium (Tl)	2025/09/17	NC		%	20
			Dissolved Tin (Sn)	2025/09/17	NC		%	20
			Dissolved Titanium (Ti)	2025/09/17	NC		%	20
			Dissolved Uranium (U)	2025/09/17	NC		%	20
			Dissolved Vanadium (V)	2025/09/17	NC		%	20
			Dissolved Zinc (Zn)	2025/09/17	NC		%	20
A012165	JJH	Matrix Spike	Phenols-4AAP	2025/09/17		100	%	80 - 120



BUREAU
VERITAS

Bureau Veritas Job #: C5B3323
Report Date: 2025/09/24

Central Newfoundland Waste Management Authority
Client Project #: MONITORING WELL SAMPLES

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A012165	JJH	Spiked Blank	Phenols-4AAP	2025/09/17		101	%	80 - 120
A012165	JJH	Method Blank	Phenols-4AAP	2025/09/17	ND, RDL=0.0010		mg/L	
A012165	JJH	RPD	Phenols-4AAP	2025/09/17	NC		%	20
A012262	SRT	Matrix Spike	Sulphide	2025/09/17		101	%	80 - 120
A012262	SRT	Spiked Blank	Sulphide	2025/09/17		96	%	80 - 120
A012262	SRT	Method Blank	Sulphide	2025/09/17	ND, RDL=0.020		mg/L	
A012262	SRT	RPD	Sulphide	2025/09/17	NC		%	20
A014013	EMT	Matrix Spike	Dissolved Chloride (Cl-)	2025/09/19		95	%	80 - 120
A014013	EMT	Spiked Blank	Dissolved Chloride (Cl-)	2025/09/19		95	%	80 - 120
A014013	EMT	Method Blank	Dissolved Chloride (Cl-)	2025/09/19	ND, RDL=1.0		mg/L	
A014013	EMT	RPD	Dissolved Chloride (Cl-)	2025/09/19	NC		%	20
A014014	EMT	Matrix Spike	Dissolved Sulphate (SO4)	2025/09/19		97	%	80 - 120
A014014	EMT	Spiked Blank	Dissolved Sulphate (SO4)	2025/09/19		100	%	80 - 120
A014014	EMT	Method Blank	Dissolved Sulphate (SO4)	2025/09/19	ND, RDL=2.0		mg/L	
A014014	EMT	RPD	Dissolved Sulphate (SO4)	2025/09/19	NC		%	20
A014015	EMT	Matrix Spike	Reactive Silica (SiO2)	2025/09/19		92	%	80 - 120
A014015	EMT	Spiked Blank	Reactive Silica (SiO2)	2025/09/19		93	%	80 - 120
A014015	EMT	Method Blank	Reactive Silica (SiO2)	2025/09/19	ND, RDL=0.50		mg/L	
A014015	EMT	RPD	Reactive Silica (SiO2)	2025/09/19	NC		%	20
A014016	MCN	Spiked Blank	Colour	2025/09/19		102	%	80 - 120
A014016	MCN	Method Blank	Colour	2025/09/19	ND, RDL=5.0		TCU	
A014016	MCN	RPD	Colour	2025/09/19	NC		%	20
A014017	EMT	Matrix Spike	Orthophosphate (P)	2025/09/19		94	%	80 - 120
A014017	EMT	Spiked Blank	Orthophosphate (P)	2025/09/19		98	%	80 - 120
A014017	EMT	Method Blank	Orthophosphate (P)	2025/09/19	ND, RDL=0.010		mg/L	
A014017	EMT	RPD	Orthophosphate (P)	2025/09/19	NC		%	20
A014018	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/09/19		94	%	80 - 120
A014018	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/09/19		101	%	80 - 120
A014018	MCN	Method Blank	Nitrate + Nitrite (N)	2025/09/19	ND, RDL=0.050		mg/L	
A014018	MCN	RPD	Nitrate + Nitrite (N)	2025/09/19	NC		%	20
A014019	EMT	Matrix Spike	Nitrite (N)	2025/09/19		99	%	80 - 120
A014019	EMT	Spiked Blank	Nitrite (N)	2025/09/19		103	%	80 - 120
A014019	EMT	Method Blank	Nitrite (N)	2025/09/19	ND, RDL=0.010		mg/L	
A014019	EMT	RPD	Nitrite (N)	2025/09/19	NC		%	20
A014181	J1A	Spiked Blank	pH	2025/09/19		100	%	97 - 103
A014181	J1A	RPD	pH	2025/09/20	0.89		%	N/A
A014184	J1A	Spiked Blank	Conductivity	2025/09/19		97	%	80 - 120
A014184	J1A	Method Blank	Conductivity	2025/09/21	ND, RDL=1.0		uS/cm	
A014184	J1A	RPD	Conductivity	2025/09/20	0		%	10
A014186	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/09/19		93	%	80 - 120
A014186	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/09/20	ND, RDL=2.0		mg/L	
A014186	J1A	RPD	Total Alkalinity (Total as CaCO3)	2025/09/20	1.7		%	20
A014548	JEP	Matrix Spike	Total Mercury (Hg)	2025/09/20		98	%	80 - 120
A014548	JEP	Spiked Blank	Total Mercury (Hg)	2025/09/20		99	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A014548	JEP	Method Blank	Total Mercury (Hg)	2025/09/20	ND, RDL=0.013		ug/L	
A014548	JEP	RPD	Total Mercury (Hg)	2025/09/20	NC		%	20
A014622	KMC	QC Standard	Turbidity	2025/09/20		97	%	80 - 120
A014622	KMC	Spiked Blank	Turbidity	2025/09/20		99	%	80 - 120
A014622	KMC	Method Blank	Turbidity	2025/09/20	ND, RDL=0.10		NTU	
A014622	KMC	RPD	Turbidity	2025/09/20	16		%	20
A015253	KMC	QC Standard	Turbidity	2025/09/21		104	%	80 - 120
A015253	KMC	Spiked Blank	Turbidity	2025/09/21		98	%	80 - 120
A015253	KMC	Method Blank	Turbidity	2025/09/21	ND, RDL=0.10		NTU	
A015253	KMC	RPD	Turbidity	2025/09/21	3.8		%	20
A015567	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/09/22		96	%	85 - 115
A015567	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/09/22		100	%	80 - 120
A015567	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/09/22	ND, RDL=0.50		mg/L	
A015567	S6S	RPD	Dissolved Organic Carbon (C)	2025/09/22	1.7		%	15
A015576	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/09/23		96	%	85 - 115
A015576	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/09/23		97	%	80 - 120
A015576	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/09/23	ND, RDL=0.50		mg/L	
A015576	S6S	RPD	Dissolved Organic Carbon (C)	2025/09/23	1.2		%	15
A015641	J1A	QC Standard	Turbidity	2025/09/22		96	%	80 - 120
A015641	J1A	Spiked Blank	Turbidity	2025/09/22		98	%	80 - 120
A015641	J1A	Method Blank	Turbidity	2025/09/22	ND, RDL=0.10		NTU	
A015641	J1A	RPD	Turbidity	2025/09/22	NC		%	20
A015731	MCN	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/09/23		112	%	80 - 120
A015731	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/09/23		108	%	80 - 120
A015731	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/09/23	ND, RDL=0.050		mg/L	
A015731	MCN	RPD	Nitrogen (Ammonia Nitrogen)	2025/09/23	NC		%	20
A015735	MCN	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/09/23		92	%	80 - 120
A015735	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/09/23		100	%	80 - 120
A015735	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/09/23	ND, RDL=0.050		mg/L	
A015735	MCN	RPD	Nitrogen (Ammonia Nitrogen)	2025/09/23	18		%	20
A015791	S6S	Matrix Spike	Total Organic Carbon (C)	2025/09/23		96	%	85 - 115
A015791	S6S	Spiked Blank	Total Organic Carbon (C)	2025/09/23		101	%	80 - 120
A015791	S6S	Method Blank	Total Organic Carbon (C)	2025/09/23	ND, RDL=0.50		mg/L	
A015791	S6S	RPD	Total Organic Carbon (C)	2025/09/23	6.8		%	15
A016390	S6S	Matrix Spike	Total Organic Carbon (C)	2025/09/23		100	%	85 - 115
A016390	S6S	Spiked Blank	Total Organic Carbon (C)	2025/09/23		100	%	80 - 120
A016390	S6S	Method Blank	Total Organic Carbon (C)	2025/09/23	ND, RDL=0.50		mg/L	
A016390	S6S	RPD	Total Organic Carbon (C)	2025/09/23	0.53		%	15
A016398	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/09/23		99	%	85 - 115
A016398	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/09/23		100	%	80 - 120
A016398	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/09/23	ND, RDL=0.50		mg/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC									
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
A016398	S6S	RPD	Dissolved Organic Carbon (C)	2025/09/23	5.8		%	15	
N/A = Not Applicable									
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.									
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.									
QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.									
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.									
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.									
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).									



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Colleen Acker, B.Sc, Scientific Service Specialist

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas Certified by Ernie Publicover, Scientific Specialist

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Your Project #: SW SAMPLES
Site#: 00012
Your C.O.C. #: C#1066479-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/12/02
Report #: R8661665
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E7715

Received: 2025/11/21, 09:30

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	10	N/A	2025/11/26	N/A	SM 24 4500-CO2 D
Alkalinity	9	N/A	2025/11/25	ATL SOP 00142	SM 24 2320 B
Alkalinity	1	N/A	2025/11/26	ATL SOP 00142	SM 24 2320 B
Chloride	10	N/A	2025/11/27	ATL SOP 00014	SM 24 4500-Cl- E m
Colour	10	N/A	2025/11/28	ATL SOP 00020	SM 24 2120C m
Organic carbon - Diss (DOC)-Lab Filtered (2)	10	N/A	2025/11/26	ATL SOP 00203	SM 24 5310B m
Conductance - water	9	N/A	2025/11/25	ATL SOP 00004	SM 24 2510B m
Conductance - water	1	N/A	2025/11/26	ATL SOP 00004	SM 24 2510B m
Hardness (calculated as CaCO3)	5	N/A	2025/11/26	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	5	N/A	2025/11/27	ATL SOP 00048	Auto Calc
Mercury - Total (CVAA,LL)	3	2025/11/26	2025/11/26	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	7	2025/11/27	2025/11/27	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS	5	2025/11/25	2025/11/25	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	5	2025/11/25	2025/11/26	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	10	N/A	2025/11/29	N/A	Auto Calc.
Anion and Cation Sum	10	N/A	2025/11/29	N/A	Auto Calc.
Nitrogen Ammonia - water	10	N/A	2025/11/29	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	9	N/A	2025/11/28	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/11/30	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	10	N/A	2025/11/27	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	8	N/A	2025/11/28	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	2	N/A	2025/12/01	ATL SOP 00018	ASTM D3867-16
Phenols (4AAP) (1)	10	N/A	2025/12/01	CAM SOP-00444	OMOE E3179 m
pH (3)	9	N/A	2025/11/25	ATL SOP 00003	SM 24 4500-H+ B m
pH (3)	1	N/A	2025/11/26	ATL SOP 00003	SM 24 4500-H+ B m
Phosphorus - ortho	10	N/A	2025/11/28	ATL SOP 00021	SM 24 4500-P E m
Sat. pH and Langelier Index (@ 20C)	10	N/A	2025/11/29	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	10	N/A	2025/11/29	ATL SOP 00049	Auto Calc.
Reactive Silica	10	N/A	2025/11/27	ATL SOP 00022	EPA 366.0 m
Sulphate	10	N/A	2025/11/27	ATL SOP 00023	ASTM D516-16 m
Sulphide (1)	10	N/A	2025/11/26	CAM SOP-00455	SM 24 4500-S G m
Total Dissolved Solids (TDS calc)	10	N/A	2025/11/29	N/A	Auto Calc.



Your Project #: SW SAMPLES
Site#: 00012
Your C.O.C. #: C#1066479-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/12/02
Report #: R8661665
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E7715

Received: 2025/11/21, 09:30

Sample Matrix: Water
Samples Received: 10

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Organic carbon - Total (TOC) (2)	10	N/A	2025/11/26	ATL SOP 00203	SM 24 5310B m
Total Suspended Solids	5	2025/11/25	2025/11/26	ATL SOP 00007	SM 24 2540D m
Total Suspended Solids	5	2025/11/25	2025/11/27	ATL SOP 00007	SM 24 2540D m
Turbidity	10	N/A	2025/11/26	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

(3) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



Your Project #: SW SAMPLES
Site#: 00012
Your C.O.C. #: C#1066479-01-01

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Report Date: 2025/12/02
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Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E7715

Received: 2025/11/21, 09:30

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Augustina Isesele, Customer Solutions Representative
Email: Augustina.isesele@bureauveritas.com
Phone# (902) 420-0203

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ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS04			AXOS05			AXOS06		
Sampling Date		2025/11/19 07:50			2025/11/19 08:00			2025/11/19 08:15		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00291			00292			00293		
	UNITS	847-SW-1	RDL	QC Batch	SW-1	RDL	QC Batch	SW-2	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	1.28	N/A	A058918	0.980	N/A	A058918	2.72	N/A	A058918
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	16	1.0	A058913	35	1.0	A058913	65	1.0	A058913
Calculated TDS	mg/L	83	1.0	A058928	56	1.0	A058928	160	1.0	A058928
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	A058913	ND	1.0	A058913	ND	1.0	A058913
Cation Sum	me/L	1.59	N/A	A058918	1.10	N/A	A058918	2.97	N/A	A058918
Hardness (CaCO ₃)	mg/L	26	1.0	A058916	44	1.0	A058916	79	1.0	A058916
Ion Balance (% Difference)	%	10.8	N/A	A058917	5.77	N/A	A058917	4.39	N/A	A058917
Langelier Index (@ 20C)	N/A	-2.21		A058924	-1.23		A058924	-0.557		A058924
Langelier Index (@ 4C)	N/A	-2.46		A058925	-1.48		A058925	-0.807		A058925
Nitrate (N)	mg/L	0.13	0.050	A058919	0.12	0.050	A058919	2.4	0.25	A058919
Saturation pH (@ 20C)	N/A	9.37		A058924	8.81		A058924	8.37		A058924
Saturation pH (@ 4C)	N/A	9.62		A058925	9.07		A058925	8.62		A058925

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	16	2.0	A061103	35	2.0	A061121	66	2.0	A061121
Dissolved Chloride (Cl ⁻)	mg/L	34	1.0	A062423	7.6	1.0	A062423	39	1.0	A062423
Colour	TCU	150	25	A062428	51	10	A062428	49	5.0	A062428
Nitrate + Nitrite (N)	mg/L	0.13	0.050	A062431	0.13	0.050	A062431	2.4	0.25	A062431
Nitrite (N)	mg/L	ND	0.010	A062433	0.012	0.010	A062433	ND	0.010	A062433
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	A063466	ND	0.050	A063466	ND	0.050	A063466
Total Organic Carbon (C)	mg/L	17	0.50	A061882	9.4	0.50	A061882	8.8	0.50	A061882
Orthophosphate (P)	mg/L	ND	0.010	A062430	ND	0.010	A062430	ND	0.010	A062430
pH	pH	7.16		A061099	7.59		A061116	7.82		A061116
Reactive Silica (SiO ₂)	mg/L	5.2	0.50	A062427	4.9	0.50	A062427	5.8	0.50	A062427
Dissolved Sulphate (SO ₄)	mg/L	ND	2.0	A062426	2.4	2.0	A062426	5.7	2.0	A062426
Turbidity	NTU	1.0	0.10	A061379	0.62	0.10	A061379	1.1	0.10	A061379
Conductivity	uS/cm	170	1.0	A061102	110	1.0	A061119	310	1.0	A061119

Metals

Total Aluminum (Al)	ug/L	190	5.0	A060843	66	5.0	A060839	27	5.0	A060843
Total Antimony (Sb)	ug/L	ND	1.0	A060843	ND	1.0	A060839	ND	1.0	A060843
Total Arsenic (As)	ug/L	ND	1.0	A060843	ND	1.0	A060839	ND	1.0	A060843
Total Barium (Ba)	ug/L	11	1.0	A060843	5.8	1.0	A060839	14	1.0	A060843
Total Beryllium (Be)	ug/L	ND	0.10	A060843	ND	0.10	A060839	ND	0.10	A060843
Total Bismuth (Bi)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS04			AXOS05			AXOS06		
Sampling Date		2025/11/19 07:50			2025/11/19 08:00			2025/11/19 08:15		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00291			00292			00293		
	UNITS	847-SW-1	RDL	QC Batch	SW-1	RDL	QC Batch	SW-2	RDL	QC Batch
Total Boron (B)	ug/L	ND	50	A060843	ND	50	A060839	ND	50	A060843
Total Cadmium (Cd)	ug/L	ND	0.010	A060843	0.012	0.010	A060839	ND	0.010	A060843
Total Calcium (Ca)	ug/L	5800	100	A060843	8900	100	A060839	15000	100	A060843
Total Chromium (Cr)	ug/L	ND	1.0	A060843	ND	1.0	A060839	ND	1.0	A060843
Total Cobalt (Co)	ug/L	ND	0.40	A060843	ND	0.40	A060839	ND	0.40	A060843
Total Copper (Cu)	ug/L	0.62	0.50	A060843	0.87	0.50	A060839	0.59	0.50	A060843
Total Iron (Fe)	ug/L	300	50	A060843	52	50	A060839	150	50	A060843
Total Lead (Pb)	ug/L	ND	0.50	A060843	ND	0.50	A060839	ND	0.50	A060843
Total Magnesium (Mg)	ug/L	2700	100	A060843	5200	100	A060839	9900	100	A060843
Total Manganese (Mn)	ug/L	12	2.0	A060843	3.7	2.0	A060839	8.5	2.0	A060843
Total Molybdenum (Mo)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Nickel (Ni)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Phosphorus (P)	ug/L	ND	100	A060843	ND	100	A060839	ND	100	A060843
Total Potassium (K)	ug/L	410	100	A060843	660	100	A060839	4700	100	A060843
Total Selenium (Se)	ug/L	ND	0.50	A060843	ND	0.50	A060839	ND	0.50	A060843
Total Silver (Ag)	ug/L	ND	0.10	A060843	ND	0.10	A060839	ND	0.10	A060843
Total Sodium (Na)	ug/L	24000	100	A060843	4900	100	A060839	29000	100	A060843
Total Strontium (Sr)	ug/L	21	2.0	A060843	48	2.0	A060839	83	2.0	A060843
Total Thallium (Tl)	ug/L	ND	0.10	A060843	ND	0.10	A060839	ND	0.10	A060843
Total Tin (Sn)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Titanium (Ti)	ug/L	2.8	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Uranium (U)	ug/L	ND	0.10	A060843	ND	0.10	A060839	ND	0.10	A060843
Total Vanadium (V)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Zinc (Zn)	ug/L	ND	5.0	A060843	7.5	5.0	A060839	ND	5.0	A060843

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



BUREAU
VERITAS

Bureau Veritas Job #: C5E7715

Report Date: 2025/12/02

Central Newfoundland Waste Management Authority

Client Project #: SW SAMPLES

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS07			AXOS08			AXOS09		
Sampling Date		2025/11/19 08:25			2025/11/19 08:35			2025/11/19 08:50		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	9.20	N/A	A058918	0.500	N/A	A058918	65.6	N/A	A058918
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	240	1.0	A058913	11	1.0	A058913	2200	1.0	A058913
Calculated TDS	mg/L	540	1.0	A058928	34	1.0	A058928	3500	1.0	A058928
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	1.6	1.0	A058913	ND	1.0	A058913	32	1.0	A058913
Cation Sum	me/L	9.85	N/A	A058918	0.670	N/A	A058918	61.8	N/A	A058918
Hardness (CaCO ₃)	mg/L	410	1.0	A058916	18	1.0	A058916	520	1.0	A058916
Ion Balance (% Difference)	%	3.41	N/A	A058917	14.5	N/A	A058917	2.97	N/A	A058917
Langelier Index (@ 20C)	N/A	0.782		A058924	-2.51		A058924	1.76		A058924
Langelier Index (@ 4C)	N/A	0.534		A058925	-2.77		A058925	1.52		A058925
Nitrate (N)	mg/L	4.1	0.25	A058919	0.19	0.050	A058919	48	2.5	A058919
Saturation pH (@ 20C)	N/A	7.06		A058924	9.61		A058924	6.43		A058924
Saturation pH (@ 4C)	N/A	7.30		A058925	9.86		A058925	6.67		A058925

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	240	2.0	A061113	11	2.0	A061121	2200	20	A061121
Dissolved Chloride (Cl ⁻)	mg/L	43	1.0	A062423	9.3	1.0	A062423	630	10	A062423
Colour	TCU	79	25	A062428	79	25	A062428	670	150	A062428
Nitrate + Nitrite (N)	mg/L	4.2	0.25	A062431	0.21	0.050	A062431	48	2.5	A062431
Nitrite (N)	mg/L	0.074	0.010	A062433	0.012	0.010	A062433	0.26	0.010	A062433
Nitrogen (Ammonia Nitrogen)	mg/L	2.6	0.25	A063466	ND	0.050	A063470	250	25	A063470
Total Organic Carbon (C)	mg/L	25 (1)	5.0	A061886	11	0.50	A061882	120 (1)	50	A061886
Orthophosphate (P)	mg/L	ND	0.010	A062430	ND	0.010	A062430	0.28	0.010	A062430
pH	pH	7.84		A061104	7.09		A061116	8.19		A061116
Reactive Silica (SiO ₂)	mg/L	9.5	0.50	A062427	4.0	0.50	A062427	15	0.50	A062427
Dissolved Sulphate (SO ₄)	mg/L	130	10	A062426	ND	2.0	A062426	ND	2.0	A062426
Turbidity	NTU	9.3	0.10	A061390	0.80	0.10	A061390	53	0.10	A061379
Conductivity	uS/cm	930	1.0	A061112	67	1.0	A061119	6500	1.0	A061119

Metals

Total Aluminum (Al)	ug/L	100	5.0	A060839	110	5.0	A060839	93	5.0	A060839
Total Antimony (Sb)	ug/L	1.1	1.0	A060839	ND	1.0	A060839	2.8	1.0	A060839
Total Arsenic (As)	ug/L	8.3	1.0	A060839	ND	1.0	A060839	32	1.0	A060839
Total Barium (Ba)	ug/L	400	1.0	A060839	4.9	1.0	A060839	590	1.0	A060839
Total Beryllium (Be)	ug/L	ND	0.10	A060839	ND	0.10	A060839	ND	0.10	A060839

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to turbidity.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS07			AXOS08			AXOS09		
Sampling Date		2025/11/19 08:25			2025/11/19 08:35			2025/11/19 08:50		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch
Total Bismuth (Bi)	ug/L	ND	2.0	A060839	ND	2.0	A060839	ND	2.0	A060839
Total Boron (B)	ug/L	200	50	A060839	ND	50	A060839	2700	50	A060839
Total Cadmium (Cd)	ug/L	0.026	0.010	A060839	ND	0.010	A060839	ND (1)	0.10	A060839
Total Calcium (Ca)	ug/L	110000	100	A060839	4400	100	A060839	91000	100	A060839
Total Chromium (Cr)	ug/L	1.3	1.0	A060839	ND	1.0	A060839	54	1.0	A060839
Total Cobalt (Co)	ug/L	6.3	0.40	A060839	ND	0.40	A060839	8.9	0.40	A060839
Total Copper (Cu)	ug/L	13	0.50	A060839	0.50	0.50	A060839	6.2	0.50	A060839
Total Iron (Fe)	ug/L	2400	50	A060839	190	50	A060839	5200	50	A060839
Total Lead (Pb)	ug/L	ND	0.50	A060839	ND	0.50	A060839	ND	0.50	A060839
Total Magnesium (Mg)	ug/L	34000	100	A060839	1600	100	A060839	71000	100	A060839
Total Manganese (Mn)	ug/L	520	2.0	A060839	40	2.0	A060839	770	2.0	A060839
Total Molybdenum (Mo)	ug/L	ND	2.0	A060839	ND	2.0	A060839	ND	2.0	A060839
Total Nickel (Ni)	ug/L	14	2.0	A060839	ND	2.0	A060839	63	2.0	A060839
Total Phosphorus (P)	ug/L	ND	100	A060839	ND	100	A060839	1300	100	A060839
Total Potassium (K)	ug/L	6900	100	A060839	550	100	A060839	250000	1000	A060839
Total Selenium (Se)	ug/L	ND	0.50	A060839	ND	0.50	A060839	0.51	0.50	A060839
Total Silver (Ag)	ug/L	ND	0.10	A060839	ND	0.10	A060839	ND	0.10	A060839
Total Sodium (Na)	ug/L	29000	100	A060839	6800	100	A060839	610000	100	A060839
Total Strontium (Sr)	ug/L	480	2.0	A060839	20	2.0	A060839	510	2.0	A060839
Total Thallium (Tl)	ug/L	ND	0.10	A060839	ND	0.10	A060839	ND	0.10	A060839
Total Tin (Sn)	ug/L	ND	2.0	A060839	ND	2.0	A060839	4.8	2.0	A060839
Total Titanium (Ti)	ug/L	2.3	2.0	A060839	ND	2.0	A060839	21	2.0	A060839
Total Uranium (U)	ug/L	1.5	0.10	A060839	ND	0.10	A060839	0.21	0.10	A060839
Total Vanadium (V)	ug/L	ND	2.0	A060839	ND	2.0	A060839	22	2.0	A060839
Total Zinc (Zn)	ug/L	49	5.0	A060839	ND	5.0	A060839	22	5.0	A060839

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS10			AXOS11		AXOS12		
Sampling Date		2025/11/19 09:00			2025/11/19 09:15		2025/11/19 09:25		
COC Number		C#1066479-01-01			C#1066479-01-01		C#1066479-01-01		
Sample #		00297			00298		00299		
	UNITS	SW-6	RDL	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch

Calculated Parameters									
Anion Sum	me/L	1.63	N/A	A058918	1.48	A058918	1.96	N/A	A058918
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	63	1.0	A058913	66	A058913	8.4	1.0	A058913
Calculated TDS	mg/L	92	1.0	A058928	78	A058928	120	1.0	A058928
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	A058913	ND	A058913	ND	1.0	A058913
Cation Sum	me/L	1.75	N/A	A058918	1.69	A058918	2.09	N/A	A058918
Hardness (CaCO ₃)	mg/L	71	1.0	A058916	75	A058916	44	1.0	A058916
Ion Balance (% Difference)	%	3.55	N/A	A058917	6.62	A058917	3.21	N/A	A058917
Langelier Index (@ 20C)	N/A	-0.568		A058924	-0.814	A058924	-2.52		A058924
Langelier Index (@ 4C)	N/A	-0.819		A058925	-1.07	A058925	-2.77		A058925
Nitrate (N)	mg/L	0.51	0.050	A058919	0.20	A058919	0.19	0.050	A058919
Saturation pH (@ 20C)	N/A	8.38		A058924	8.41	A058924	9.41		A058924
Saturation pH (@ 4C)	N/A	8.63		A058925	8.66	A058925	9.66		A058925

Inorganics									
Total Alkalinity (Total as CaCO ₃)	mg/L	63	2.0	A061121	66	A061103	8.4	2.0	A061103
Dissolved Chloride (Cl ⁻)	mg/L	8.5	1.0	A062423	5.2	A062423	43	1.0	A062434
Colour	TCU	53	25	A062428	46	A062428	29	5.0	A062441
Nitrate + Nitrite (N)	mg/L	0.52	0.050	A062431	0.22	A062431	0.19	0.050	A062443
Nitrite (N)	mg/L	0.012	0.010	A062433	0.016	A062433	ND	0.010	A062446
Nitrogen (Ammonia Nitrogen)	mg/L	0.052	0.050	A063470	0.065	A063470	ND	0.050	A063470
Total Organic Carbon (C)	mg/L	6.7	0.50	A061882	6.9	A061882	7.1	0.50	A061882
Orthophosphate (P)	mg/L	ND	0.010	A062430	ND	A062430	ND	0.010	A062449
pH	pH	7.81		A061116	7.60	A061099	6.89		A061099
Reactive Silica (SiO ₂)	mg/L	7.5	0.50	A062427	4.1	A062427	4.3	0.50	A062440
Dissolved Sulphate (SO ₄)	mg/L	4.4	2.0	A062426	ND	A062426	28	2.0	A062439
Turbidity	NTU	1.0	0.10	A061379	14	A061379	0.26	0.10	A061397
Conductivity	uS/cm	170	1.0	A061119	160	A061102	250	1.0	A061102

Metals									
Total Aluminum (Al)	ug/L	80	5.0	A060839	330	A060839	44	5.0	A060839
Total Antimony (Sb)	ug/L	ND	1.0	A060839	ND	A060839	ND	1.0	A060839
Total Arsenic (As)	ug/L	ND	1.0	A060839	ND	A060839	ND	1.0	A060839
Total Barium (Ba)	ug/L	41	1.0	A060839	60	A060839	8.2	1.0	A060839
Total Beryllium (Be)	ug/L	ND	0.10	A060839	ND	A060839	ND	0.10	A060839
Total Bismuth (Bi)	ug/L	ND	2.0	A060839	ND	A060839	ND	2.0	A060839

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS10			AXOS11		AXOS12		
Sampling Date		2025/11/19 09:00			2025/11/19 09:15		2025/11/19 09:25		
COC Number		C#1066479-01-01			C#1066479-01-01		C#1066479-01-01		
Sample #		00297			00298		00299		
	UNITS	SW-6	RDL	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch
Total Boron (B)	ug/L	ND	50	A060839	ND	A060839	ND	50	A060839
Total Cadmium (Cd)	ug/L	ND	0.010	A060839	ND	A060839	ND	0.010	A060839
Total Calcium (Ca)	ug/L	14000	100	A060839	13000	A060839	10000	100	A060839
Total Chromium (Cr)	ug/L	ND	1.0	A060839	1.0	A060839	ND	1.0	A060839
Total Cobalt (Co)	ug/L	ND	0.40	A060839	ND	A060839	ND	0.40	A060839
Total Copper (Cu)	ug/L	1.4	0.50	A060839	1.8	A060839	ND	0.50	A060839
Total Iron (Fe)	ug/L	71	50	A060839	350	A060839	ND	50	A060839
Total Lead (Pb)	ug/L	ND	0.50	A060839	ND	A060839	ND	0.50	A060839
Total Magnesium (Mg)	ug/L	8400	100	A060839	10000	A060839	4400	100	A060839
Total Manganese (Mn)	ug/L	5.0	2.0	A060839	17	A060839	2.1	2.0	A060839
Total Molybdenum (Mo)	ug/L	ND	2.0	A060839	ND	A060839	ND	2.0	A060839
Total Nickel (Ni)	ug/L	ND	2.0	A060839	ND	A060839	ND	2.0	A060839
Total Phosphorus (P)	ug/L	ND	100	A060839	ND	A060839	ND	100	A060839
Total Potassium (K)	ug/L	1100	100	A060839	790	A060839	470	100	A060839
Total Selenium (Se)	ug/L	ND	0.50	A060839	ND	A060839	ND	0.50	A060839
Total Silver (Ag)	ug/L	ND	0.10	A060839	ND	A060839	ND	0.10	A060839
Total Sodium (Na)	ug/L	6900	100	A060839	3700	A060839	28000	100	A060839
Total Strontium (Sr)	ug/L	47	2.0	A060839	38	A060839	31	2.0	A060839
Total Thallium (Tl)	ug/L	ND	0.10	A060839	ND	A060839	ND	0.10	A060839
Total Tin (Sn)	ug/L	ND	2.0	A060839	ND	A060839	ND	2.0	A060839
Total Titanium (Ti)	ug/L	ND	2.0	A060839	8.1	A060839	ND	2.0	A060839
Total Uranium (U)	ug/L	0.35	0.10	A060839	0.15	A060839	ND	0.10	A060839
Total Vanadium (V)	ug/L	3.8	2.0	A060839	ND	A060839	ND	2.0	A060839
Total Zinc (Zn)	ug/L	ND	5.0	A060839	ND	A060839	ND	5.0	A060839

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS13		
Sampling Date		2025/11/19 09:35		
COC Number		C#1066479-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	10.4	N/A	A058918
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	270	1.0	A058913
Calculated TDS	mg/L	620	1.0	A058928
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	3.0	1.0	A058913
Cation Sum	me/L	11.3	N/A	A058918
Hardness (CaCO ₃)	mg/L	240	1.0	A058916
Ion Balance (% Difference)	%	4.32	N/A	A058917
Langelier Index (@ 20C)	N/A	0.683		A058924
Langelier Index (@ 4C)	N/A	0.435		A058925
Nitrate (N)	mg/L	16	0.50	A058919
Saturation pH (@ 20C)	N/A	7.40		A058924
Saturation pH (@ 4C)	N/A	7.65		A058925
Inorganics				
Total Alkalinity (Total as CaCO ₃)	mg/L	270	2.0	A061113
Dissolved Chloride (Cl ⁻)	mg/L	130	5.0	A062434
Colour	TCU	73	25	A062441
Nitrate + Nitrite (N)	mg/L	17	0.50	A062443
Nitrite (N)	mg/L	1.4	0.050	A062446
Nitrogen (Ammonia Nitrogen)	mg/L	5.1	0.25	A063470
Total Organic Carbon (C)	mg/L	22 (1)	5.0	A061890
Orthophosphate (P)	mg/L	ND	0.010	A062449
pH	pH	8.08		A061104
Reactive Silica (SiO ₂)	mg/L	7.2	0.50	A062440
Dissolved Sulphate (SO ₄)	mg/L	13	2.0	A062439
Turbidity	NTU	9.4	0.10	A061397
Conductivity	uS/cm	1200	1.0	A061112
Metals				
Total Aluminum (Al)	ug/L	640	5.0	A060839
Total Antimony (Sb)	ug/L	ND	1.0	A060839
Total Arsenic (As)	ug/L	2.3	1.0	A060839
Total Barium (Ba)	ug/L	170	1.0	A060839
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not Detected at a concentration equal or greater than the indicated Detection Limit. (1) Elevated reporting limit due to turbidity.				



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS13		
Sampling Date		2025/11/19 09:35		
COC Number		C#1066479-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch
Total Beryllium (Be)	ug/L	ND	0.10	A060839
Total Bismuth (Bi)	ug/L	ND	2.0	A060839
Total Boron (B)	ug/L	490	50	A060839
Total Cadmium (Cd)	ug/L	0.024	0.010	A060839
Total Calcium (Ca)	ug/L	45000	100	A060839
Total Chromium (Cr)	ug/L	4.7	1.0	A060839
Total Cobalt (Co)	ug/L	2.3	0.40	A060839
Total Copper (Cu)	ug/L	4.5	0.50	A060839
Total Iron (Fe)	ug/L	640	50	A060839
Total Lead (Pb)	ug/L	ND	0.50	A060839
Total Magnesium (Mg)	ug/L	31000	100	A060839
Total Manganese (Mn)	ug/L	38	2.0	A060839
Total Molybdenum (Mo)	ug/L	ND	2.0	A060839
Total Nickel (Ni)	ug/L	13	2.0	A060839
Total Phosphorus (P)	ug/L	ND	100	A060839
Total Potassium (K)	ug/L	44000	100	A060839
Total Selenium (Se)	ug/L	ND	0.50	A060839
Total Silver (Ag)	ug/L	ND	0.10	A060839
Total Sodium (Na)	ug/L	120000	100	A060839
Total Strontium (Sr)	ug/L	200	2.0	A060839
Total Thallium (Tl)	ug/L	ND	0.10	A060839
Total Tin (Sn)	ug/L	ND	2.0	A060839
Total Titanium (Ti)	ug/L	18	2.0	A060839
Total Uranium (U)	ug/L	0.51	0.10	A060839
Total Vanadium (V)	ug/L	2.1	2.0	A060839
Total Zinc (Zn)	ug/L	7.7	5.0	A060839
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AXOS04		AXOS05	AXOS06		AXOS07		
Sampling Date		2025/11/19 07:50		2025/11/19 08:00	2025/11/19 08:15		2025/11/19 08:25		
COC Number		C#1066479-01-01		C#1066479-01-01	C#1066479-01-01		C#1066479-01-01		
Sample #		00291		00292	00293		00294		
	UNITS	847-SW-1	RDL	SW-1	SW-2	RDL	SW-3	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	17 (1)	5.0	9.5	9.0	0.50	27 (1)	5.0	A062008
Phenols-4AAP	mg/L	ND	0.0010	ND	ND	0.0010	0.0014	0.0010	A065070
Total Suspended Solids	mg/L	1.6	1.0	ND	ND	1.0	3.2	2.0	A060885
Sulphide	mg/L	ND	0.020	ND	ND	0.020	ND	0.020	A062005

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.

Bureau Veritas ID		AXOS08			AXOS09			AXOS10		
Sampling Date		2025/11/19 08:35			2025/11/19 08:50			2025/11/19 09:00		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00295			00296			00297		
	UNITS	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch	SW-6	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	11	0.50	A062008	140 (1)	50	A062008	7.0	0.50	A062008
Phenols-4AAP	mg/L	ND	0.0010	A065070	0.0067	0.0050	A065070	ND	0.0010	A065070
Total Suspended Solids	mg/L	1.2	1.0	A060885	57	5.0	A061087	ND	1.0	A061087
Sulphide	mg/L	ND	0.020	A062005	0.054	0.020	A062004	ND	0.020	A062005

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AXOS11		AXOS12		AXOS13		
Sampling Date		2025/11/19 09:15		2025/11/19 09:25		2025/11/19 09:35		
COC Number		C#1066479-01-01		C#1066479-01-01		C#1066479-01-01		
Sample #		00298		00299		00287		
	UNITS	SW-7	QC Batch	SW-8	RDL	SW-9	RDL	QC Batch

Inorganics								
Dissolved Organic Carbon (C)	mg/L	7.2	A062008	7.4	0.50	24 (1)	5.0	A062008
Phenols-4AAP	mg/L	ND	A065070	ND	0.0010	0.0012	0.0010	A065070
Total Suspended Solids	mg/L	5.2	A061087	ND	1.0	19	2.0	A061308
Sulphide	mg/L	ND	A062005	ND	0.020	ND	0.020	A062005

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.



MERCURY BY COLD VAPOUR AA (WATER)

Bureau Veritas ID		AXOS04	AXOS05	AXOS06		AXOS07		
Sampling Date		2025/11/19 07:50	2025/11/19 08:00	2025/11/19 08:15		2025/11/19 08:25		
COC Number		C#1066479-01-01	C#1066479-01-01	C#1066479-01-01		C#1066479-01-01		
Sample #		00291	00292	00293		00294		
	UNITS	847-SW-1	SW-1	SW-2	QC Batch	SW-3	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	ND	ND	ND	A061281	ND	0.013	A062235
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.								

Bureau Veritas ID		AXOS08	AXOS09	AXOS10	AXOS11	AXOS12		
Sampling Date		2025/11/19 08:35	2025/11/19 08:50	2025/11/19 09:00	2025/11/19 09:15	2025/11/19 09:25		
COC Number		C#1066479-01-01	C#1066479-01-01	C#1066479-01-01	C#1066479-01-01	C#1066479-01-01		
Sample #		00295	00296	00297	00298	00299		
	UNITS	SW-4	SW-5	SW-6	SW-7	SW-8	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	0.013	A062235
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.								

Bureau Veritas ID		AXOS13		
Sampling Date		2025/11/19 09:35		
COC Number		C#1066479-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch

Metals				
Total Mercury (Hg)	ug/L	ND	0.013	A062235
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.7°C
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Sample AXOS04 [847-SW-1] : Poor RCap Ion Balance due to sample matrix. Anion sum does not include contribution from Total Organic Carbon.

Sample AXOS05 [SW-1] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample AXOS08 [SW-4] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample AXOS11 [SW-7] : Poor RCap Ion Balance due to sample matrix.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A060839	MOA	Matrix Spike	Total Aluminum (Al)	2025/11/26		NC	%	80 - 120
			Total Antimony (Sb)	2025/11/26		110	%	80 - 120
			Total Arsenic (As)	2025/11/26		106	%	80 - 120
			Total Barium (Ba)	2025/11/26		98	%	80 - 120
			Total Beryllium (Be)	2025/11/26		99	%	80 - 120
			Total Bismuth (Bi)	2025/11/26		96	%	80 - 120
			Total Boron (B)	2025/11/26		99	%	80 - 120
			Total Cadmium (Cd)	2025/11/26		98	%	80 - 120
			Total Calcium (Ca)	2025/11/26		NC	%	80 - 120
			Total Chromium (Cr)	2025/11/26		101	%	80 - 120
			Total Cobalt (Co)	2025/11/26		101	%	80 - 120
			Total Copper (Cu)	2025/11/26		99	%	80 - 120
			Total Iron (Fe)	2025/11/26		94	%	80 - 120
			Total Lead (Pb)	2025/11/26		96	%	80 - 120
			Total Magnesium (Mg)	2025/11/26		107	%	80 - 120
			Total Manganese (Mn)	2025/11/26		102	%	80 - 120
			Total Molybdenum (Mo)	2025/11/26		112	%	80 - 120
			Total Nickel (Ni)	2025/11/26		100	%	80 - 120
			Total Phosphorus (P)	2025/11/26		108	%	80 - 120
			Total Potassium (K)	2025/11/26		103	%	80 - 120
			Total Selenium (Se)	2025/11/26		99	%	80 - 120
			Total Silver (Ag)	2025/11/26		97	%	80 - 120
			Total Sodium (Na)	2025/11/26		NC	%	80 - 120
			Total Strontium (Sr)	2025/11/26		NC	%	80 - 120
			Total Thallium (Tl)	2025/11/26		98	%	80 - 120
			Total Tin (Sn)	2025/11/26		107	%	80 - 120
			Total Titanium (Ti)	2025/11/26		108	%	80 - 120
			Total Uranium (U)	2025/11/26		106	%	80 - 120
			Total Vanadium (V)	2025/11/26		106	%	80 - 120
			Total Zinc (Zn)	2025/11/26		99	%	80 - 120
A060839	MOA	Spiked Blank	Total Aluminum (Al)	2025/11/25		104	%	80 - 120
			Total Antimony (Sb)	2025/11/25		104	%	80 - 120
			Total Arsenic (As)	2025/11/25		102	%	80 - 120
			Total Barium (Ba)	2025/11/25		100	%	80 - 120
			Total Beryllium (Be)	2025/11/25		97	%	80 - 120
			Total Bismuth (Bi)	2025/11/25		101	%	80 - 120
			Total Boron (B)	2025/11/25		99	%	80 - 120
			Total Cadmium (Cd)	2025/11/25		101	%	80 - 120
			Total Calcium (Ca)	2025/11/25		101	%	80 - 120
			Total Chromium (Cr)	2025/11/25		102	%	80 - 120
			Total Cobalt (Co)	2025/11/25		103	%	80 - 120
			Total Copper (Cu)	2025/11/25		102	%	80 - 120
			Total Iron (Fe)	2025/11/25		105	%	80 - 120
			Total Lead (Pb)	2025/11/25		97	%	80 - 120
			Total Magnesium (Mg)	2025/11/25		107	%	80 - 120
			Total Manganese (Mn)	2025/11/25		103	%	80 - 120
			Total Molybdenum (Mo)	2025/11/25		105	%	80 - 120
			Total Nickel (Ni)	2025/11/25		102	%	80 - 120
			Total Phosphorus (P)	2025/11/25		105	%	80 - 120
			Total Potassium (K)	2025/11/25		103	%	80 - 120
			Total Selenium (Se)	2025/11/25		98	%	80 - 120
			Total Silver (Ag)	2025/11/25		98	%	80 - 120
			Total Sodium (Na)	2025/11/25		101	%	80 - 120
			Total Strontium (Sr)	2025/11/25		103	%	80 - 120
			Total Thallium (Tl)	2025/11/25		102	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A060839	MOA	Method Blank	Total Tin (Sn)	2025/11/25		105	%	80 - 120
			Total Titanium (Ti)	2025/11/25		105	%	80 - 120
			Total Uranium (U)	2025/11/25		102	%	80 - 120
			Total Vanadium (V)	2025/11/25		104	%	80 - 120
			Total Zinc (Zn)	2025/11/25		103	%	80 - 120
			Total Aluminum (Al)	2025/11/25	ND, RDL=5.0		ug/L	
			Total Antimony (Sb)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Bismuth (Bi)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Boron (B)	2025/11/25	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2025/11/25	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2025/11/25	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2025/11/25	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Iron (Fe)	2025/11/25	ND, RDL=50		ug/L	
			Total Lead (Pb)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2025/11/25	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2025/11/25	ND, RDL=100		ug/L	
			Total Potassium (K)	2025/11/25	ND, RDL=100		ug/L	
			Total Selenium (Se)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Silver (Ag)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2025/11/25	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2025/11/25	ND, RDL=0.10		ug/L	



**BUREAU
VERITAS**

Bureau Veritas Job #: C5E7715
Report Date: 2025/12/02

Central Newfoundland Waste Management Authority
Client Project #: SW SAMPLES

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A060839	MOA	RPD	Total Tin (Sn)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2025/11/25	ND, RDL=5.0		ug/L	
			Total Aluminum (Al)	2025/11/26	3.9		%	20
			Total Antimony (Sb)	2025/11/26	0.96		%	20
			Total Arsenic (As)	2025/11/26	2.4		%	20
			Total Barium (Ba)	2025/11/26	3.4		%	20
			Total Beryllium (Be)	2025/11/26	NC		%	20
			Total Bismuth (Bi)	2025/11/26	NC		%	20
			Total Boron (B)	2025/11/26	4.8		%	20
			Total Cadmium (Cd)	2025/11/26	NC		%	20
			Total Calcium (Ca)	2025/11/26	6.1		%	20
			Total Chromium (Cr)	2025/11/26	3.1		%	20
			Total Cobalt (Co)	2025/11/26	6.0		%	20
			Total Copper (Cu)	2025/11/26	6.1		%	20
			Total Iron (Fe)	2025/11/26	5.9		%	20
			Total Lead (Pb)	2025/11/26	NC		%	20
			Total Magnesium (Mg)	2025/11/26	4.4		%	20
			Total Manganese (Mn)	2025/11/26	1.4		%	20
			Total Molybdenum (Mo)	2025/11/26	3.1		%	20
			Total Nickel (Ni)	2025/11/26	4.3		%	20
			Total Phosphorus (P)	2025/11/26	3.4		%	20
			Total Potassium (K)	2025/11/26	4.9		%	20
			Total Selenium (Se)	2025/11/26	NC		%	20
			Total Silver (Ag)	2025/11/26	NC		%	20
			Total Sodium (Na)	2025/11/26	3.8		%	20
			Total Strontium (Sr)	2025/11/26	4.7		%	20
			Total Thallium (Tl)	2025/11/26	NC		%	20
			Total Tin (Sn)	2025/11/26	NC		%	20
			Total Titanium (Ti)	2025/11/26	NC		%	20
			Total Uranium (U)	2025/11/26	NC		%	20
			Total Vanadium (V)	2025/11/26	3.8		%	20
			Total Zinc (Zn)	2025/11/26	8.7		%	20
A060843	MTZ	Matrix Spike	Total Aluminum (Al)	2025/11/25		101	%	80 - 120
			Total Antimony (Sb)	2025/11/25		108	%	80 - 120
			Total Arsenic (As)	2025/11/25		103	%	80 - 120
			Total Barium (Ba)	2025/11/25		101	%	80 - 120
			Total Beryllium (Be)	2025/11/25		102	%	80 - 120
			Total Bismuth (Bi)	2025/11/25		106	%	80 - 120
			Total Boron (B)	2025/11/25		104	%	80 - 120
			Total Cadmium (Cd)	2025/11/25		105	%	80 - 120
			Total Calcium (Ca)	2025/11/25		104	%	80 - 120
			Total Chromium (Cr)	2025/11/25		104	%	80 - 120
			Total Cobalt (Co)	2025/11/25		103	%	80 - 120
			Total Copper (Cu)	2025/11/25		103	%	80 - 120
			Total Iron (Fe)	2025/11/25		107	%	80 - 120
			Total Lead (Pb)	2025/11/25		102	%	80 - 120
			Total Magnesium (Mg)	2025/11/25		109	%	80 - 120



**BUREAU
VERITAS**

Bureau Veritas Job #: C5E7715
Report Date: 2025/12/02

Central Newfoundland Waste Management Authority
Client Project #: SW SAMPLES

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A060843	MTZ	Spiked Blank	Total Manganese (Mn)	2025/11/25		102	%	80 - 120
			Total Molybdenum (Mo)	2025/11/25		110	%	80 - 120
			Total Nickel (Ni)	2025/11/25		103	%	80 - 120
			Total Phosphorus (P)	2025/11/25		109	%	80 - 120
			Total Potassium (K)	2025/11/25		105	%	80 - 120
			Total Selenium (Se)	2025/11/25		102	%	80 - 120
			Total Silver (Ag)	2025/11/25		102	%	80 - 120
			Total Sodium (Na)	2025/11/25		108	%	80 - 120
			Total Strontium (Sr)	2025/11/25		102	%	80 - 120
			Total Thallium (Tl)	2025/11/25		108	%	80 - 120
			Total Tin (Sn)	2025/11/25		107	%	80 - 120
			Total Titanium (Ti)	2025/11/25		106	%	80 - 120
			Total Uranium (U)	2025/11/25		110	%	80 - 120
			Total Vanadium (V)	2025/11/25		105	%	80 - 120
			Total Zinc (Zn)	2025/11/25		105	%	80 - 120
			Total Aluminum (Al)	2025/11/25		102	%	80 - 120
			Total Antimony (Sb)	2025/11/25		107	%	80 - 120
			Total Arsenic (As)	2025/11/25		103	%	80 - 120
			Total Barium (Ba)	2025/11/25		101	%	80 - 120
			Total Beryllium (Be)	2025/11/25		101	%	80 - 120
			Total Bismuth (Bi)	2025/11/25		105	%	80 - 120
			Total Boron (B)	2025/11/25		104	%	80 - 120
			Total Cadmium (Cd)	2025/11/25		104	%	80 - 120
			Total Calcium (Ca)	2025/11/25		104	%	80 - 120
			Total Chromium (Cr)	2025/11/25		103	%	80 - 120
			Total Cobalt (Co)	2025/11/25		104	%	80 - 120
			Total Copper (Cu)	2025/11/25		105	%	80 - 120
			Total Iron (Fe)	2025/11/25		106	%	80 - 120
			Total Lead (Pb)	2025/11/25		102	%	80 - 120
			Total Magnesium (Mg)	2025/11/25		111	%	80 - 120
			Total Manganese (Mn)	2025/11/25		104	%	80 - 120
			Total Molybdenum (Mo)	2025/11/25		108	%	80 - 120
			Total Nickel (Ni)	2025/11/25		104	%	80 - 120
			Total Phosphorus (P)	2025/11/25		108	%	80 - 120
			Total Potassium (K)	2025/11/25		106	%	80 - 120
			Total Selenium (Se)	2025/11/25		102	%	80 - 120
			Total Silver (Ag)	2025/11/25		101	%	80 - 120
			Total Sodium (Na)	2025/11/25		108	%	80 - 120
			Total Strontium (Sr)	2025/11/25		103	%	80 - 120
			Total Thallium (Tl)	2025/11/25		108	%	80 - 120
			Total Tin (Sn)	2025/11/25		107	%	80 - 120
			Total Titanium (Ti)	2025/11/25		104	%	80 - 120
			Total Uranium (U)	2025/11/25		108	%	80 - 120
			Total Vanadium (V)	2025/11/25		105	%	80 - 120
			Total Zinc (Zn)	2025/11/25		105	%	80 - 120
A060843	MTZ	Method Blank	Total Aluminum (Al)	2025/11/25	ND, RDL=5.0		ug/L	
			Total Antimony (Sb)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2025/11/25	ND, RDL=0.10		ug/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Bismuth (Bi)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Boron (B)	2025/11/25	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2025/11/25	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2025/11/25	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2025/11/25	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Iron (Fe)	2025/11/25	ND, RDL=50		ug/L	
			Total Lead (Pb)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2025/11/25	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2025/11/25	ND, RDL=100		ug/L	
			Total Potassium (K)	2025/11/25	ND, RDL=100		ug/L	
			Total Selenium (Se)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Silver (Ag)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2025/11/25	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Tin (Sn)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2025/11/25	ND, RDL=5.0		ug/L	
A060885	ISM	QC Standard	Total Suspended Solids	2025/11/26		99	%	80 - 120
A060885	ISM	Method Blank	Total Suspended Solids	2025/11/26	ND, RDL=1.0		mg/L	
A060885	ISM	RPD [AXOS07-02]	Total Suspended Solids	2025/11/26	NC		%	20
A061087	RD4	QC Standard	Total Suspended Solids	2025/11/27		100	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A061087	RD4	Method Blank	Total Suspended Solids	2025/11/27	ND, RDL=1.0		mg/L	
A061087	RD4	RPD	Total Suspended Solids	2025/11/27	10		%	20
A061099	J1A	Spiked Blank	pH	2025/11/25		99	%	97 - 103
A061099	J1A	RPD	pH	2025/11/25	0.086		%	N/A
A061102	J1A	Spiked Blank	Conductivity	2025/11/25		100	%	80 - 120
A061102	J1A	Method Blank	Conductivity	2025/11/25	ND, RDL=1.0		uS/cm	
A061102	J1A	RPD	Conductivity	2025/11/25	0		%	10
A061103	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/11/25		100	%	80 - 120
A061103	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/11/25	ND, RDL=2.0		mg/L	
A061103	J1A	RPD	Total Alkalinity (Total as CaCO3)	2025/11/25	2.6		%	20
A061104	J1A	Spiked Blank	pH	2025/11/25		99	%	97 - 103
A061104	J1A	RPD [AXOS13-01]	pH	2025/11/25	1.4		%	N/A
A061112	J1A	Spiked Blank	Conductivity	2025/11/25		100	%	80 - 120
A061112	J1A	Method Blank	Conductivity	2025/11/25	ND, RDL=1.0		uS/cm	
A061112	J1A	RPD [AXOS13-01]	Conductivity	2025/11/25	0.26		%	10
A061113	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/11/25		99	%	80 - 120
A061113	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/11/25	ND, RDL=2.0		mg/L	
A061113	J1A	RPD [AXOS13-01]	Total Alkalinity (Total as CaCO3)	2025/11/25	1.9		%	20
A061116	J1A	Spiked Blank	pH	2025/11/25		99	%	97 - 103
A061116	J1A	RPD	pH	2025/11/25	1.1		%	N/A
A061119	J1A	Spiked Blank	Conductivity	2025/11/25		99	%	80 - 120
A061119	J1A	Method Blank	Conductivity	2025/11/26	ND, RDL=1.0		uS/cm	
A061119	J1A	RPD	Conductivity	2025/11/25	0.79		%	10
A061121	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/11/25		99	%	80 - 120
A061121	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/11/26	ND, RDL=2.0		mg/L	
A061121	J1A	RPD	Total Alkalinity (Total as CaCO3)	2025/11/25	9.0		%	20
A061281	JEP	Matrix Spike	Total Mercury (Hg)	2025/11/26		97	%	80 - 120
A061281	JEP	Spiked Blank	Total Mercury (Hg)	2025/11/26		96	%	80 - 120
A061281	JEP	Method Blank	Total Mercury (Hg)	2025/11/26	ND, RDL=0.013		ug/L	
A061281	JEP	RPD	Total Mercury (Hg)	2025/11/26	NC		%	20
A061308	RD4	QC Standard	Total Suspended Solids	2025/11/27		99	%	80 - 120
A061308	RD4	Method Blank	Total Suspended Solids	2025/11/27	ND, RDL=1.0		mg/L	
A061308	RD4	RPD	Total Suspended Solids	2025/11/27	11		%	20
A061379	KMC	QC Standard	Turbidity	2025/11/26		103	%	80 - 120
A061379	KMC	Spiked Blank	Turbidity	2025/11/26		102	%	80 - 120
A061379	KMC	Method Blank	Turbidity	2025/11/26	ND, RDL=0.10		NTU	
A061379	KMC	RPD	Turbidity	2025/11/26	20		%	20
A061390	J1A	QC Standard	Turbidity	2025/11/26		106	%	80 - 120
A061390	J1A	Spiked Blank	Turbidity	2025/11/26		102	%	80 - 120
A061390	J1A	Method Blank	Turbidity	2025/11/26	ND, RDL=0.10		NTU	
A061390	J1A	RPD	Turbidity	2025/11/26	NC		%	20
A061397	J1A	QC Standard	Turbidity	2025/11/26		104	%	80 - 120
A061397	J1A	Spiked Blank	Turbidity	2025/11/26		102	%	80 - 120



BUREAU
VERITAS

Bureau Veritas Job #: C5E7715

Report Date: 2025/12/02

Central Newfoundland Waste Management Authority

Client Project #: SW SAMPLES

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A061397	J1A	Method Blank	Turbidity	2025/11/26	ND, RDL=0.10		NTU	
A061397	J1A	RPD [AXOS13-01]	Turbidity	2025/11/26	2.4		%	20
A061882	S6S	Matrix Spike [AXOS12-04]	Total Organic Carbon (C)	2025/11/26		98	%	85 - 115
A061882	S6S	Spiked Blank	Total Organic Carbon (C)	2025/11/26		103	%	80 - 120
A061882	S6S	Method Blank	Total Organic Carbon (C)	2025/11/26	ND, RDL=0.50		mg/L	
A061882	S6S	RPD [AXOS12-04]	Total Organic Carbon (C)	2025/11/26	0.70		%	15
A061886	S6S	Matrix Spike	Total Organic Carbon (C)	2025/11/26		101	%	85 - 115
A061886	S6S	Spiked Blank	Total Organic Carbon (C)	2025/11/26		102	%	80 - 120
A061886	S6S	Method Blank	Total Organic Carbon (C)	2025/11/26	ND, RDL=0.50		mg/L	
A061886	S6S	RPD	Total Organic Carbon (C)	2025/11/26	2.2		%	15
A061890	S6S	Matrix Spike	Total Organic Carbon (C)	2025/11/26		99	%	85 - 115
A061890	S6S	Spiked Blank	Total Organic Carbon (C)	2025/11/26		101	%	80 - 120
A061890	S6S	Method Blank	Total Organic Carbon (C)	2025/11/26	ND, RDL=0.50		mg/L	
A061890	S6S	RPD	Total Organic Carbon (C)	2025/11/26	NC		%	15
A062004	SRT	Matrix Spike	Sulphide	2025/11/26		101	%	80 - 120
A062004	SRT	Spiked Blank	Sulphide	2025/11/26		97	%	80 - 120
A062004	SRT	Method Blank	Sulphide	2025/11/26	ND, RDL=0.020		mg/L	
A062004	SRT	RPD	Sulphide	2025/11/26	NC		%	20
A062005	SRT	Matrix Spike	Sulphide	2025/11/26		105	%	80 - 120
A062005	SRT	Spiked Blank	Sulphide	2025/11/26		97	%	80 - 120
A062005	SRT	Method Blank	Sulphide	2025/11/26	ND, RDL=0.020		mg/L	
A062005	SRT	RPD	Sulphide	2025/11/26	NC		%	20
A062008	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/11/26		98	%	85 - 115
A062008	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/11/26		104	%	80 - 120
A062008	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/11/26	ND, RDL=0.50		mg/L	
A062008	S6S	RPD	Dissolved Organic Carbon (C)	2025/11/26	12		%	15
A062235	JEP	Matrix Spike [AXOS08-05]	Total Mercury (Hg)	2025/11/27		97	%	80 - 120
A062235	JEP	Spiked Blank	Total Mercury (Hg)	2025/11/27		95	%	80 - 120
A062235	JEP	Method Blank	Total Mercury (Hg)	2025/11/27	ND, RDL=0.013		ug/L	
A062235	JEP	RPD [AXOS07-05]	Total Mercury (Hg)	2025/11/27	NC		%	20
A062423	MCN	Matrix Spike	Dissolved Chloride (Cl-)	2025/11/27		93	%	80 - 120
A062423	MCN	Spiked Blank	Dissolved Chloride (Cl-)	2025/11/27		94	%	80 - 120
A062423	MCN	Method Blank	Dissolved Chloride (Cl-)	2025/11/27	ND, RDL=1.0		mg/L	
A062423	MCN	RPD	Dissolved Chloride (Cl-)	2025/11/27	2.0		%	20
A062426	MCN	Matrix Spike	Dissolved Sulphate (SO4)	2025/11/27		99	%	80 - 120
A062426	MCN	Spiked Blank	Dissolved Sulphate (SO4)	2025/11/27		98	%	80 - 120
A062426	MCN	Method Blank	Dissolved Sulphate (SO4)	2025/11/27	ND, RDL=2.0		mg/L	
A062426	MCN	RPD	Dissolved Sulphate (SO4)	2025/11/27	NC		%	20
A062427	MCN	Matrix Spike	Reactive Silica (SiO2)	2025/11/27		NC	%	80 - 120
A062427	MCN	Spiked Blank	Reactive Silica (SiO2)	2025/11/27		93	%	80 - 120
A062427	MCN	Method Blank	Reactive Silica (SiO2)	2025/11/27	ND, RDL=0.50		mg/L	
A062427	MCN	RPD	Reactive Silica (SiO2)	2025/11/27	0.75		%	20
A062428	MCN	Spiked Blank	Colour	2025/11/28		108	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A062428	MCN	Method Blank	Colour	2025/11/28	ND, RDL=5.0		TCU	
A062428	MCN	RPD	Colour	2025/11/28	8.6		%	20
A062430	MCN	Matrix Spike	Orthophosphate (P)	2025/11/28		93	%	80 - 120
A062430	MCN	Spiked Blank	Orthophosphate (P)	2025/11/28		101	%	80 - 120
A062430	MCN	Method Blank	Orthophosphate (P)	2025/11/28	ND, RDL=0.010		mg/L	
A062430	MCN	RPD	Orthophosphate (P)	2025/11/28	NC		%	20
A062431	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/11/28		103	%	80 - 120
A062431	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/11/28		98	%	80 - 120
A062431	MCN	Method Blank	Nitrate + Nitrite (N)	2025/11/28	ND, RDL=0.050		mg/L	
A062431	MCN	RPD	Nitrate + Nitrite (N)	2025/11/28	NC		%	20
A062433	MCN	Matrix Spike	Nitrite (N)	2025/11/27		100	%	80 - 120
A062433	MCN	Spiked Blank	Nitrite (N)	2025/11/27		108	%	80 - 120
A062433	MCN	Method Blank	Nitrite (N)	2025/11/27	ND, RDL=0.010		mg/L	
A062433	MCN	RPD	Nitrite (N)	2025/11/27	NC		%	20
A062434	MCN	Matrix Spike	Dissolved Chloride (Cl-)	2025/11/27		93	%	80 - 120
A062434	MCN	Spiked Blank	Dissolved Chloride (Cl-)	2025/11/27		93	%	80 - 120
A062434	MCN	Method Blank	Dissolved Chloride (Cl-)	2025/11/27	ND, RDL=1.0		mg/L	
A062434	MCN	RPD	Dissolved Chloride (Cl-)	2025/11/27	1.1		%	20
A062439	MCN	Matrix Spike	Dissolved Sulphate (SO4)	2025/11/27		94	%	80 - 120
A062439	MCN	Spiked Blank	Dissolved Sulphate (SO4)	2025/11/27		97	%	80 - 120
A062439	MCN	Method Blank	Dissolved Sulphate (SO4)	2025/11/27	ND, RDL=2.0		mg/L	
A062439	MCN	RPD	Dissolved Sulphate (SO4)	2025/11/27	1.2		%	20
A062440	MCN	Matrix Spike	Reactive Silica (SiO2)	2025/11/27		88	%	80 - 120
A062440	MCN	Spiked Blank	Reactive Silica (SiO2)	2025/11/27		89	%	80 - 120
A062440	MCN	Method Blank	Reactive Silica (SiO2)	2025/11/27	ND, RDL=0.50		mg/L	
A062440	MCN	RPD	Reactive Silica (SiO2)	2025/11/27	2.4		%	20
A062441	MCN	Spiked Blank	Colour	2025/11/28		95	%	80 - 120
A062441	MCN	Method Blank	Colour	2025/11/28	ND, RDL=5.0		TCU	
A062441	MCN	RPD	Colour	2025/11/28	2.8		%	20
A062443	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/11/28		98	%	80 - 120
A062443	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/11/28		104	%	80 - 120
A062443	MCN	Method Blank	Nitrate + Nitrite (N)	2025/11/28	ND, RDL=0.050		mg/L	
A062443	MCN	RPD	Nitrate + Nitrite (N)	2025/11/28	NC		%	20
A062446	MCN	Matrix Spike	Nitrite (N)	2025/11/27		95	%	80 - 120
A062446	MCN	Spiked Blank	Nitrite (N)	2025/11/27		105	%	80 - 120
A062446	MCN	Method Blank	Nitrite (N)	2025/11/27	ND, RDL=0.010		mg/L	
A062446	MCN	RPD	Nitrite (N)	2025/11/27	NC		%	20
A062449	MCN	Matrix Spike	Orthophosphate (P)	2025/11/28		88	%	80 - 120
A062449	MCN	Spiked Blank	Orthophosphate (P)	2025/11/28		98	%	80 - 120
A062449	MCN	Method Blank	Orthophosphate (P)	2025/11/28	ND, RDL=0.010		mg/L	
A062449	MCN	RPD	Orthophosphate (P)	2025/11/28	NC		%	20
A063466	KMC	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/11/29		95	%	80 - 120
A063466	KMC	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/11/29		100	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A063466	KMC	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/11/29	ND, RDL=0.050		mg/L	
A063466	KMC	RPD	Nitrogen (Ammonia Nitrogen)	2025/11/29	NC		%	20
A063470	KMC	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/11/29		97	%	80 - 120
A063470	KMC	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/11/29		101	%	80 - 120
A063470	KMC	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/11/29	ND, RDL=0.050		mg/L	
A063470	KMC	RPD	Nitrogen (Ammonia Nitrogen)	2025/11/29	NC		%	20
A065070	JJH	Matrix Spike	Phenols-4AAP	2025/12/01		102	%	80 - 120
A065070	JJH	Spiked Blank	Phenols-4AAP	2025/12/01		99	%	80 - 120
A065070	JJH	Method Blank	Phenols-4AAP	2025/12/01	ND, RDL=0.0010		mg/L	
A065070	JJH	RPD	Phenols-4AAP	2025/12/01	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Ernie Publicover, Scientific Specialist

Louise Harding, Scientific Specialist

Bureau Veritas Certified by Ernie Publicover, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



Your Project #: SW samples
Site#: 00012
Your C.O.C. #: C#1032144-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/06/02
Report #: R8549270
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C558358

Received: 2025/05/22, 09:15

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	1	N/A	2025/05/28	N/A	SM 24 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	9	N/A	2025/05/29	N/A	SM 24 4500-CO2 D
Alkalinity	1	N/A	2025/05/27	ATL SOP 00142	SM 24 2320 B
Alkalinity	8	N/A	2025/05/28	ATL SOP 00142	SM 24 2320 B
Alkalinity	1	N/A	2025/05/29	ATL SOP 00142	SM 24 2320 B
Chloride	10	N/A	2025/05/29	ATL SOP 00014	SM 24 4500-Cl- E m
Colour	10	N/A	2025/05/29	ATL SOP 00020	SM 24 2120C m
Organic carbon - Diss (DOC)-Lab Filtered (2)	10	N/A	2025/05/27	ATL SOP 00203	SM 24 5310B m
Conductance - water	1	N/A	2025/05/27	ATL SOP 00004	SM 24 2510B m
Conductance - water	9	N/A	2025/05/28	ATL SOP 00004	SM 24 2510B m
Hardness (calculated as CaCO3)	7	N/A	2025/05/26	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	3	N/A	2025/05/27	ATL SOP 00048	Auto Calc
Mercury - Total (CVAA,LL)	9	2025/05/28	2025/05/28	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	1	2025/05/29	2025/05/29	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS	7	2025/05/23	2025/05/23	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	3	2025/05/23	2025/05/26	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	10	N/A	2025/05/30	N/A	Auto Calc.
Anion and Cation Sum	1	N/A	2025/05/28	N/A	Auto Calc.
Anion and Cation Sum	9	N/A	2025/05/29	N/A	Auto Calc.
Nitrogen Ammonia - water	10	N/A	2025/05/27	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	10	N/A	2025/05/29	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	5	N/A	2025/05/29	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrite	5	N/A	2025/05/30	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	10	N/A	2025/05/30	ATL SOP 00018	ASTM D3867-16
Phenols (4AAP) (1)	10	N/A	2025/05/29	CAM SOP-00444	OMOE E3179 m
pH (3)	1	N/A	2025/05/27	ATL SOP 00003	SM 24 4500-H+ B m
pH (3)	9	N/A	2025/05/28	ATL SOP 00003	SM 24 4500-H+ B m
Phosphorus - ortho	10	N/A	2025/05/29	ATL SOP 00021	SM 24 4500-P E m
Sat. pH and Langelier Index (@ 20C)	10	N/A	2025/05/30	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	10	N/A	2025/05/30	ATL SOP 00049	Auto Calc.
Reactive Silica	10	N/A	2025/05/29	ATL SOP 00022	EPA 366.0 m
Sulphate	10	N/A	2025/05/29	ATL SOP 00023	ASTM D516-16 m



Your Project #: SW samples
Site#: 00012
Your C.O.C. #: C#1032144-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/06/02
Report #: R8549270
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C558358

Received: 2025/05/22, 09:15

Sample Matrix: Water
Samples Received: 10

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
Sulphide (1)	10	N/A	2025/05/27 CAM SOP-00455	SM 24 4500-S G m
Total Dissolved Solids (TDS calc)	10	N/A	2025/05/30 N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	10	N/A	2025/05/23 ATL SOP 00203	SM 24 5310B m
Total Suspended Solids	10	2025/05/23	2025/05/26 ATL SOP 00007	SM 24 2540D m
Turbidity	10	N/A	2025/05/30 ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

(3) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



Your Project #: SW samples
Site#: 00012
Your C.O.C. #: C#1032144-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/06/02
Report #: R8549270
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C558358

Received: 2025/05/22, 09:15

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Jaspreet Kaur, Project Manager 1

Email: jaspreet.kaur@bureauveritas.com

Phone# (902)420-0203

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This report has been generated and distributed using a secure automated process.

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ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ARCF18		ARCF19			ARCF20		
Sampling Date		2025/05/20 08:25		2025/05/20 08:35			2025/05/20 08:45		
COC Number		C#1032144-01-01		C#1032144-01-01			C#1032144-01-01		
Sample #		00291		00292			00293		
	UNITS	847-SW-1	QC Batch	SW-1	RDL	QC Batch	SW-2	RDL	QC Batch

Calculated Parameters									
Anion Sum	me/L	0.480	9933236	0.880	N/A	9933236	2.40	N/A	9933236
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	10	9933233	34	1.0	9933233	66	1.0	9933233
Calculated TDS	mg/L	33	9933242	51	1.0	9933242	130	1.0	9933242
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	9933233	ND	1.0	9933233	ND	1.0	9933233
Cation Sum	me/L	0.670	9933236	1.05	N/A	9933236	2.63	N/A	9933236
Hardness (CaCO ₃)	mg/L	18	9933627	42	1.0	9933627	73	1.0	9933627
Ion Balance (% Difference)	%	16.5	9933235	8.81	N/A	9933235	4.57	N/A	9933235
Langelier Index (@ 20C)	N/A	-2.44	9933240	-1.19		9933240	-0.513		9933240
Langelier Index (@ 4C)	N/A	-2.69	9933241	-1.44		9933241	-0.763		9933241
Nitrate (N)	mg/L	0.40	9933597	ND	0.050	9933597	0.42	0.050	9933597
Saturation pH (@ 20C)	N/A	9.63	9933240	8.82		9933240	8.38		9933240
Saturation pH (@ 4C)	N/A	9.89	9933241	9.07		9933241	8.63		9933241

Inorganics									
Total Alkalinity (Total as CaCO ₃)	mg/L	10	9936843	34	2.0	9936849	66	2.0	9936843
Dissolved Chloride (Cl ⁻)	mg/L	8.5	9937551	5.4	1.0	9937549	34	1.0	9937549
Colour	TCU	50	9937621	43	10	9937612	48	5.0	9937612
Nitrate + Nitrite (N)	mg/L	0.40	9937623	ND	0.050	9937614	0.42	0.050	9937614
Nitrite (N)	mg/L	ND	9937624	ND	0.010	9937615	ND	0.010	9937615
Nitrogen (Ammonia Nitrogen)	mg/L	0.055	9935879	ND	0.050	9935879	0.062	0.050	9935879
Total Organic Carbon (C)	mg/L	7.3	9934377	6.9	0.50	9934378	7.5	0.50	9934377
Orthophosphate (P)	mg/L	ND	9937622	ND	0.010	9937617	ND	0.010	9937617
pH	pH	7.20	9936840	7.63		9936845	7.87		9936840
Reactive Silica (SiO ₂)	mg/L	2.3	9937620	3.7	0.50	9937616	2.5	0.50	9937616
Dissolved Sulphate (SO ₄)	mg/L	ND	9937619	2.2	2.0	9937611	4.8	2.0	9937611
Turbidity	NTU	0.67	9938200	0.11	0.10	9938200	ND	0.10	9938200
Conductivity	uS/cm	69	9936841	100	1.0	9936848	280	1.0	9936841

Metals									
Total Aluminum (Al)	ug/L	82	9934023	55	5.0	9934023	19	5.0	9934023
Total Antimony (Sb)	ug/L	ND	9934023	ND	1.0	9934023	ND	1.0	9934023
Total Arsenic (As)	ug/L	ND	9934023	ND	1.0	9934023	ND	1.0	9934023
Total Barium (Ba)	ug/L	4.5	9934023	6.4	1.0	9934023	15	1.0	9934023
Total Beryllium (Be)	ug/L	ND	9934023	ND	0.10	9934023	ND	0.10	9934023
Total Bismuth (Bi)	ug/L	ND	9934023	ND	2.0	9934023	ND	2.0	9934023

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ARCF18		ARCF19			ARCF20		
Sampling Date		2025/05/20 08:25		2025/05/20 08:35			2025/05/20 08:45		
COC Number		C#1032144-01-01		C#1032144-01-01			C#1032144-01-01		
Sample #		00291		00292			00293		
	UNITS	847-SW-1	QC Batch	SW-1	RDL	QC Batch	SW-2	RDL	QC Batch
Total Boron (B)	ug/L	ND	9934023	ND	50	9934023	58	50	9934023
Total Cadmium (Cd)	ug/L	ND	9934023	ND	0.010	9934023	ND	0.010	9934023
Total Calcium (Ca)	ug/L	4400	9934023	9000	100	9934023	14000	100	9934023
Total Chromium (Cr)	ug/L	ND	9934023	ND	1.0	9934023	ND	1.0	9934023
Total Cobalt (Co)	ug/L	ND	9934023	ND	0.40	9934023	ND	0.40	9934023
Total Copper (Cu)	ug/L	ND	9934023	0.70	0.50	9934023	0.56	0.50	9934023
Total Iron (Fe)	ug/L	150	9934023	59	50	9934023	ND	50	9934023
Total Lead (Pb)	ug/L	ND	9934023	ND	0.50	9934023	ND	0.50	9934023
Total Magnesium (Mg)	ug/L	1600	9934023	4700	100	9934023	9000	100	9934023
Total Manganese (Mn)	ug/L	29	9934023	2.8	2.0	9934023	ND	2.0	9934023
Total Molybdenum (Mo)	ug/L	ND	9934023	ND	2.0	9934023	ND	2.0	9934023
Total Nickel (Ni)	ug/L	ND	9934023	ND	2.0	9934023	ND	2.0	9934023
Total Phosphorus (P)	ug/L	ND	9934023	ND	100	9934023	ND	100	9934023
Total Potassium (K)	ug/L	580	9934023	550	100	9934023	4100	100	9934023
Total Selenium (Se)	ug/L	ND	9934023	ND	0.50	9934023	ND	0.50	9934023
Total Silver (Ag)	ug/L	ND	9934023	ND	0.10	9934023	ND	0.10	9934023
Total Sodium (Na)	ug/L	6800	9934023	4500	100	9934023	24000	100	9934023
Total Strontium (Sr)	ug/L	20	9934023	45	2.0	9934023	76	2.0	9934023
Total Thallium (Tl)	ug/L	ND	9934023	ND	0.10	9934023	ND	0.10	9934023
Total Tin (Sn)	ug/L	ND	9934023	ND	2.0	9934023	ND	2.0	9934023
Total Titanium (Ti)	ug/L	ND	9934023	ND	2.0	9934023	ND	2.0	9934023
Total Uranium (U)	ug/L	ND	9934023	ND	0.10	9934023	ND	0.10	9934023
Total Vanadium (V)	ug/L	ND	9934023	ND	2.0	9934023	ND	2.0	9934023
Total Zinc (Zn)	ug/L	ND	9934023	ND	5.0	9934023	ND	5.0	9934023

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



BUREAU
VERITAS

Bureau Veritas Job #: C558358

Report Date: 2025/06/02

Central Newfoundland Waste Management Authority

Client Project #: SW samples

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ARCF21			ARCF22			ARCF23		
Sampling Date		2025/05/20 09:00			2025/05/20 09:20			2025/05/20 09:30		
COC Number		C#1032144-01-01			C#1032144-01-01			C#1032144-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	10.3	N/A	9933236	0.500	N/A	9933236	54.9	N/A	9933236
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	320	1.0	9933233	12	1.0	9933233	2000	1.0	9933233
Calculated TDS	mg/L	590	1.0	9933242	33	1.0	9933242	2900	1.0	9933242
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	1.9	1.0	9933233	ND	1.0	9933233	36	1.0	9933233
Cation Sum	me/L	11.8	N/A	9933236	0.650	N/A	9933236	56.1	N/A	9933236
Hardness (CaCO ₃)	mg/L	490	1.0	9933627	17	1.0	9933627	430	1.0	9933627
Ion Balance (% Difference)	%	6.58	N/A	9933235	13.0	N/A	9933235	1.08	N/A	9933235
Langelier Index (@ 20C)	N/A	0.924		9933240	-2.37		9933240	1.52		9933240
Langelier Index (@ 4C)	N/A	0.677		9933241	-2.63		9933241	1.28		9933241
Nitrate (N)	mg/L	0.18	0.050	9933597	0.42	0.050	9933597	0.24	0.050	9933597
Saturation pH (@ 20C)	N/A	6.88		9933240	9.61		9933240	6.77		9933240
Saturation pH (@ 4C)	N/A	7.13		9933241	9.86		9933241	7.01		9933241

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	320	2.0	9936849	12	2.0	9936843	2000	20	9936843
Dissolved Chloride (Cl ⁻)	mg/L	38	1.0	9937549	8.4	1.0	9937551	520	10	9937551
Colour	TCU	29	5.0	9937612	51	10	9937621	380	100	9937621
Nitrate + Nitrite (N)	mg/L	0.18	0.050	9937614	0.42	0.050	9937623	0.55	0.050	9937623
Nitrite (N)	mg/L	ND	0.010	9937615	ND	0.010	9937624	0.30	0.010	9937624
Nitrogen (Ammonia Nitrogen)	mg/L	6.9	0.25	9935879	ND	0.050	9935878	290	25	9935879
Total Organic Carbon (C)	mg/L	18 (1)	5.0	9934377	7.3	0.50	9934377	110 (2)	5.0	9934378
Orthophosphate (P)	mg/L	ND	0.010	9937617	ND	0.010	9937622	0.13	0.010	9937622
pH	pH	7.80		9936845	7.23		9936840	8.29		9936840
Reactive Silica (SiO ₂)	mg/L	13	0.50	9937616	2.5	0.50	9937620	14	0.50	9937620
Dissolved Sulphate (SO ₄)	mg/L	130	10	9937611	ND	2.0	9937619	ND	2.0	9937619
Turbidity	NTU	15	0.10	9938229	0.49	0.10	9938200	41	0.10	9938200
Conductivity	uS/cm	1100	1.0	9936848	69	1.0	9936841	5700	1.0	9936841

Metals

Total Aluminum (Al)	ug/L	11	5.0	9934023	65	5.0	9934023	42	5.0	9934023
Total Antimony (Sb)	ug/L	ND	1.0	9934023	ND	1.0	9934023	2.9	1.0	9934023
Total Arsenic (As)	ug/L	7.2	1.0	9934023	ND	1.0	9934023	23	1.0	9934023
Total Barium (Ba)	ug/L	230	1.0	9934023	4.3	1.0	9934023	220	1.0	9934023

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.

(2) Elevated reporting limit due to turbidity.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ARCF21			ARCF22			ARCF23		
Sampling Date		2025/05/20 09:00			2025/05/20 09:20			2025/05/20 09:30		
COC Number		C#1032144-01-01			C#1032144-01-01			C#1032144-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch
Total Beryllium (Be)	ug/L	ND	0.10	9934023	ND	0.10	9934023	ND (1)	1.0	9934023
Total Bismuth (Bi)	ug/L	ND	2.0	9934023	ND	2.0	9934023	ND	2.0	9934023
Total Boron (B)	ug/L	220	50	9934023	ND	50	9934023	2100	500	9934023
Total Cadmium (Cd)	ug/L	ND	0.010	9934023	ND	0.010	9934023	ND (1)	0.10	9934023
Total Calcium (Ca)	ug/L	130000	100	9934023	4200	100	9934023	44000	100	9934023
Total Chromium (Cr)	ug/L	ND	1.0	9934023	ND	1.0	9934023	32	1.0	9934023
Total Cobalt (Co)	ug/L	9.2	0.40	9934023	ND	0.40	9934023	6.0	0.40	9934023
Total Copper (Cu)	ug/L	1.0	0.50	9934023	ND	0.50	9934023	5.8	0.50	9934023
Total Iron (Fe)	ug/L	2100	50	9934023	130	50	9934023	6000	50	9934023
Total Lead (Pb)	ug/L	ND	0.50	9934023	ND	0.50	9934023	ND	0.50	9934023
Total Magnesium (Mg)	ug/L	43000	100	9934023	1600	100	9934023	77000	100	9934023
Total Manganese (Mn)	ug/L	1000	2.0	9934023	25	2.0	9934023	230	2.0	9934023
Total Molybdenum (Mo)	ug/L	ND	2.0	9934023	ND	2.0	9934023	ND	2.0	9934023
Total Nickel (Ni)	ug/L	11	2.0	9934023	ND	2.0	9934023	46	2.0	9934023
Total Phosphorus (P)	ug/L	ND	100	9934023	ND	100	9934023	570	100	9934023
Total Potassium (K)	ug/L	6500	100	9934023	570	100	9934023	210000	1000	9934023
Total Selenium (Se)	ug/L	ND	0.50	9934023	ND	0.50	9934023	ND	0.50	9934023
Total Silver (Ag)	ug/L	ND	0.10	9934023	ND	0.10	9934023	ND	0.10	9934023
Total Sodium (Na)	ug/L	27000	100	9934023	6700	100	9934023	500000	100	9934023
Total Strontium (Sr)	ug/L	580	2.0	9934023	20	2.0	9934023	350	2.0	9934023
Total Thallium (Tl)	ug/L	ND	0.10	9934023	ND	0.10	9934023	ND	0.10	9934023
Total Tin (Sn)	ug/L	ND	2.0	9934023	ND	2.0	9934023	2.5	2.0	9934023
Total Titanium (Ti)	ug/L	ND	2.0	9934023	ND	2.0	9934023	7.8	2.0	9934023
Total Uranium (U)	ug/L	1.4	0.10	9934023	ND	0.10	9934023	0.21	0.10	9934023
Total Vanadium (V)	ug/L	ND	2.0	9934023	ND	2.0	9934023	11	2.0	9934023
Total Zinc (Zn)	ug/L	7.3	5.0	9934023	ND	5.0	9934023	15	5.0	9934023

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ARCF24		ARCF25		ARCF26		
Sampling Date		2025/05/20 09:40		2025/05/20 10:00		2025/05/20 10:20		
COC Number		C#1032144-01-01		C#1032144-01-01		C#1032144-01-01		
Sample #		00297		00298		00299		
	UNITS	SW-6	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch

Calculated Parameters								
Anion Sum	me/L	1.79	9933236	1.38	9933236	1.91	N/A	9933236
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	62	9933233	59	9933233	11	1.0	9933233
Calculated TDS	mg/L	100	9933242	71	9933242	110	1.0	9933242
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	9933233	ND	9933233	ND	1.0	9933233
Cation Sum	me/L	1.97	9933236	1.51	9933236	1.98	N/A	9933236
Hardness (CaCO ₃)	mg/L	72	9933627	66	9933627	38	1.0	9933627
Ion Balance (% Difference)	%	4.79	9933235	4.50	9933235	1.80	N/A	9933235
Langelier Index (@ 20C)	N/A	-0.400	9933240	-0.473	9933240	-2.14		9933240
Langelier Index (@ 4C)	N/A	-0.651	9933241	-0.725	9933241	-2.39		9933241
Nitrate (N)	mg/L	0.086	9933597	0.14	9933597	0.069	0.050	9933597
Saturation pH (@ 20C)	N/A	8.34	9933240	8.46	9933240	9.35		9933240
Saturation pH (@ 4C)	N/A	8.59	9933241	8.72	9933241	9.60		9933241

Inorganics								
Total Alkalinity (Total as CaCO ₃)	mg/L	63	9936843	60	9936849	11	2.0	9936843
Dissolved Chloride (Cl ⁻)	mg/L	15	9937549	4.8	9937551	47	1.0	9937551
Colour	TCU	28	9937612	20	9937621	21	5.0	9937621
Nitrate + Nitrite (N)	mg/L	0.086	9937614	0.15	9937623	0.069	0.050	9937623
Nitrite (N)	mg/L	ND	9937615	0.012	9937624	ND	0.010	9937624
Nitrogen (Ammonia Nitrogen)	mg/L	ND	9935878	ND	9935878	ND	0.050	9935878
Total Organic Carbon (C)	mg/L	3.3	9934378	4.7	9934378	4.7	0.50	9934378
Orthophosphate (P)	mg/L	ND	9937617	ND	9937622	ND	0.010	9937622
pH	pH	7.94	9936840	7.99	9936845	7.20		9936840
Reactive Silica (SiO ₂)	mg/L	7.7	9937616	2.5	9937620	2.4	0.50	9937620
Dissolved Sulphate (SO ₄)	mg/L	5.1	9937611	2.0	9937619	17	2.0	9937619
Turbidity	NTU	0.48	9938200	1.1	9938200	0.44	0.10	9938200
Conductivity	uS/cm	210	9936841	150	9936848	250	1.0	9936841

Metals								
Total Aluminum (Al)	ug/L	53	9934023	64	9934023	59	5.0	9934023
Total Antimony (Sb)	ug/L	ND	9934023	ND	9934023	ND	1.0	9934023
Total Arsenic (As)	ug/L	1.4	9934023	ND	9934023	ND	1.0	9934023
Total Barium (Ba)	ug/L	47	9934023	48	9934023	8.6	1.0	9934023
Total Beryllium (Be)	ug/L	ND	9934023	ND	9934023	ND	0.10	9934023
Total Bismuth (Bi)	ug/L	ND	9934023	ND	9934023	ND	2.0	9934023

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ARCF24		ARCF25		ARCF26		
Sampling Date		2025/05/20 09:40		2025/05/20 10:00		2025/05/20 10:20		
COC Number		C#1032144-01-01		C#1032144-01-01		C#1032144-01-01		
Sample #		00297		00298		00299		
	UNITS	SW-6	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch
Total Boron (B)	ug/L	ND	9934023	ND	9934023	ND	50	9934023
Total Cadmium (Cd)	ug/L	ND	9934023	ND	9934023	ND	0.010	9934023
Total Calcium (Ca)	ug/L	16000	9934023	12000	9934023	8800	100	9934023
Total Chromium (Cr)	ug/L	ND	9934023	ND	9934023	ND	1.0	9934023
Total Cobalt (Co)	ug/L	ND	9934023	ND	9934023	ND	0.40	9934023
Total Copper (Cu)	ug/L	1.4	9934023	1.2	9934023	ND	0.50	9934023
Total Iron (Fe)	ug/L	ND	9934023	ND	9934023	57	50	9934023
Total Lead (Pb)	ug/L	ND	9934023	ND	9934023	ND	0.50	9934023
Total Magnesium (Mg)	ug/L	7800	9934023	8500	9934023	3800	100	9934023
Total Manganese (Mn)	ug/L	5.0	9934023	9.1	9934023	13	2.0	9934023
Total Molybdenum (Mo)	ug/L	ND	9934023	ND	9934023	ND	2.0	9934023
Total Nickel (Ni)	ug/L	ND	9934023	3.0	9934023	ND	2.0	9934023
Total Phosphorus (P)	ug/L	ND	9934023	ND	9934023	ND	100	9934023
Total Potassium (K)	ug/L	1200	9934023	490	9934023	490	100	9934023
Total Selenium (Se)	ug/L	ND	9934023	ND	9934023	ND	0.50	9934023
Total Silver (Ag)	ug/L	ND	9934023	ND	9934023	ND	0.10	9934023
Total Sodium (Na)	ug/L	11000	9934023	4200	9934023	28000	100	9934023
Total Strontium (Sr)	ug/L	66	9934023	33	9934023	27	2.0	9934023
Total Thallium (Tl)	ug/L	ND	9934023	ND	9934023	ND	0.10	9934023
Total Tin (Sn)	ug/L	ND	9934023	ND	9934023	ND	2.0	9934023
Total Titanium (Ti)	ug/L	ND	9934023	ND	9934023	ND	2.0	9934023
Total Uranium (U)	ug/L	0.47	9934023	0.12	9934023	ND	0.10	9934023
Total Vanadium (V)	ug/L	3.8	9934023	ND	9934023	ND	2.0	9934023
Total Zinc (Zn)	ug/L	ND	9934023	6.0	9934023	ND	5.0	9934023

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ARCF27		
Sampling Date		2025/05/20 10:40		
COC Number		C#1032144-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	8.01	N/A	9933236
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	280	1.0	9933233
Calculated TDS	mg/L	440	1.0	9933242
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	7.5	1.0	9933233
Cation Sum	me/L	8.81	N/A	9933236
Hardness (CaCO ₃)	mg/L	200	1.0	9933627
Ion Balance (% Difference)	%	4.76	N/A	9933235
Langelier Index (@ 20C)	N/A	1.05		9933240
Langelier Index (@ 4C)	N/A	0.804		9933241
Nitrate (N)	mg/L	0.49	0.050	9933597
Saturation pH (@ 20C)	N/A	7.40		9933240
Saturation pH (@ 4C)	N/A	7.64		9933241
Inorganics				
Total Alkalinity (Total as CaCO ₃)	mg/L	290	2.0	9935982
Dissolved Chloride (Cl ⁻)	mg/L	70	1.0	9937551
Colour	TCU	41	5.0	9937621
Nitrate + Nitrite (N)	mg/L	0.72	0.050	9937623
Nitrite (N)	mg/L	0.23	0.010	9937624
Nitrogen (Ammonia Nitrogen)	mg/L	23	1.5	9935878
Total Organic Carbon (C)	mg/L	16	0.50	9934375
Orthophosphate (P)	mg/L	ND	0.010	9937622
pH	pH	8.45		9935977
Reactive Silica (SiO ₂)	mg/L	3.7	0.50	9937620
Dissolved Sulphate (SO ₄)	mg/L	8.2	2.0	9937619
Turbidity	NTU	4.9	0.10	9938200
Conductivity	uS/cm	880	1.0	9935981
Metals				
Total Aluminum (Al)	ug/L	19	5.0	9934023
Total Antimony (Sb)	ug/L	ND	1.0	9934023
Total Arsenic (As)	ug/L	3.6	1.0	9934023
Total Barium (Ba)	ug/L	180	1.0	9934023
Total Beryllium (Be)	ug/L	ND	0.10	9934023
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ARCF27		
Sampling Date		2025/05/20 10:40		
COC Number		C#1032144-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch
Total Bismuth (Bi)	ug/L	ND	2.0	9934023
Total Boron (B)	ug/L	210	50	9934023
Total Cadmium (Cd)	ug/L	ND	0.010	9934023
Total Calcium (Ca)	ug/L	40000	100	9934023
Total Chromium (Cr)	ug/L	2.7	1.0	9934023
Total Cobalt (Co)	ug/L	1.3	0.40	9934023
Total Copper (Cu)	ug/L	1.3	0.50	9934023
Total Iron (Fe)	ug/L	280	50	9934023
Total Lead (Pb)	ug/L	ND	0.50	9934023
Total Magnesium (Mg)	ug/L	24000	100	9934023
Total Manganese (Mn)	ug/L	64	2.0	9934023
Total Molybdenum (Mo)	ug/L	ND	2.0	9934023
Total Nickel (Ni)	ug/L	6.8	2.0	9934023
Total Phosphorus (P)	ug/L	ND	100	9934023
Total Potassium (K)	ug/L	23000	100	9934023
Total Selenium (Se)	ug/L	ND	0.50	9934023
Total Silver (Ag)	ug/L	ND	0.10	9934023
Total Sodium (Na)	ug/L	60000	100	9934023
Total Strontium (Sr)	ug/L	160	2.0	9934023
Total Thallium (Tl)	ug/L	ND	0.10	9934023
Total Tin (Sn)	ug/L	ND	2.0	9934023
Total Titanium (Ti)	ug/L	ND	2.0	9934023
Total Uranium (U)	ug/L	0.32	0.10	9934023
Total Vanadium (V)	ug/L	ND	2.0	9934023
Total Zinc (Zn)	ug/L	ND	5.0	9934023
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ARCF18		ARCF19		ARCF20		
Sampling Date		2025/05/20 08:25		2025/05/20 08:35		2025/05/20 08:45		
COC Number		C#1032144-01-01		C#1032144-01-01		C#1032144-01-01		
Sample #		00291		00292		00293		
	UNITS	847-SW-1	QC Batch	SW-1	QC Batch	SW-2	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	7.1	9935812	6.9	9935812	7.5	0.50	9935812
Phenols-4AAP	mg/L	ND	9938225	ND	9938164	ND	0.0010	9938225
Total Suspended Solids	mg/L	ND	9934053	ND	9934053	ND	1.0	9934053
Sulphide	mg/L	ND	9935989	ND	9936087	ND	0.020	9935989

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		ARCF21			ARCF22			ARCF23		
Sampling Date		2025/05/20 09:00			2025/05/20 09:20			2025/05/20 09:30		
COC Number		C#1032144-01-01			C#1032144-01-01			C#1032144-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	18 (1)	5.0	9935812	7.3	0.50	9935812	110 (1)	5.0	9935812
Phenols-4AAP	mg/L	ND	0.0010	9938164	ND	0.0010	9938225	0.0031	0.0010	9938164
Total Suspended Solids	mg/L	3.6	1.0	9934053	ND	1.0	9934053	14	2.0	9934053
Sulphide	mg/L	ND	0.020	9936087	ND	0.020	9935989	0.056	0.020	9935989

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.

Bureau Veritas ID		ARCF24		ARCF25	ARCF26		ARCF27		
Sampling Date		2025/05/20 09:40		2025/05/20 10:00	2025/05/20 10:20		2025/05/20 10:40		
COC Number		C#1032144-01-01		C#1032144-01-01	C#1032144-01-01		C#1032144-01-01		
Sample #		00297		00298	00299		00287		
	UNITS	SW-6	QC Batch	SW-7	SW-8	RDL	SW-9	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	3.4	9935812	4.6	5.0	0.50	15	0.50	9935812
Phenols-4AAP	mg/L	ND	9938225	ND	ND	0.0010	0.0012	0.0010	9938164
Total Suspended Solids	mg/L	ND	9934053	ND	ND	1.0	3.6	2.0	9934053
Sulphide	mg/L	ND	9936087	ND	ND	0.020	ND	0.020	9936087

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



MERCURY BY COLD VAPOUR AA (WATER)

Bureau Veritas ID		ARCF18	ARCF19	ARCF20	ARCF21	ARCF22		
Sampling Date		2025/05/20 08:25	2025/05/20 08:35	2025/05/20 08:45	2025/05/20 09:00	2025/05/20 09:20		
COC Number		C#1032144-01-01	C#1032144-01-01	C#1032144-01-01	C#1032144-01-01	C#1032144-01-01		
Sample #		00291	00292	00293	00294	00295		
	UNITS	847-SW-1	SW-1	SW-2	SW-3	SW-4	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	0.013	9936085
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.								

Bureau Veritas ID		ARCF23	ARCF24	ARCF25	ARCF26		
Sampling Date		2025/05/20 09:30	2025/05/20 09:40	2025/05/20 10:00	2025/05/20 10:20		
COC Number		C#1032144-01-01	C#1032144-01-01	C#1032144-01-01	C#1032144-01-01		
Sample #		00296	00297	00298	00299		
	UNITS	SW-5	SW-6	SW-7	SW-8	RDL	QC Batch

Metals							
Total Mercury (Hg)	ug/L	0.032	ND	ND	ND	0.013	9936085
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.							

Bureau Veritas ID		ARCF27		
Sampling Date		2025/05/20 10:40		
COC Number		C#1032144-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch

Metals				
Total Mercury (Hg)	ug/L	ND	0.013	9937078
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.7°C
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Sample ARCF18 [847-SW-1] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample ARCF19 [SW-1] : Total Suspended Solids: Used all of the sample provided, DL raised.
RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample ARCF20 [SW-2] : Total Suspended Solids: Used all of the sample provided, DL raised.

Sample ARCF21 [SW-3] : Poor RCap Ion Balance due to sample matrix. Anion sum does not include contribution from Total Organic Carbon.

Sample ARCF22 [SW-4] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9934023	MOA	Matrix Spike	Total Aluminum (Al)	2025/05/26		111	%	80 - 120
			Total Antimony (Sb)	2025/05/26		104	%	80 - 120
			Total Arsenic (As)	2025/05/26		103	%	80 - 120
			Total Barium (Ba)	2025/05/26		101	%	80 - 120
			Total Beryllium (Be)	2025/05/26		91	%	80 - 120
			Total Bismuth (Bi)	2025/05/26		101	%	80 - 120
			Total Boron (B)	2025/05/26		88	%	80 - 120
			Total Cadmium (Cd)	2025/05/26		103	%	80 - 120
			Total Calcium (Ca)	2025/05/26		102	%	80 - 120
			Total Chromium (Cr)	2025/05/26		102	%	80 - 120
			Total Cobalt (Co)	2025/05/26		106	%	80 - 120
			Total Copper (Cu)	2025/05/26		105	%	80 - 120
			Total Iron (Fe)	2025/05/26		110	%	80 - 120
			Total Lead (Pb)	2025/05/26		101	%	80 - 120
			Total Magnesium (Mg)	2025/05/26		113	%	80 - 120
			Total Manganese (Mn)	2025/05/26		NC	%	80 - 120
			Total Molybdenum (Mo)	2025/05/26		107	%	80 - 120
			Total Nickel (Ni)	2025/05/26		105	%	80 - 120
			Total Phosphorus (P)	2025/05/26		104	%	80 - 120
			Total Potassium (K)	2025/05/26		98	%	80 - 120
			Total Selenium (Se)	2025/05/26		102	%	80 - 120
			Total Silver (Ag)	2025/05/26		103	%	80 - 120
			Total Sodium (Na)	2025/05/26		103	%	80 - 120
			Total Strontium (Sr)	2025/05/26		102	%	80 - 120
			Total Thallium (Tl)	2025/05/26		102	%	80 - 120
			Total Tin (Sn)	2025/05/26		103	%	80 - 120
			Total Titanium (Ti)	2025/05/26		103	%	80 - 120
			Total Uranium (U)	2025/05/26		110	%	80 - 120
			Total Vanadium (V)	2025/05/26		106	%	80 - 120
			Total Zinc (Zn)	2025/05/26		104	%	80 - 120
9934023	MOA	Spiked Blank	Total Aluminum (Al)	2025/05/23		106	%	80 - 120
			Total Antimony (Sb)	2025/05/23		98	%	80 - 120
			Total Arsenic (As)	2025/05/23		98	%	80 - 120
			Total Barium (Ba)	2025/05/23		96	%	80 - 120
			Total Beryllium (Be)	2025/05/23		90	%	80 - 120
			Total Bismuth (Bi)	2025/05/23		96	%	80 - 120
			Total Boron (B)	2025/05/23		89	%	80 - 120
			Total Cadmium (Cd)	2025/05/23		98	%	80 - 120
			Total Calcium (Ca)	2025/05/23		99	%	80 - 120
			Total Chromium (Cr)	2025/05/23		99	%	80 - 120
			Total Cobalt (Co)	2025/05/23		102	%	80 - 120
			Total Copper (Cu)	2025/05/23		101	%	80 - 120
			Total Iron (Fe)	2025/05/23		105	%	80 - 120
			Total Lead (Pb)	2025/05/23		96	%	80 - 120
			Total Magnesium (Mg)	2025/05/23		103	%	80 - 120
			Total Manganese (Mn)	2025/05/23		99	%	80 - 120
			Total Molybdenum (Mo)	2025/05/23		103	%	80 - 120
			Total Nickel (Ni)	2025/05/23		101	%	80 - 120
			Total Phosphorus (P)	2025/05/23		98	%	80 - 120
			Total Potassium (K)	2025/05/23		93	%	80 - 120
			Total Selenium (Se)	2025/05/23		97	%	80 - 120
			Total Silver (Ag)	2025/05/23		99	%	80 - 120
			Total Sodium (Na)	2025/05/23		101	%	80 - 120
			Total Strontium (Sr)	2025/05/23		97	%	80 - 120
			Total Thallium (Tl)	2025/05/23		98	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9934023	MOA	Method Blank	Total Tin (Sn)	2025/05/23		98	%	80 - 120
			Total Titanium (Ti)	2025/05/23		100	%	80 - 120
			Total Uranium (U)	2025/05/23		105	%	80 - 120
			Total Vanadium (V)	2025/05/23		101	%	80 - 120
			Total Zinc (Zn)	2025/05/23		101	%	80 - 120
			Total Aluminum (Al)	2025/05/23	ND, RDL=5.0		ug/L	
			Total Antimony (Sb)	2025/05/23	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2025/05/23	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2025/05/23	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2025/05/23	ND, RDL=0.10		ug/L	
			Total Bismuth (Bi)	2025/05/23	ND, RDL=2.0		ug/L	
			Total Boron (B)	2025/05/23	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2025/05/23	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2025/05/23	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2025/05/23	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2025/05/23	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2025/05/23	ND, RDL=0.50		ug/L	
			Total Iron (Fe)	2025/05/23	ND, RDL=50		ug/L	
			Total Lead (Pb)	2025/05/23	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2025/05/23	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2025/05/23	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2025/05/23	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2025/05/23	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2025/05/23	ND, RDL=100		ug/L	
			Total Potassium (K)	2025/05/23	ND, RDL=100		ug/L	
			Total Selenium (Se)	2025/05/23	ND, RDL=0.50		ug/L	
			Total Silver (Ag)	2025/05/23	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2025/05/23	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2025/05/23	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2025/05/23	ND, RDL=0.10		ug/L	



**BUREAU
VERITAS**

Bureau Veritas Job #: C558358
Report Date: 2025/06/02

Central Newfoundland Waste Management Authority
Client Project #: SW samples

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9934023	MOA	RPD	Total Tin (Sn)	2025/05/23	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2025/05/23	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2025/05/23	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2025/05/23	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2025/05/23	ND, RDL=5.0		ug/L	
			Total Aluminum (Al)	2025/05/26	16		%	20
			Total Antimony (Sb)	2025/05/26	1.3		%	20
			Total Arsenic (As)	2025/05/26	0.39		%	20
			Total Barium (Ba)	2025/05/26	1.5		%	20
			Total Beryllium (Be)	2025/05/26	NC		%	20
			Total Bismuth (Bi)	2025/05/26	NC		%	20
			Total Boron (B)	2025/05/26	0.022		%	20
			Total Cadmium (Cd)	2025/05/26	7.9		%	20
			Total Calcium (Ca)	2025/05/26	2.2		%	20
			Total Chromium (Cr)	2025/05/26	19		%	20
			Total Cobalt (Co)	2025/05/26	8.0		%	20
			Total Copper (Cu)	2025/05/26	0.89		%	20
			Total Iron (Fe)	2025/05/26	1.4		%	20
			Total Lead (Pb)	2025/05/26	2.8		%	20
			Total Magnesium (Mg)	2025/05/26	1.3		%	20
			Total Manganese (Mn)	2025/05/26	0.78		%	20
			Total Molybdenum (Mo)	2025/05/26	1.3		%	20
			Total Nickel (Ni)	2025/05/26	0.56		%	20
			Total Phosphorus (P)	2025/05/26	3.8		%	20
			Total Potassium (K)	2025/05/26	1.9		%	20
			Total Selenium (Se)	2025/05/26	1.8		%	20
			Total Silver (Ag)	2025/05/26	NC		%	20
			Total Sodium (Na)	2025/05/26	1.3		%	20
			Total Strontium (Sr)	2025/05/26	0.66		%	20
			Total Thallium (Tl)	2025/05/26	0.82		%	20
			Total Tin (Sn)	2025/05/26	NC		%	20
			Total Titanium (Ti)	2025/05/26	7.2		%	20
			Total Uranium (U)	2025/05/26	1.7		%	20
			Total Vanadium (V)	2025/05/26	2.9		%	20
			Total Zinc (Zn)	2025/05/26	1.5		%	20
9934053	ISM	QC Standard	Total Suspended Solids	2025/05/26		98	%	80 - 120
9934053	ISM	Method Blank	Total Suspended Solids	2025/05/26	ND, RDL=1.0		mg/L	
9934053	ISM	RPD	Total Suspended Solids	2025/05/26	2.3		%	20
9934375	SSI	Matrix Spike	Total Organic Carbon (C)	2025/05/23		98	%	85 - 115
9934375	SSI	Spiked Blank	Total Organic Carbon (C)	2025/05/23		97	%	80 - 120
9934375	SSI	Method Blank	Total Organic Carbon (C)	2025/05/23	ND, RDL=0.50		mg/L	
9934375	SSI	RPD	Total Organic Carbon (C)	2025/05/23	1.1		%	15
9934377	SSI	Matrix Spike	Total Organic Carbon (C)	2025/05/23		98	%	85 - 115
9934377	SSI	Spiked Blank	Total Organic Carbon (C)	2025/05/23		99	%	80 - 120
9934377	SSI	Method Blank	Total Organic Carbon (C)	2025/05/23	ND, RDL=0.50		mg/L	
9934377	SSI	RPD	Total Organic Carbon (C)	2025/05/23	NC		%	15
9934378	SSI	Matrix Spike	Total Organic Carbon (C)	2025/05/23		98	%	85 - 115



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9934378	SSI	Spiked Blank	Total Organic Carbon (C)	2025/05/23		97	%	80 - 120
9934378	SSI	Method Blank	Total Organic Carbon (C)	2025/05/23	ND, RDL=0.50		mg/L	
9934378	SSI	RPD	Total Organic Carbon (C)	2025/05/23	NC		%	15
9935812	SSI	Matrix Spike	Dissolved Organic Carbon (C)	2025/05/27		99	%	85 - 115
9935812	SSI	Spiked Blank	Dissolved Organic Carbon (C)	2025/05/27		99	%	80 - 120
9935812	SSI	Method Blank	Dissolved Organic Carbon (C)	2025/05/27	ND, RDL=0.50		mg/L	
9935812	SSI	RPD	Dissolved Organic Carbon (C)	2025/05/27	7.0		%	15
9935878	MCN	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/05/27		94	%	80 - 120
9935878	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/05/27		94	%	80 - 120
9935878	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/05/27	ND, RDL=0.050		mg/L	
9935878	MCN	RPD	Nitrogen (Ammonia Nitrogen)	2025/05/27	0.50		%	20
9935879	MCN	Matrix Spike [ARCF23-08]	Nitrogen (Ammonia Nitrogen)	2025/05/27		NC	%	80 - 120
9935879	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/05/27		111	%	80 - 120
9935879	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/05/27	ND, RDL=0.050		mg/L	
9935879	MCN	RPD [ARCF23-08]	Nitrogen (Ammonia Nitrogen)	2025/05/27	2.3		%	20
9935977	M2C	Spiked Blank	pH	2025/05/27		102	%	97 - 103
9935977	M2C	RPD	pH	2025/05/27	0.050		%	N/A
9935981	M2C	Spiked Blank	Conductivity	2025/05/27		98	%	80 - 120
9935981	M2C	Method Blank	Conductivity	2025/05/28	ND, RDL=1.0		uS/cm	
9935981	M2C	RPD	Conductivity	2025/05/27	0.57		%	10
9935982	M2C	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/05/27		96	%	80 - 120
9935982	M2C	Method Blank	Total Alkalinity (Total as CaCO3)	2025/05/27	ND, RDL=2.0		mg/L	
9935982	M2C	RPD	Total Alkalinity (Total as CaCO3)	2025/05/27	1.3		%	20
9935989	NGI	Matrix Spike	Sulphide	2025/05/27		96	%	80 - 120
9935989	NGI	Spiked Blank	Sulphide	2025/05/27		96	%	80 - 120
9935989	NGI	Method Blank	Sulphide	2025/05/27	ND, RDL=0.020		mg/L	
9935989	NGI	RPD	Sulphide	2025/05/27	6.4		%	20
9936085	JEP	Matrix Spike	Total Mercury (Hg)	2025/05/28		98	%	80 - 120
9936085	JEP	Spiked Blank	Total Mercury (Hg)	2025/05/28		95	%	80 - 120
9936085	JEP	Method Blank	Total Mercury (Hg)	2025/05/28	ND, RDL=0.013		ug/L	
9936085	JEP	RPD	Total Mercury (Hg)	2025/05/28	NC		%	20
9936087	NGI	Matrix Spike	Sulphide	2025/05/27		101	%	80 - 120
9936087	NGI	Spiked Blank	Sulphide	2025/05/27		98	%	80 - 120
9936087	NGI	Method Blank	Sulphide	2025/05/27	ND, RDL=0.020		mg/L	
9936087	NGI	RPD	Sulphide	2025/05/27	NC		%	20
9936840	M2C	Spiked Blank	pH	2025/05/28		99	%	97 - 103
9936840	M2C	RPD	pH	2025/05/28	0.051		%	N/A
9936841	M2C	Spiked Blank	Conductivity	2025/05/28		103	%	80 - 120
9936841	M2C	Method Blank	Conductivity	2025/05/28	ND, RDL=1.0		uS/cm	
9936841	M2C	RPD	Conductivity	2025/05/28	0		%	10
9936843	M2C	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/05/28		98	%	80 - 120
9936843	M2C	Method Blank	Total Alkalinity (Total as CaCO3)	2025/05/28	ND, RDL=2.0		mg/L	
9936843	M2C	RPD	Total Alkalinity (Total as CaCO3)	2025/05/28	1.4		%	20
9936845	M2C	Spiked Blank	pH	2025/05/28		99	%	97 - 103



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9936845	M2C	RPD	pH	2025/05/28	1.3		%	N/A
9936848	M2C	Spiked Blank	Conductivity	2025/05/28		102	%	80 - 120
9936848	M2C	Method Blank	Conductivity	2025/05/28	ND, RDL=1.0		uS/cm	
9936848	M2C	RPD	Conductivity	2025/05/28	4.7		%	10
9936849	M2C	Spiked Blank	Total Alkalinity (Total as CaCO ₃)	2025/05/28		104	%	80 - 120
9936849	M2C	Method Blank	Total Alkalinity (Total as CaCO ₃)	2025/05/28	ND, RDL=2.0		mg/L	
9936849	M2C	RPD	Total Alkalinity (Total as CaCO ₃)	2025/05/28	4.4		%	20
9937078	JEP	Matrix Spike	Total Mercury (Hg)	2025/05/29		98	%	80 - 120
9937078	JEP	Spiked Blank	Total Mercury (Hg)	2025/05/29		98	%	80 - 120
9937078	JEP	Method Blank	Total Mercury (Hg)	2025/05/29	ND, RDL=0.013		ug/L	
9937078	JEP	RPD [ARCF27-07]	Total Mercury (Hg)	2025/05/29	NC		%	20
9937549	MCN	Matrix Spike	Dissolved Chloride (Cl ⁻)	2025/05/29		90	%	80 - 120
9937549	MCN	Spiked Blank	Dissolved Chloride (Cl ⁻)	2025/05/29		90	%	80 - 120
9937549	MCN	Method Blank	Dissolved Chloride (Cl ⁻)	2025/05/29	ND, RDL=1.0		mg/L	
9937549	MCN	RPD	Dissolved Chloride (Cl ⁻)	2025/05/29	0.094		%	20
9937551	MCN	Matrix Spike [ARCF22-02]	Dissolved Chloride (Cl ⁻)	2025/05/29		91	%	80 - 120
9937551	MCN	Spiked Blank	Dissolved Chloride (Cl ⁻)	2025/05/29		91	%	80 - 120
9937551	MCN	Method Blank	Dissolved Chloride (Cl ⁻)	2025/05/29	ND, RDL=1.0		mg/L	
9937551	MCN	RPD [ARCF22-02]	Dissolved Chloride (Cl ⁻)	2025/05/29	1.1		%	20
9937611	MCN	Matrix Spike	Dissolved Sulphate (SO ₄)	2025/05/29		100	%	80 - 120
9937611	MCN	Spiked Blank	Dissolved Sulphate (SO ₄)	2025/05/29		94	%	80 - 120
9937611	MCN	Method Blank	Dissolved Sulphate (SO ₄)	2025/05/29	ND, RDL=2.0		mg/L	
9937611	MCN	RPD	Dissolved Sulphate (SO ₄)	2025/05/29	1.4		%	20
9937612	MCN	Spiked Blank	Colour	2025/05/29		116	%	80 - 120
9937612	MCN	Method Blank	Colour	2025/05/29	ND, RDL=5.0		TCU	
9937612	MCN	RPD	Colour	2025/05/29	16		%	20
9937614	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/05/29		96	%	80 - 120
9937614	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/05/29		103	%	80 - 120
9937614	MCN	Method Blank	Nitrate + Nitrite (N)	2025/05/29	ND, RDL=0.050		mg/L	
9937614	MCN	RPD	Nitrate + Nitrite (N)	2025/05/29	8.4		%	20
9937615	MCN	Matrix Spike	Nitrite (N)	2025/05/29		91	%	80 - 120
9937615	MCN	Spiked Blank	Nitrite (N)	2025/05/29		108	%	80 - 120
9937615	MCN	Method Blank	Nitrite (N)	2025/05/29	ND, RDL=0.010		mg/L	
9937615	MCN	RPD	Nitrite (N)	2025/05/30	1.4		%	20
9937616	MCN	Matrix Spike	Reactive Silica (SiO ₂)	2025/05/29		93	%	80 - 120
9937616	MCN	Spiked Blank	Reactive Silica (SiO ₂)	2025/05/29		94	%	80 - 120
9937616	MCN	Method Blank	Reactive Silica (SiO ₂)	2025/05/29	ND, RDL=0.50		mg/L	
9937616	MCN	RPD	Reactive Silica (SiO ₂)	2025/05/29	0.42		%	20
9937617	MCN	Matrix Spike	Orthophosphate (P)	2025/05/29		95	%	80 - 120
9937617	MCN	Spiked Blank	Orthophosphate (P)	2025/05/29		100	%	80 - 120
9937617	MCN	Method Blank	Orthophosphate (P)	2025/05/29	ND, RDL=0.010		mg/L	
9937617	MCN	RPD	Orthophosphate (P)	2025/05/29	NC		%	20
9937619	MCN	Matrix Spike [ARCF22-02]	Dissolved Sulphate (SO ₄)	2025/05/29		98	%	80 - 120
9937619	MCN	Spiked Blank	Dissolved Sulphate (SO ₄)	2025/05/29		93	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9937619	MCN	Method Blank	Dissolved Sulphate (SO ₄)	2025/05/29	ND, RDL=2.0		mg/L	
9937619	MCN	RPD [ARCF22-02]	Dissolved Sulphate (SO ₄)	2025/05/29	NC		%	20
9937620	MCN	Matrix Spike [ARCF22-02]	Reactive Silica (SiO ₂)	2025/05/29		92	%	80 - 120
9937620	MCN	Spiked Blank	Reactive Silica (SiO ₂)	2025/05/29		95	%	80 - 120
9937620	MCN	Method Blank	Reactive Silica (SiO ₂)	2025/05/29	ND, RDL=0.50		mg/L	
9937620	MCN	RPD [ARCF22-02]	Reactive Silica (SiO ₂)	2025/05/29	4.7		%	20
9937621	MCN	Spiked Blank	Colour	2025/05/29		99	%	80 - 120
9937621	MCN	Method Blank	Colour	2025/05/29	ND, RDL=5.0		TCU	
9937621	MCN	RPD [ARCF22-02]	Colour	2025/05/29	2.3		%	20
9937622	MCN	Matrix Spike [ARCF22-02]	Orthophosphate (P)	2025/05/29		92	%	80 - 120
9937622	MCN	Spiked Blank	Orthophosphate (P)	2025/05/29		97	%	80 - 120
9937622	MCN	Method Blank	Orthophosphate (P)	2025/05/29	ND, RDL=0.010		mg/L	
9937622	MCN	RPD [ARCF22-02]	Orthophosphate (P)	2025/05/29	NC		%	20
9937623	MCN	Matrix Spike [ARCF22-02]	Nitrate + Nitrite (N)	2025/05/29		100	%	80 - 120
9937623	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/05/29		97	%	80 - 120
9937623	MCN	Method Blank	Nitrate + Nitrite (N)	2025/05/30	ND, RDL=0.050		mg/L	
9937623	MCN	RPD [ARCF22-02]	Nitrate + Nitrite (N)	2025/05/29	3.6		%	20
9937624	MCN	Matrix Spike [ARCF22-02]	Nitrite (N)	2025/05/29		93	%	80 - 120
9937624	MCN	Spiked Blank	Nitrite (N)	2025/05/29		92	%	80 - 120
9937624	MCN	Method Blank	Nitrite (N)	2025/05/29	ND, RDL=0.010		mg/L	
9937624	MCN	RPD [ARCF22-02]	Nitrite (N)	2025/05/30	NC		%	20
9938164	SSV	Matrix Spike [ARCF25-06]	Phenols-4AAP	2025/05/29		106	%	80 - 120
9938164	SSV	Spiked Blank	Phenols-4AAP	2025/05/29		107	%	80 - 120
9938164	SSV	Method Blank	Phenols-4AAP	2025/05/29	ND, RDL=0.0010		mg/L	
9938164	SSV	RPD [ARCF25-06]	Phenols-4AAP	2025/05/29	NC		%	20
9938200	M2C	QC Standard	Turbidity	2025/05/30		117	%	80 - 120
9938200	M2C	Spiked Blank	Turbidity	2025/05/30		105	%	80 - 120
9938200	M2C	Method Blank	Turbidity	2025/05/30	ND, RDL=0.10		NTU	
9938200	M2C	RPD	Turbidity	2025/05/30	17		%	20
9938225	SSV	Matrix Spike	Phenols-4AAP	2025/05/29		107	%	80 - 120
9938225	SSV	Spiked Blank	Phenols-4AAP	2025/05/29		104	%	80 - 120
9938225	SSV	Method Blank	Phenols-4AAP	2025/05/29	ND, RDL=0.0010		mg/L	
9938225	SSV	RPD	Phenols-4AAP	2025/05/29	NC		%	20
9938229	M2C	QC Standard	Turbidity	2025/05/30		116	%	80 - 120
9938229	M2C	Spiked Blank	Turbidity	2025/05/30		106	%	80 - 120
9938229	M2C	Method Blank	Turbidity	2025/05/30	ND, RDL=0.10		NTU	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9938229	M2C	RPD [ARCF21-02]	Turbidity	2025/05/30	0.59		%	20
N/A = Not Applicable Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement. Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference. QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy. Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy. Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination. NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration) NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).								



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Ernlie Publicover

Ernlie Publicover, Scientific Specialist

Janah M. Rhyno

Janah Rhyno, Scientific Specialist

Janah M. Rhyno

Bureau Veritas Certified by Janah Rhyno, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



Your Project #: SW samples
Site#: 00012
Your C.O.C. #: C#1043055-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/08/05
Report #: R8587818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C586028

Received: 2025/07/17, 09:29

Sample Matrix: Water
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	5	N/A	2025/07/22	N/A	SM 24 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	3	N/A	2025/07/23	N/A	SM 24 4500-CO2 D
Alkalinity	5	N/A	2025/07/21	ATL SOP 00142	SM 24 2320 B
Alkalinity	3	N/A	2025/07/22	ATL SOP 00142	SM 24 2320 B
Chloride	8	N/A	2025/07/22	ATL SOP 00014	SM 24 4500-Cl- E m
Colour	8	N/A	2025/07/23	ATL SOP 00020	SM 24 2120C m
Organic carbon - Diss (DOC)-Lab Filtered (2)	1	N/A	2025/07/22	ATL SOP 00203	SM 24 5310B m
Organic carbon - Diss (DOC)-Lab Filtered (2)	7	N/A	2025/07/23	ATL SOP 00203	SM 24 5310B m
Conductance - water	5	N/A	2025/07/21	ATL SOP 00004	SM 24 2510B m
Conductance - water	3	N/A	2025/07/22	ATL SOP 00004	SM 24 2510B m
Hardness (calculated as CaCO3)	8	N/A	2025/07/22	ATL SOP 00048	Auto Calc
Mercury - Total (CVAA,LL)	8	2025/07/21	2025/07/22	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS	7	2025/07/21	2025/07/21	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	1	2025/07/21	2025/07/22	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	8	N/A	2025/07/23	N/A	Auto Calc.
Anion and Cation Sum	5	N/A	2025/07/22	N/A	Auto Calc.
Anion and Cation Sum	3	N/A	2025/07/23	N/A	Auto Calc.
Nitrogen Ammonia - water	3	N/A	2025/07/21	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	5	N/A	2025/07/22	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	8	N/A	2025/07/23	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	7	N/A	2025/07/22	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrite	1	N/A	2025/07/23	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	8	N/A	2025/07/23	ATL SOP 00018	ASTM D3867-16
Phenols (4AAP) (1)	6	N/A	2025/08/01	CAM SOP-00444	OMOE E3179 m
Phenols (4AAP) (1)	2	N/A	2025/08/02	CAM SOP-00444	OMOE E3179 m
pH (3)	5	N/A	2025/07/21	ATL SOP 00003	SM 24 4500-H+ B m
pH (3)	3	N/A	2025/07/22	ATL SOP 00003	SM 24 4500-H+ B m
Phosphorus - ortho	8	N/A	2025/07/22	ATL SOP 00021	SM 24 4500-P E m
Sat. pH and Langelier Index (@ 20C)	8	N/A	2025/07/23	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	8	N/A	2025/07/23	ATL SOP 00049	Auto Calc.
Reactive Silica	8	N/A	2025/07/22	ATL SOP 00022	EPA 366.0 m
Sulphate	8	N/A	2025/07/22	ATL SOP 00023	ASTM D516-16 m



Your Project #: SW samples
Site#: 00012
Your C.O.C. #: C#1043055-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/08/05
Report #: R8587818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C586028

Received: 2025/07/17, 09:29

Sample Matrix: Water
Samples Received: 8

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Sulphide (1)	8	N/A	2025/07/22	CAM SOP-00455	SM 24 4500-S G m
Total Dissolved Solids (TDS calc)	8	N/A	2025/07/23	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	2	N/A	2025/07/22	ATL SOP 00203	SM 24 5310B m
Organic carbon - Total (TOC) (2)	6	N/A	2025/07/23	ATL SOP 00203	SM 24 5310B m
Total Suspended Solids	8	2025/07/21	2025/07/22	ATL SOP 00007	SM 24 2540D m
Turbidity	8	N/A	2025/07/22	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

(3) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



Your Project #: SW samples
Site#: 00012
Your C.O.C. #: C#1043055-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/08/05
Report #: R8587818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C586028

Received: 2025/07/17, 09:29

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Augustina Isesele, Customer Solutions Representative
Email: Augustina.isesele@bureauveritas.com
Phone# (902) 420-0203

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This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



BUREAU
VERITAS

Bureau Veritas Job #: C586028

Report Date: 2025/08/05

Central Newfoundland Waste Management Authority

Client Project #: SW samples

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ATBG66			ATBG67			ATBG68		
Sampling Date		2025/07/15 08:30			2025/07/15 08:40			2025/07/15 08:55		
COC Number		C#1043055-01-01			C#1043055-01-01			C#1043055-01-01		
Sample #		00291			00292			00294		
	UNITS	847-SW-1	RDL	QC Batch	SW-1	RDL	QC Batch	SW-3	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	0.960	N/A	9971616	3.96	N/A	9971616	9.62	N/A	9971616
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	42	1.0	9971613	110	1.0	9971613	310	1.0	9971613
Calculated TDS	mg/L	62	1.0	9971621	210	1.0	9971621	550	1.0	9971621
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	9971613	1.4	1.0	9971613	2.5	1.0	9971613
Cation Sum	me/L	1.10	N/A	9971616	3.96	N/A	9971616	10.6	N/A	9971616
Hardness (CaCO ₃)	mg/L	43	1.0	9971369	140	1.0	9971369	420	1.0	9971369
Ion Balance (% Difference)	%	6.80	N/A	9971615	0.00	N/A	9971615	4.80	N/A	9971615
Langelier Index (@ 20C)	N/A	-0.909		9971619	0.243		9971619	0.993		9971619
Langelier Index (@ 4C)	N/A	-1.16		9971620	-0.00700		9971620	0.745		9971620
Nitrate (N)	mg/L	0.18	0.050	9971617	0.23	0.050	9971617	ND	0.050	9971617
Saturation pH (@ 20C)	N/A	8.62		9971619	7.87		9971619	6.94		9971619
Saturation pH (@ 4C)	N/A	8.87		9971620	8.12		9971620	7.18		9971620

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	42	2.0	9973507	110	2.0	9974327	320	2.0	9974327
Dissolved Chloride (Cl ⁻)	mg/L	3.9	1.0	9973320	56	1.0	9973320	41	1.0	9973324
Colour	TCU	68	25	9973439	23	5.0	9973439	29	5.0	9973449
Nitrate + Nitrite (N)	mg/L	0.18	0.050	9973443	0.23	0.050	9973443	ND	0.050	9973451
Nitrite (N)	mg/L	ND	0.010	9973444	ND	0.010	9973444	ND	0.010	9973452
Nitrogen (Ammonia Nitrogen)	mg/L	0.062	0.050	9973347	0.092	0.050	9973347	7.1	0.25	9973347
Total Organic Carbon (C)	mg/L	7.0	0.50	9974485	4.8	0.50	9975082	18	0.50	9975082
Orthophosphate (P)	mg/L	ND	0.010	9973442	ND	0.010	9973442	ND	0.010	9973450
pH	pH	7.71		9973504	8.11		9974321	7.93		9974321
Reactive Silica (SiO ₂)	mg/L	11	0.50	9973437	5.8	0.50	9973437	15	0.50	9973448
Dissolved Sulphate (SO ₄)	mg/L	ND	2.0	9973434	4.3	2.0	9973434	100	10	9973446
Turbidity	NTU	1.5	0.10	9973710	1.8	0.10	9973710	48	0.10	9973710
Conductivity	uS/cm	110	1.0	9973505	430	1.0	9974324	960	1.0	9974324

Metals

Total Aluminum (Al)	ug/L	55	5.0	9973294	18	5.0	9973294	19	5.0	9973294
Total Antimony (Sb)	ug/L	ND	1.0	9973294	ND	1.0	9973294	ND	1.0	9973294
Total Arsenic (As)	ug/L	1.4	1.0	9973294	ND	1.0	9973294	29	1.0	9973294
Total Barium (Ba)	ug/L	7.2	1.0	9973294	65	1.0	9973294	200	1.0	9973294
Total Beryllium (Be)	ug/L	ND	0.10	9973294	ND	0.10	9973294	ND	0.10	9973294
Total Bismuth (Bi)	ug/L	ND	2.0	9973294	ND	2.0	9973294	ND	2.0	9973294

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ATBG66			ATBG67			ATBG68		
Sampling Date		2025/07/15 08:30			2025/07/15 08:40			2025/07/15 08:55		
COC Number		C#1043055-01-01			C#1043055-01-01			C#1043055-01-01		
Sample #		00291			00292			00294		
	UNITS	847-SW-1	RDL	QC Batch	SW-1	RDL	QC Batch	SW-3	RDL	QC Batch
Total Boron (B)	ug/L	ND	50	9973294	ND	50	9973294	250	50	9973294
Total Cadmium (Cd)	ug/L	ND	0.010	9973294	ND	0.010	9973294	ND	0.010	9973294
Total Calcium (Ca)	ug/L	12000	100	9973294	30000	100	9973294	110000	100	9973294
Total Chromium (Cr)	ug/L	ND	1.0	9973294	ND	1.0	9973294	1.1	1.0	9973294
Total Cobalt (Co)	ug/L	ND	0.40	9973294	ND	0.40	9973294	7.5	0.40	9973294
Total Copper (Cu)	ug/L	1.1	0.50	9973294	0.58	0.50	9973294	0.73	0.50	9973294
Total Iron (Fe)	ug/L	280	50	9973294	ND	50	9973294	7300	50	9973294
Total Lead (Pb)	ug/L	ND	0.50	9973294	ND	0.50	9973294	ND	0.50	9973294
Total Magnesium (Mg)	ug/L	3200	100	9973294	16000	100	9973294	36000	100	9973294
Total Manganese (Mn)	ug/L	31	2.0	9973294	19	2.0	9973294	900	2.0	9973294
Total Molybdenum (Mo)	ug/L	ND	2.0	9973294	ND	2.0	9973294	ND	2.0	9973294
Total Nickel (Ni)	ug/L	ND	2.0	9973294	ND	2.0	9973294	8.0	2.0	9973294
Total Phosphorus (P)	ug/L	ND	100	9973294	ND	100	9973294	ND	100	9973294
Total Potassium (K)	ug/L	860	100	9973294	940	100	9973294	7100	100	9973294
Total Selenium (Se)	ug/L	ND	0.50	9973294	ND	0.50	9973294	ND	0.50	9973294
Total Silver (Ag)	ug/L	ND	0.10	9973294	ND	0.10	9973294	ND	0.10	9973294
Total Sodium (Na)	ug/L	4700	100	9973294	27000	100	9973294	27000	100	9973294
Total Strontium (Sr)	ug/L	53	2.0	9973294	160	2.0	9973294	530	2.0	9973294
Total Thallium (Tl)	ug/L	ND	0.10	9973294	ND	0.10	9973294	ND	0.10	9973294
Total Tin (Sn)	ug/L	ND	2.0	9973294	ND	2.0	9973294	ND	2.0	9973294
Total Titanium (Ti)	ug/L	ND	2.0	9973294	ND	2.0	9973294	ND	2.0	9973294
Total Uranium (U)	ug/L	ND	0.10	9973294	0.27	0.10	9973294	1.1	0.10	9973294
Total Vanadium (V)	ug/L	ND	2.0	9973294	ND	2.0	9973294	2.7	2.0	9973294
Total Zinc (Zn)	ug/L	ND	5.0	9973294	ND	5.0	9973294	ND	5.0	9973294

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



BUREAU
VERITAS

Bureau Veritas Job #: C586028

Report Date: 2025/08/05

Central Newfoundland Waste Management Authority

Client Project #: SW samples

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ATBG69			ATBG70			ATBG71		
Sampling Date		2025/07/15 09:10			2025/07/15 09:20			2025/07/15 09:30		
COC Number		C#1043055-01-01			C#1043055-01-01			C#1043055-01-01		
Sample #		00295			00296			00297		
	UNITS	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch	SW-6	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	0.720	N/A	9971616	49.7	N/A	9971616	2.77	N/A	9971616
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	22	1.0	9971613	550	1.0	9971613	94	1.0	9971613
Calculated TDS	mg/L	42	1.0	9971621	3500	1.0	9971621	160	1.0	9971621
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	9971613	2.4	1.0	9971613	1.3	1.0	9971613
Cation Sum	me/L	0.770	N/A	9971616	60.2	N/A	9971616	2.86	N/A	9971616
Hardness (CaCO ₃)	mg/L	24	1.0	9971369	700	1.0	9971369	110	1.0	9971369
Ion Balance (% Difference)	%	3.36	N/A	9971615	9.52	N/A	9971615	1.60	N/A	9971615
Langelier Index (@ 20C)	N/A	-1.77		9971619	0.662		9971619	0.215		9971619
Langelier Index (@ 4C)	N/A	-2.02		9971620	0.421		9971620	-0.0360		9971620
Nitrate (N)	mg/L	0.056	0.050	9971617	210	6.0	9971617	ND	0.050	9971617
Saturation pH (@ 20C)	N/A	9.16		9971619	7.00		9971619	7.95		9971619
Saturation pH (@ 4C)	N/A	9.41		9971620	7.24		9971620	8.20		9971620

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	22	2.0	9973507	550	2.0	9973507	95	2.0	9973507
Dissolved Chloride (Cl ⁻)	mg/L	9.8	1.0	9973324	780	10	9973324	27	1.0	9973324
Colour	TCU	41	5.0	9973449	610	150	9973449	15	5.0	9973449
Nitrate + Nitrite (N)	mg/L	0.056	0.050	9973451	230	6.0	9973451	ND	0.050	9973451
Nitrite (N)	mg/L	ND	0.010	9973452	17	1.0	9974947	ND	0.010	9973452
Nitrogen (Ammonia Nitrogen)	mg/L	0.053	0.050	9973347	91	2.5	9973347	0.052	0.050	9972345
Total Organic Carbon (C)	mg/L	7.0	0.50	9975082	160 (1)	5.0	9975083	1.9	0.50	9974485
Orthophosphate (P)	mg/L	ND	0.010	9973450	0.015	0.010	9973450	ND	0.010	9973450
pH	pH	7.39		9973504	7.67		9973504	8.16		9973504
Reactive Silica (SiO ₂)	mg/L	3.4	0.50	9973448	14	0.50	9973448	13	0.50	9973448
Dissolved Sulphate (SO ₄)	mg/L	ND	2.0	9973446	8.3	2.0	9973446	4.6	2.0	9973446
Turbidity	NTU	1.5	0.10	9973710	6.7	0.10	9973710	1.4	0.10	9973710
Conductivity	uS/cm	80	1.0	9973505	6100	1.0	9973505	290	1.0	9973505

Metals

Total Aluminum (Al)	ug/L	23	5.0	9973294	67	50	9973294	13	5.0	9973294
Total Antimony (Sb)	ug/L	ND	1.0	9973294	ND	10	9973294	ND	1.0	9973294
Total Arsenic (As)	ug/L	1.1	1.0	9973294	18	10	9973294	2.4	1.0	9973294
Total Barium (Ba)	ug/L	5.0	1.0	9973294	500	10	9973294	77	1.0	9973294
Total Beryllium (Be)	ug/L	ND	0.10	9973294	ND	1.0	9973294	ND	0.10	9973294

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to turbidity.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ATBG69			ATBG70			ATBG71		
Sampling Date		2025/07/15 09:10			2025/07/15 09:20			2025/07/15 09:30		
COC Number		C#1043055-01-01			C#1043055-01-01			C#1043055-01-01		
Sample #		00295			00296			00297		
	UNITS	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch	SW-6	RDL	QC Batch
Total Bismuth (Bi)	ug/L	ND	2.0	9973294	ND	20	9973294	ND	2.0	9973294
Total Boron (B)	ug/L	ND	50	9973294	3100	500	9973294	ND	50	9973294
Total Cadmium (Cd)	ug/L	ND	0.010	9973294	ND	0.10	9973294	ND	0.010	9973294
Total Calcium (Ca)	ug/L	6300	100	9973294	98000	1000	9973294	28000	100	9973294
Total Chromium (Cr)	ug/L	ND	1.0	9973294	45	10	9973294	ND	1.0	9973294
Total Cobalt (Co)	ug/L	ND	0.40	9973294	9.6	4.0	9973294	ND	0.40	9973294
Total Copper (Cu)	ug/L	ND	0.50	9973294	ND	5.0	9973294	0.81	0.50	9973294
Total Iron (Fe)	ug/L	240	50	9973294	3800	500	9973294	90	50	9973294
Total Lead (Pb)	ug/L	ND	0.50	9973294	ND	5.0	9973294	ND	0.50	9973294
Total Magnesium (Mg)	ug/L	2000	100	9973294	110000	1000	9973294	10000	100	9973294
Total Manganese (Mn)	ug/L	57	2.0	9973294	690	20	9973294	18	2.0	9973294
Total Molybdenum (Mo)	ug/L	ND	2.0	9973294	ND	20	9973294	ND	2.0	9973294
Total Nickel (Ni)	ug/L	ND	2.0	9973294	79	20	9973294	ND	2.0	9973294
Total Phosphorus (P)	ug/L	ND	100	9973294	ND	1000	9973294	ND	100	9973294
Total Potassium (K)	ug/L	380	100	9973294	300000	1000	9973294	2100	100	9973294
Total Selenium (Se)	ug/L	ND	0.50	9973294	ND	5.0	9973294	ND	0.50	9973294
Total Silver (Ag)	ug/L	ND	0.10	9973294	ND	1.0	9973294	ND	0.10	9973294
Total Sodium (Na)	ug/L	6300	100	9973294	740000	1000	9973294	13000	100	9973294
Total Strontium (Sr)	ug/L	33	2.0	9973294	610	20	9973294	170	2.0	9973294
Total Thallium (Tl)	ug/L	ND	0.10	9973294	ND	1.0	9973294	ND	0.10	9973294
Total Tin (Sn)	ug/L	ND	2.0	9973294	ND	20	9973294	ND	2.0	9973294
Total Titanium (Ti)	ug/L	ND	2.0	9973294	ND	20	9973294	ND	2.0	9973294
Total Uranium (U)	ug/L	ND	0.10	9973294	ND	1.0	9973294	0.74	0.10	9973294
Total Vanadium (V)	ug/L	ND	2.0	9973294	ND	20	9973294	3.2	2.0	9973294
Total Zinc (Zn)	ug/L	ND	5.0	9973294	ND	50	9973294	ND	5.0	9973294

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ATBG72			ATBG73		
Sampling Date		2025/07/15 09:40			2025/07/15 10:10		
COC Number		C#1043055-01-01			C#1043055-01-01		
Sample #		00298			00287		
	UNITS	SW-7	RDL	QC Batch	SW-9	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	1.70	N/A	9971616	15.2	N/A	9971616
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	75	1.0	9971613	420	1.0	9971613
Calculated TDS	mg/L	87	1.0	9971621	860	1.0	9971621
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	1.4	1.0	9971613	13	1.0	9971613
Cation Sum	me/L	2.00	N/A	9971616	15.9	N/A	9971616
Hardness (CaCO ₃)	mg/L	87	1.0	9971369	210	1.0	9971369
Ion Balance (% Difference)	%	8.11	N/A	9971615	2.44	N/A	9971615
Langelier Index (@ 20C)	N/A	0.00500		9971619	1.01		9971619
Langelier Index (@ 4C)	N/A	-0.246		9971620	0.759		9971620
Nitrate (N)	mg/L	ND	0.050	9971617	1.4	0.10	9971617
Saturation pH (@ 20C)	N/A	8.28		9971619	7.50		9971619
Saturation pH (@ 4C)	N/A	8.54		9971620	7.75		9971620

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	77	2.0	9973507	430	2.0	9974327
Dissolved Chloride (Cl ⁻)	mg/L	6.0	1.0	9973324	220	5.0	9973324
Colour	TCU	27	5.0	9973449	110	25	9973449
Nitrate + Nitrite (N)	mg/L	ND	0.050	9973451	1.9	0.10	9973451
Nitrite (N)	mg/L	ND	0.010	9973452	0.47	0.010	9973452
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	9972345	27	2.5	9972345
Total Organic Carbon (C)	mg/L	9.1	0.50	9974485	44 (1)	5.0	9975083
Orthophosphate (P)	mg/L	ND	0.010	9973450	ND	0.010	9973450
pH	pH	8.29		9973504	8.51		9974321
Reactive Silica (SiO ₂)	mg/L	1.3	0.50	9973448	8.8	0.50	9973448
Dissolved Sulphate (SO ₄)	mg/L	ND	2.0	9973446	3.9	2.0	9973446
Turbidity	NTU	6.3	0.10	9973710	41	0.10	9973710
Conductivity	uS/cm	180	1.0	9973505	1700	1.0	9974324

Metals

Total Aluminum (Al)	ug/L	32	5.0	9973294	50	5.0	9973294
Total Antimony (Sb)	ug/L	ND	1.0	9973294	1.1	1.0	9973294
Total Arsenic (As)	ug/L	1.1	1.0	9973294	17	1.0	9973294
Total Barium (Ba)	ug/L	51	1.0	9973294	210	1.0	9973294
Total Beryllium (Be)	ug/L	ND	0.10	9973294	ND	0.10	9973294

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		ATBG72			ATBG73		
Sampling Date		2025/07/15 09:40			2025/07/15 10:10		
COC Number		C#1043055-01-01			C#1043055-01-01		
Sample #		00298			00287		
	UNITS	SW-7	RDL	QC Batch	SW-9	RDL	QC Batch
Total Bismuth (Bi)	ug/L	ND	2.0	9973294	ND	2.0	9973294
Total Boron (B)	ug/L	ND	50	9973294	790	50	9973294
Total Cadmium (Cd)	ug/L	ND	0.010	9973294	ND	0.010	9973294
Total Calcium (Ca)	ug/L	15000	100	9973294	25000	100	9973294
Total Chromium (Cr)	ug/L	ND	1.0	9973294	4.8	1.0	9973294
Total Cobalt (Co)	ug/L	ND	0.40	9973294	2.7	0.40	9973294
Total Copper (Cu)	ug/L	1.7	0.50	9973294	1.6	0.50	9973294
Total Iron (Fe)	ug/L	270	50	9973294	360	50	9973294
Total Lead (Pb)	ug/L	ND	0.50	9973294	ND	0.50	9973294
Total Magnesium (Mg)	ug/L	12000	100	9973294	34000	100	9973294
Total Manganese (Mn)	ug/L	74	2.0	9973294	140	2.0	9973294
Total Molybdenum (Mo)	ug/L	ND	2.0	9973294	ND	2.0	9973294
Total Nickel (Ni)	ug/L	ND	2.0	9973294	20	2.0	9973294
Total Phosphorus (P)	ug/L	ND	100	9973294	290	100	9973294
Total Potassium (K)	ug/L	710	100	9973294	74000	100	9973294
Total Selenium (Se)	ug/L	ND	0.50	9973294	ND	0.50	9973294
Total Silver (Ag)	ug/L	ND	0.10	9973294	ND	0.10	9973294
Total Sodium (Na)	ug/L	5100	100	9973294	180000	100	9973294
Total Strontium (Sr)	ug/L	47	2.0	9973294	190	2.0	9973294
Total Thallium (Tl)	ug/L	ND	0.10	9973294	ND	0.10	9973294
Total Tin (Sn)	ug/L	ND	2.0	9973294	ND	2.0	9973294
Total Titanium (Ti)	ug/L	ND	2.0	9973294	ND	2.0	9973294
Total Uranium (U)	ug/L	0.17	0.10	9973294	0.39	0.10	9973294
Total Vanadium (V)	ug/L	ND	2.0	9973294	3.8	2.0	9973294
Total Zinc (Zn)	ug/L	ND	5.0	9973294	ND	5.0	9973294
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.							



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ATBG66	ATBG67		ATBG68		ATBG69		
Sampling Date		2025/07/15 08:30	2025/07/15 08:40		2025/07/15 08:55		2025/07/15 09:10		
COC Number		C#1043055-01-01	C#1043055-01-01		C#1043055-01-01		C#1043055-01-01		
Sample #		00291	00292		00294		00295		
	UNITS	847-SW-1	SW-1	RDL	SW-3	RDL	SW-4	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	7.1	4.7	0.50	16	0.50	6.8	0.50	9975080
Phenols-4AAP	mg/L	ND	ND	0.0010	ND	0.0010	ND	0.0010	9976443
Total Suspended Solids	mg/L	2.2	1.9	1.0	16	5.0	1.0	1.0	9973314
Sulphide	mg/L	ND	ND	0.020	ND	0.020	ND	0.020	9974308

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		ATBG70			ATBG71		ATBG72		
Sampling Date		2025/07/15 09:20			2025/07/15 09:30		2025/07/15 09:40		
COC Number		C#1043055-01-01			C#1043055-01-01		C#1043055-01-01		
Sample #		00296			00297		00298		
	UNITS	SW-5	RDL	QC Batch	SW-6	QC Batch	SW-7	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	130 (1)	5.0	9975080	1.9	9974477	8.0	0.50	9975080
Phenols-4AAP	mg/L	0.0044	0.0020	9976443	ND	9976443	ND	0.0010	9976443
Total Suspended Solids	mg/L	90	10	9973314	ND	9973314	3.8	1.0	9973314
Sulphide	mg/L	0.089	0.020	9974299	ND	9974308	ND	0.020	9974308

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.

Bureau Veritas ID		ATBG73		
Sampling Date		2025/07/15 10:10		
COC Number		C#1043055-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch

Inorganics

Dissolved Organic Carbon (C)	mg/L	39 (1)	5.0	9975080
Phenols-4AAP	mg/L	0.0014	0.0010	9976443
Total Suspended Solids	mg/L	14	5.0	9973314
Sulphide	mg/L	0.020	0.020	9974308

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

(1) Elevated reporting limit due to sample matrix.



MERCURY BY COLD VAPOUR AA (WATER)

Bureau Veritas ID		ATBG66	ATBG67	ATBG68	ATBG69	ATBG70		
Sampling Date		2025/07/15 08:30	2025/07/15 08:40	2025/07/15 08:55	2025/07/15 09:10	2025/07/15 09:20		
COC Number		C#1043055-01-01	C#1043055-01-01	C#1043055-01-01	C#1043055-01-01	C#1043055-01-01		
Sample #		00291	00292	00294	00295	00296		
	UNITS	847-SW-1	SW-1	SW-3	SW-4	SW-5	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	0.013	9972317

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		ATBG71	ATBG72	ATBG73		
Sampling Date		2025/07/15 09:30	2025/07/15 09:40	2025/07/15 10:10		
COC Number		C#1043055-01-01	C#1043055-01-01	C#1043055-01-01		
Sample #		00297	00298	00287		
	UNITS	SW-6	SW-7	SW-9	RDL	QC Batch

Metals						
Total Mercury (Hg)	ug/L	ND	ND	ND	0.013	9972317

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	21.3°C
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Sample ATBG66 [847-SW-1] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample ATBG70 [SW-5] : Elevated reporting limits for trace metals due to sample matrix. ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. Sulphur < Sulphide: Both values fall within the method uncertainty for duplicates and are likely equivalent. Poor RCap Ion Balance due to sample matrix. Anion sum does not include contribution from Total Organic Carbon.

Sample ATBG72 [SW-7] : Poor RCap Ion Balance due to sample matrix.

Sample ATBG73 [SW-9] : Sulphur < Sulphide: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9972317	JEP	Matrix Spike	Total Mercury (Hg)	2025/07/22		101	%	80 - 120
9972317	JEP	Spiked Blank	Total Mercury (Hg)	2025/07/22		97	%	80 - 120
9972317	JEP	Method Blank	Total Mercury (Hg)	2025/07/22	ND, RDL=0.013		ug/L	
9972317	JEP	RPD	Total Mercury (Hg)	2025/07/22	NC		%	20
9972345	EMT	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/07/21		108	%	80 - 120
9972345	EMT	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/07/21		107	%	80 - 120
9972345	EMT	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/07/21	ND, RDL=0.050		mg/L	
9972345	EMT	RPD	Nitrogen (Ammonia Nitrogen)	2025/07/21	NC		%	20
9973294	MOA	Matrix Spike	Total Aluminum (Al)	2025/07/21		96	%	80 - 120
			Total Antimony (Sb)	2025/07/21		99	%	80 - 120
			Total Arsenic (As)	2025/07/21		100	%	80 - 120
			Total Barium (Ba)	2025/07/21		NC	%	80 - 120
			Total Beryllium (Be)	2025/07/21		95	%	80 - 120
			Total Bismuth (Bi)	2025/07/21		93	%	80 - 120
			Total Boron (B)	2025/07/21		97	%	80 - 120
			Total Cadmium (Cd)	2025/07/21		101	%	80 - 120
			Total Calcium (Ca)	2025/07/21		NC	%	80 - 120
			Total Chromium (Cr)	2025/07/21		97	%	80 - 120
			Total Cobalt (Co)	2025/07/21		98	%	80 - 120
			Total Copper (Cu)	2025/07/21		97	%	80 - 120
			Total Iron (Fe)	2025/07/21		101	%	80 - 120
			Total Lead (Pb)	2025/07/21		94	%	80 - 120
			Total Magnesium (Mg)	2025/07/21		104	%	80 - 120
			Total Manganese (Mn)	2025/07/21		99	%	80 - 120
			Total Molybdenum (Mo)	2025/07/21		100	%	80 - 120
			Total Nickel (Ni)	2025/07/21		98	%	80 - 120
			Total Phosphorus (P)	2025/07/21		99	%	80 - 120
			Total Potassium (K)	2025/07/21		94	%	80 - 120
			Total Selenium (Se)	2025/07/21		96	%	80 - 120
			Total Silver (Ag)	2025/07/21		98	%	80 - 120
			Total Sodium (Na)	2025/07/21		94	%	80 - 120
			Total Strontium (Sr)	2025/07/21		NC	%	80 - 120
			Total Thallium (Tl)	2025/07/21		96	%	80 - 120
			Total Tin (Sn)	2025/07/21		99	%	80 - 120
			Total Titanium (Ti)	2025/07/21		95	%	80 - 120
			Total Uranium (U)	2025/07/21		104	%	80 - 120
			Total Vanadium (V)	2025/07/21		101	%	80 - 120
			Total Zinc (Zn)	2025/07/21		99	%	80 - 120
9973294	MOA	Spiked Blank	Total Aluminum (Al)	2025/07/21		98	%	80 - 120
			Total Antimony (Sb)	2025/07/21		100	%	80 - 120
			Total Arsenic (As)	2025/07/21		98	%	80 - 120
			Total Barium (Ba)	2025/07/21		95	%	80 - 120
			Total Beryllium (Be)	2025/07/21		94	%	80 - 120
			Total Bismuth (Bi)	2025/07/21		97	%	80 - 120
			Total Boron (B)	2025/07/21		93	%	80 - 120
			Total Cadmium (Cd)	2025/07/21		101	%	80 - 120
			Total Calcium (Ca)	2025/07/21		97	%	80 - 120
			Total Chromium (Cr)	2025/07/21		98	%	80 - 120
			Total Cobalt (Co)	2025/07/21		100	%	80 - 120
			Total Copper (Cu)	2025/07/21		100	%	80 - 120
			Total Iron (Fe)	2025/07/21		102	%	80 - 120
			Total Lead (Pb)	2025/07/21		97	%	80 - 120
			Total Magnesium (Mg)	2025/07/21		101	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9973294	MOA	Method Blank	Total Manganese (Mn)	2025/07/21		101	%	80 - 120
			Total Molybdenum (Mo)	2025/07/21		99	%	80 - 120
			Total Nickel (Ni)	2025/07/21		100	%	80 - 120
			Total Phosphorus (P)	2025/07/21		99	%	80 - 120
			Total Potassium (K)	2025/07/21		94	%	80 - 120
			Total Selenium (Se)	2025/07/21		96	%	80 - 120
			Total Silver (Ag)	2025/07/21		97	%	80 - 120
			Total Sodium (Na)	2025/07/21		96	%	80 - 120
			Total Strontium (Sr)	2025/07/21		99	%	80 - 120
			Total Thallium (Tl)	2025/07/21		97	%	80 - 120
			Total Tin (Sn)	2025/07/21		100	%	80 - 120
			Total Titanium (Ti)	2025/07/21		97	%	80 - 120
			Total Uranium (U)	2025/07/21		106	%	80 - 120
			Total Vanadium (V)	2025/07/21		101	%	80 - 120
			Total Zinc (Zn)	2025/07/21		99	%	80 - 120
			Total Aluminum (Al)	2025/07/21	ND, RDL=5.0		ug/L	
			Total Antimony (Sb)	2025/07/21	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2025/07/21	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2025/07/21	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2025/07/21	ND, RDL=0.10		ug/L	
			Total Bismuth (Bi)	2025/07/21	ND, RDL=2.0		ug/L	
			Total Boron (B)	2025/07/21	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2025/07/21	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2025/07/21	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2025/07/21	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2025/07/21	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2025/07/21	ND, RDL=0.50		ug/L	
			Total Iron (Fe)	2025/07/21	ND, RDL=50		ug/L	
			Total Lead (Pb)	2025/07/21	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2025/07/21	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2025/07/21	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2025/07/21	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2025/07/21	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2025/07/21	ND, RDL=100		ug/L	
			Total Potassium (K)	2025/07/21	ND, RDL=100		ug/L	



**BUREAU
VERITAS**

Bureau Veritas Job #: C586028
Report Date: 2025/08/05

Central Newfoundland Waste Management Authority
Client Project #: SW samples

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9973294	MOA	RPD	Total Selenium (Se)	2025/07/21	ND, RDL=0.50		ug/L	
			Total Silver (Ag)	2025/07/21	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2025/07/21	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2025/07/21	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2025/07/21	ND, RDL=0.10		ug/L	
			Total Tin (Sn)	2025/07/21	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2025/07/21	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2025/07/21	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2025/07/21	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2025/07/21	ND, RDL=5.0		ug/L	
			Total Aluminum (Al)	2025/07/21	2.9		%	20
			Total Antimony (Sb)	2025/07/21	NC		%	20
			Total Arsenic (As)	2025/07/21	NC		%	20
			Total Barium (Ba)	2025/07/21	0.30		%	20
			Total Beryllium (Be)	2025/07/21	NC		%	20
			Total Bismuth (Bi)	2025/07/21	NC		%	20
			Total Boron (B)	2025/07/21	NC		%	20
			Total Cadmium (Cd)	2025/07/21	0.70		%	20
			Total Calcium (Ca)	2025/07/21	0.99		%	20
			Total Chromium (Cr)	2025/07/21	NC		%	20
			Total Cobalt (Co)	2025/07/21	NC		%	20
			Total Copper (Cu)	2025/07/21	0.84		%	20
			Total Iron (Fe)	2025/07/21	NC		%	20
			Total Lead (Pb)	2025/07/21	1.7		%	20
			Total Magnesium (Mg)	2025/07/21	0.49		%	20
			Total Manganese (Mn)	2025/07/21	1.0		%	20
			Total Molybdenum (Mo)	2025/07/21	NC		%	20
			Total Nickel (Ni)	2025/07/21	NC		%	20
			Total Phosphorus (P)	2025/07/21	NC		%	20
			Total Potassium (K)	2025/07/21	3.0		%	20
			Total Selenium (Se)	2025/07/21	NC		%	20
			Total Silver (Ag)	2025/07/21	NC		%	20
			Total Sodium (Na)	2025/07/21	2.3		%	20
			Total Strontium (Sr)	2025/07/21	2.4		%	20
			Total Thallium (Tl)	2025/07/21	NC		%	20
			Total Tin (Sn)	2025/07/21	NC		%	20
			Total Titanium (Ti)	2025/07/21	NC		%	20
			Total Uranium (U)	2025/07/21	NC		%	20
			Total Vanadium (V)	2025/07/21	NC		%	20
			Total Zinc (Zn)	2025/07/21	5.0		%	20
9973314	DME	QC Standard	Total Suspended Solids	2025/07/22		97	%	80 - 120
9973314	DME	Method Blank	Total Suspended Solids	2025/07/22	ND, RDL=1.0		mg/L	
9973314	DME	RPD	Total Suspended Solids	2025/07/22	1.2		%	20
9973320	EMT	Matrix Spike	Dissolved Chloride (Cl-)	2025/07/22		NC	%	80 - 120



**BUREAU
VERITAS**

Bureau Veritas Job #: C586028
Report Date: 2025/08/05

Central Newfoundland Waste Management Authority
Client Project #: SW samples

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9973320	EMT	Spiked Blank	Dissolved Chloride (Cl-)	2025/07/22		97	%	80 - 120
9973320	EMT	Method Blank	Dissolved Chloride (Cl-)	2025/07/22	ND, RDL=1.0		mg/L	
9973320	EMT	RPD	Dissolved Chloride (Cl-)	2025/07/22	0.29		%	20
9973324	EMT	Matrix Spike	Dissolved Chloride (Cl-)	2025/07/22		92	%	80 - 120
9973324	EMT	Spiked Blank	Dissolved Chloride (Cl-)	2025/07/22		96	%	80 - 120
9973324	EMT	Method Blank	Dissolved Chloride (Cl-)	2025/07/22	ND, RDL=1.0		mg/L	
9973324	EMT	RPD	Dissolved Chloride (Cl-)	2025/07/22	0.013		%	20
9973347	EMT	Matrix Spike [ATBG69-08]	Nitrogen (Ammonia Nitrogen)	2025/07/22		101	%	80 - 120
9973347	EMT	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/07/22		98	%	80 - 120
9973347	EMT	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/07/22	ND, RDL=0.050		mg/L	
9973347	EMT	RPD [ATBG69-08]	Nitrogen (Ammonia Nitrogen)	2025/07/22	7.8		%	20
9973434	EMT	Matrix Spike	Dissolved Sulphate (SO4)	2025/07/22		100	%	80 - 120
9973434	EMT	Spiked Blank	Dissolved Sulphate (SO4)	2025/07/22		101	%	80 - 120
9973434	EMT	Method Blank	Dissolved Sulphate (SO4)	2025/07/22	ND, RDL=2.0		mg/L	
9973434	EMT	RPD	Dissolved Sulphate (SO4)	2025/07/22	NC		%	20
9973437	EMT	Matrix Spike	Reactive Silica (SiO2)	2025/07/22		NC	%	80 - 120
9973437	EMT	Spiked Blank	Reactive Silica (SiO2)	2025/07/22		96	%	80 - 120
9973437	EMT	Method Blank	Reactive Silica (SiO2)	2025/07/22	ND, RDL=0.50		mg/L	
9973437	EMT	RPD	Reactive Silica (SiO2)	2025/07/22	0.69		%	20
9973439	EMT	Spiked Blank	Colour	2025/07/23		102	%	80 - 120
9973439	EMT	Method Blank	Colour	2025/07/23	ND, RDL=5.0		TCU	
9973439	EMT	RPD	Colour	2025/07/23	7.8		%	20
9973442	EMT	Matrix Spike	Orthophosphate (P)	2025/07/22		92	%	80 - 120
9973442	EMT	Spiked Blank	Orthophosphate (P)	2025/07/22		93	%	80 - 120
9973442	EMT	Method Blank	Orthophosphate (P)	2025/07/22	ND, RDL=0.010		mg/L	
9973442	EMT	RPD	Orthophosphate (P)	2025/07/22	NC		%	20
9973443	EMT	Matrix Spike	Nitrate + Nitrite (N)	2025/07/23		100	%	80 - 120
9973443	EMT	Spiked Blank	Nitrate + Nitrite (N)	2025/07/23		102	%	80 - 120
9973443	EMT	Method Blank	Nitrate + Nitrite (N)	2025/07/23	ND, RDL=0.050		mg/L	
9973443	EMT	RPD	Nitrate + Nitrite (N)	2025/07/23	2.7		%	20
9973444	EMT	Matrix Spike	Nitrite (N)	2025/07/22		102	%	80 - 120
9973444	EMT	Spiked Blank	Nitrite (N)	2025/07/22		108	%	80 - 120
9973444	EMT	Method Blank	Nitrite (N)	2025/07/22	ND, RDL=0.010		mg/L	
9973444	EMT	RPD	Nitrite (N)	2025/07/22	NC		%	20
9973446	EMT	Matrix Spike	Dissolved Sulphate (SO4)	2025/07/22		99	%	80 - 120
9973446	EMT	Spiked Blank	Dissolved Sulphate (SO4)	2025/07/22		98	%	80 - 120
9973446	EMT	Method Blank	Dissolved Sulphate (SO4)	2025/07/22	ND, RDL=2.0		mg/L	
9973446	EMT	RPD	Dissolved Sulphate (SO4)	2025/07/22	2.0		%	20
9973448	EMT	Matrix Spike	Reactive Silica (SiO2)	2025/07/22		94	%	80 - 120
9973448	EMT	Spiked Blank	Reactive Silica (SiO2)	2025/07/22		92	%	80 - 120
9973448	EMT	Method Blank	Reactive Silica (SiO2)	2025/07/22	ND, RDL=0.50		mg/L	
9973448	EMT	RPD	Reactive Silica (SiO2)	2025/07/22	0.92		%	20
9973449	EMT	Spiked Blank	Colour	2025/07/23		104	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9973449	EMT	Method Blank	Colour	2025/07/23	ND, RDL=5.0		TCU	
9973449	EMT	RPD	Colour	2025/07/23	1.8		%	20
9973450	EMT	Matrix Spike	Orthophosphate (P)	2025/07/22		90	%	80 - 120
9973450	EMT	Spiked Blank	Orthophosphate (P)	2025/07/22		96	%	80 - 120
9973450	EMT	Method Blank	Orthophosphate (P)	2025/07/22	ND, RDL=0.010		mg/L	
9973450	EMT	RPD	Orthophosphate (P)	2025/07/22	NC		%	20
9973451	EMT	Matrix Spike	Nitrate + Nitrite (N)	2025/07/23		96	%	80 - 120
9973451	EMT	Spiked Blank	Nitrate + Nitrite (N)	2025/07/23		102	%	80 - 120
9973451	EMT	Method Blank	Nitrate + Nitrite (N)	2025/07/23	ND, RDL=0.050		mg/L	
9973451	EMT	RPD	Nitrate + Nitrite (N)	2025/07/23	2.2		%	20
9973452	EMT	Matrix Spike	Nitrite (N)	2025/07/22		105	%	80 - 120
9973452	EMT	Spiked Blank	Nitrite (N)	2025/07/22		112	%	80 - 120
9973452	EMT	Method Blank	Nitrite (N)	2025/07/22	ND, RDL=0.010		mg/L	
9973452	EMT	RPD	Nitrite (N)	2025/07/22	NC		%	20
9973504	M2C	Spiked Blank	pH	2025/07/21		100	%	97 - 103
9973504	M2C	RPD	pH	2025/07/21	0.71		%	N/A
9973505	M2C	Spiked Blank	Conductivity	2025/07/21		95	%	80 - 120
9973505	M2C	Method Blank	Conductivity	2025/07/21	ND, RDL=1.0		uS/cm	
9973505	M2C	RPD	Conductivity	2025/07/21	0.31		%	10
9973507	M2C	Spiked Blank	Total Alkalinity (Total as CaCO ₃)	2025/07/21		94	%	80 - 120
9973507	M2C	Method Blank	Total Alkalinity (Total as CaCO ₃)	2025/07/21	ND, RDL=2.0		mg/L	
9973507	M2C	RPD	Total Alkalinity (Total as CaCO ₃)	2025/07/21	0.92		%	20
9973710	KMC	QC Standard	Turbidity	2025/07/22		106	%	80 - 120
9973710	KMC	Spiked Blank	Turbidity	2025/07/22		104	%	80 - 120
9973710	KMC	Method Blank	Turbidity	2025/07/22	ND, RDL=0.10		NTU	
9973710	KMC	RPD	Turbidity	2025/07/22	6.8		%	20
9974299	SRT	Matrix Spike	Sulphide	2025/07/22		102	%	80 - 120
9974299	SRT	Spiked Blank	Sulphide	2025/07/22		94	%	80 - 120
9974299	SRT	Method Blank	Sulphide	2025/07/22	ND, RDL=0.020		mg/L	
9974299	SRT	RPD	Sulphide	2025/07/22	4.0		%	20
9974308	SRT	Matrix Spike [ATBG72-05]	Sulphide	2025/07/22		98	%	80 - 120
9974308	SRT	Spiked Blank	Sulphide	2025/07/22		91	%	80 - 120
9974308	SRT	Method Blank	Sulphide	2025/07/22	ND, RDL=0.020		mg/L	
9974308	SRT	RPD [ATBG72-05]	Sulphide	2025/07/22	NC		%	20
9974321	M2C	Spiked Blank	pH	2025/07/22		100	%	97 - 103
9974321	M2C	RPD	pH	2025/07/22	1.7		%	N/A
9974324	M2C	Spiked Blank	Conductivity	2025/07/22		99	%	80 - 120
9974324	M2C	Method Blank	Conductivity	2025/07/22	ND, RDL=1.0		uS/cm	
9974324	M2C	RPD	Conductivity	2025/07/22	6.3		%	10
9974327	M2C	Spiked Blank	Total Alkalinity (Total as CaCO ₃)	2025/07/22		94	%	80 - 120
9974327	M2C	Method Blank	Total Alkalinity (Total as CaCO ₃)	2025/07/22	ND, RDL=2.0		mg/L	
9974327	M2C	RPD	Total Alkalinity (Total as CaCO ₃)	2025/07/22	2.8		%	20
9974477	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/07/22		101	%	85 - 115
9974477	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/07/22		98	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9974477	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/07/22	ND, RDL=0.50		mg/L	
9974477	S6S	RPD	Dissolved Organic Carbon (C)	2025/07/22	9.4		%	15
9974485	S6S	Matrix Spike	Total Organic Carbon (C)	2025/07/22		99	%	85 - 115
9974485	S6S	Spiked Blank	Total Organic Carbon (C)	2025/07/22		98	%	80 - 120
9974485	S6S	Method Blank	Total Organic Carbon (C)	2025/07/22	ND, RDL=0.50		mg/L	
9974485	S6S	RPD	Total Organic Carbon (C)	2025/07/22	2.7		%	15
9974947	EMT	Matrix Spike	Nitrite (N)	2025/07/23		112	%	80 - 120
9974947	EMT	Spiked Blank	Nitrite (N)	2025/07/23		107	%	80 - 120
9974947	EMT	Method Blank	Nitrite (N)	2025/07/23	ND, RDL=0.010		mg/L	
9974947	EMT	RPD	Nitrite (N)	2025/07/23	NC		%	20
9975080	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/07/23		100	%	85 - 115
9975080	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/07/23		99	%	80 - 120
9975080	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/07/23	ND, RDL=0.50		mg/L	
9975080	S6S	RPD	Dissolved Organic Carbon (C)	2025/07/23	NC		%	15
9975082	S6S	Matrix Spike	Total Organic Carbon (C)	2025/07/23		99	%	85 - 115
9975082	S6S	Spiked Blank	Total Organic Carbon (C)	2025/07/23		99	%	80 - 120
9975082	S6S	Method Blank	Total Organic Carbon (C)	2025/07/23	ND, RDL=0.50		mg/L	
9975082	S6S	RPD	Total Organic Carbon (C)	2025/07/23	NC		%	15
9975083	S6S	Matrix Spike	Total Organic Carbon (C)	2025/07/23		97	%	85 - 115
9975083	S6S	Spiked Blank	Total Organic Carbon (C)	2025/07/23		99	%	80 - 120
9975083	S6S	Method Blank	Total Organic Carbon (C)	2025/07/23	ND, RDL=0.50		mg/L	
9975083	S6S	RPD	Total Organic Carbon (C)	2025/07/23	NC (1)		%	15
9976443	JJH	Matrix Spike	Phenols-4AAP	2025/08/01		95	%	80 - 120
9976443	JJH	Spiked Blank	Phenols-4AAP	2025/08/01		104	%	80 - 120
9976443	JJH	Method Blank	Phenols-4AAP	2025/08/01	ND, RDL=0.0010		mg/L	
9976443	JJH	RPD	Phenols-4AAP	2025/08/01	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).

(1) Elevated reporting limit due to turbidity.



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere, Senior Scientific Specialist

Ernie Publicover, Scientific Specialist

Bureau Veritas Certified by Ernie Publicover, Scientific Specialist

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Your Project #: SW-SAMPLES
Site#: 00012
Your C.O.C. #: C#1054829-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/09/24
Report #: R8618647
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5B3347

Received: 2025/09/12, 09:21

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	8	N/A	2025/09/22	N/A	SM 24 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	2	N/A	2025/09/23	N/A	SM 24 4500-CO2 D
Alkalinity	1	N/A	2025/09/19	ATL SOP 00142	SM 24 2320 B
Alkalinity	7	N/A	2025/09/20	ATL SOP 00142	SM 24 2320 B
Alkalinity	2	N/A	2025/09/22	ATL SOP 00142	SM 24 2320 B
Chloride	1	N/A	2025/09/18	ATL SOP 00014	SM 24 4500-Cl- E m
Chloride	7	N/A	2025/09/19	ATL SOP 00014	SM 24 4500-Cl- E m
Chloride	2	N/A	2025/09/22	ATL SOP 00014	SM 24 4500-Cl- E m
Colour	1	N/A	2025/09/18	ATL SOP 00020	SM 24 2120C m
Colour	7	N/A	2025/09/19	ATL SOP 00020	SM 24 2120C m
Colour	2	N/A	2025/09/23	ATL SOP 00020	SM 24 2120C m
Organic carbon - Diss (DOC)-Lab Filtered (2)	1	N/A	2025/09/20	ATL SOP 00203	SM 24 5310B m
Organic carbon - Diss (DOC)-Lab Filtered (2)	3	N/A	2025/09/22	ATL SOP 00203	SM 24 5310B m
Organic carbon - Diss (DOC)-Lab Filtered (2)	6	N/A	2025/09/23	ATL SOP 00203	SM 24 5310B m
Conductance - water	1	N/A	2025/09/19	ATL SOP 00004	SM 24 2510B m
Conductance - water	7	N/A	2025/09/20	ATL SOP 00004	SM 24 2510B m
Conductance - water	2	N/A	2025/09/22	ATL SOP 00004	SM 24 2510B m
Hardness (calculated as CaCO3)	10	N/A	2025/09/17	ATL SOP 00048	Auto Calc
Mercury - Total (CVAA,LL)	10	2025/09/20	2025/09/20	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS	9	2025/09/16	2025/09/16	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	1	2025/09/16	2025/09/17	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	10	N/A	2025/09/24	N/A	Auto Calc.
Anion and Cation Sum	10	N/A	2025/09/24	N/A	Auto Calc.
Nitrogen Ammonia - water	10	N/A	2025/09/23	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/09/18	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	7	N/A	2025/09/19	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	2	N/A	2025/09/22	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2025/09/18	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrite	7	N/A	2025/09/19	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrite	2	N/A	2025/09/22	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2025/09/19	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	7	N/A	2025/09/22	ATL SOP 00018	ASTM D3867-16



Your Project #: SW-SAMPLES
Site#: 00012
Your C.O.C. #: C#1054829-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/09/24
Report #: R8618647
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5B3347

Received: 2025/09/12, 09:21

Sample Matrix: Water
Samples Received: 10

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Nitrogen - Nitrate (as N)	2	N/A	2025/09/23	ATL SOP 00018	ASTM D3867-16
Phenols (4AAP) (1)	9	N/A	2025/09/17	CAM SOP-00444	OMOE E3179 m
Phenols (4AAP) (1)	1	N/A	2025/09/18	CAM SOP-00444	OMOE E3179 m
pH (3)	1	N/A	2025/09/19	ATL SOP 00003	SM 24 4500-H+ B m
pH (3)	7	N/A	2025/09/20	ATL SOP 00003	SM 24 4500-H+ B m
pH (3)	2	N/A	2025/09/22	ATL SOP 00003	SM 24 4500-H+ B m
Phosphorus - ortho	1	N/A	2025/09/18	ATL SOP 00021	SM 24 4500-P E m
Phosphorus - ortho	7	N/A	2025/09/19	ATL SOP 00021	SM 24 4500-P E m
Phosphorus - ortho	2	N/A	2025/09/22	ATL SOP 00021	SM 24 4500-P E m
Sat. pH and Langelier Index (@ 20C)	10	N/A	2025/09/24	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	10	N/A	2025/09/24	ATL SOP 00049	Auto Calc.
Reactive Silica	1	N/A	2025/09/18	ATL SOP 00022	EPA 366.0 m
Reactive Silica	7	N/A	2025/09/19	ATL SOP 00022	EPA 366.0 m
Reactive Silica	2	N/A	2025/09/22	ATL SOP 00022	EPA 366.0 m
Sulphate	1	N/A	2025/09/18	ATL SOP 00023	ASTM D516-16 m
Sulphate	7	N/A	2025/09/19	ATL SOP 00023	ASTM D516-16 m
Sulphate	2	N/A	2025/09/22	ATL SOP 00023	ASTM D516-16 m
Sulphide (1)	10	N/A	2025/09/17	CAM SOP-00455	SM 24 4500-S G m
Total Dissolved Solids (TDS calc)	10	N/A	2025/09/24	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	1	N/A	2025/09/18	ATL SOP 00203	SM 24 5310B m
Organic carbon - Total (TOC) (2)	9	N/A	2025/09/23	ATL SOP 00203	SM 24 5310B m
Total Suspended Solids	6	2025/09/17	2025/09/18	ATL SOP 00007	SM 24 2540D m
Total Suspended Solids	4	2025/09/17	2025/09/22	ATL SOP 00007	SM 24 2540D m
Turbidity	3	N/A	2025/09/20	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	5	N/A	2025/09/21	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	2	N/A	2025/09/22	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession



Your Project #: SW-SAMPLES
Site#: 00012
Your C.O.C. #: C#1054829-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/09/24
Report #: R8618647
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5B3347

Received: 2025/09/12, 09:21

using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

(3) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Augustina Isesele, Customer Solutions Representative

Email: Augustina.isesele@bureauveritas.com

Phone# (902) 420-0203

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**BUREAU
VERITAS**

Bureau Veritas Job #: C5B3347

Report Date: 2025/09/24

Central Newfoundland Waste Management Authority

Client Project #: SW-SAMPLES

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AVBG06			AVBG07			AVBG08		
Sampling Date		2025/09/10 08:05			2025/09/10 08:15			2025/09/10 08:20		
COC Number		C#1054829-01-01			C#1054829-01-01			C#1054829-01-01		
Sample #		00291			00292			00293		
	UNITS	847-SW-1	RDL	QC Batch	SW-1	RDL	QC Batch	SW-2	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	2.90	N/A	A009311	0.970	N/A	A009311	3.19	N/A	A009311
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	57	1.0	A009302	43	1.0	A009302	100	1.0	A009302
Calculated TDS	mg/L	170	1.0	A009317	62	1.0	A009317	180	1.0	A009317
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	A009302	ND	1.0	A009302	1.2	1.0	A009302
Cation Sum	me/L	3.02	N/A	A009311	1.15	N/A	A009311	3.58	N/A	A009311
Hardness (CaCO ₃)	mg/L	71	1.0	A009309	46	1.0	A009309	110	1.0	A009309
Ion Balance (% Difference)	%	2.03	N/A	A009310	8.49	N/A	A009310	5.76	N/A	A009310
Langelier Index (@ 20C)	N/A	-0.442		A009314	-0.670		A009314	0.132		A009314
Langelier Index (@ 4C)	N/A	-0.693		A009315	-0.922		A009315	-0.119		A009315
Nitrate (N)	mg/L	ND	0.050	A009313	ND	0.050	A009313	ND	0.050	A009313
Saturation pH (@ 20C)	N/A	8.41		A009314	8.59		A009314	7.98		A009314
Saturation pH (@ 4C)	N/A	8.66		A009315	8.84		A009315	8.23		A009315

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	58	2.0	A014186	43	2.0	A014186	100	2.0	A014186
Dissolved Chloride (Cl ⁻)	mg/L	60	1.0	A014013	3.9	1.0	A014013	40	1.0	A014024
Colour	TCU	56	25	A014016	54	25	A014016	56	25	A014027
Nitrate + Nitrite (N)	mg/L	ND	0.050	A014018	ND	0.050	A014018	ND	0.050	A014029
Nitrite (N)	mg/L	ND	0.010	A014019	ND	0.010	A014019	ND	0.010	A014030
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	A015735	ND	0.050	A015735	0.066	0.050	A015735
Total Organic Carbon (C)	mg/L	10	0.50	A015791	12 (1)	5.0	A015791	14	0.50	A015791
Orthophosphate (P)	mg/L	ND	0.010	A014017	ND	0.010	A014017	ND	0.010	A014028
pH	pH	7.96		A014181	7.91		A014181	8.11		A014181
Reactive Silica (SiO ₂)	mg/L	7.7	0.50	A014015	11	0.50	A014015	8.5	0.50	A014026
Dissolved Sulphate (SO ₄)	mg/L	2.2	2.0	A014014	ND	2.0	A014014	ND	2.0	A014025
Turbidity	NTU	0.25	0.10	A015641	1.2	0.10	A015258	3.1	0.10	A014622
Conductivity	uS/cm	350	1.0	A014184	120	1.0	A014184	360	1.0	A014184

Metals

Total Aluminum (Al)	ug/L	43	5.0	A011002	58	5.0	A010998	320	5.0	A010998
Total Antimony (Sb)	ug/L	ND	1.0	A011002	ND	1.0	A010998	ND	1.0	A010998
Total Arsenic (As)	ug/L	ND	1.0	A011002	1.2	1.0	A010998	3.4	1.0	A010998
Total Barium (Ba)	ug/L	30	1.0	A011002	8.6	1.0	A010998	51	1.0	A010998
Total Beryllium (Be)	ug/L	ND	0.10	A011002	ND	0.10	A010998	ND	0.10	A010998

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to turbidity.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AVBG06			AVBG07			AVBG08		
Sampling Date		2025/09/10 08:05			2025/09/10 08:15			2025/09/10 08:20		
COC Number		C#1054829-01-01			C#1054829-01-01			C#1054829-01-01		
Sample #		00291			00292			00293		
	UNITS	847-SW-1	RDL	QC Batch	SW-1	RDL	QC Batch	SW-2	RDL	QC Batch
Total Bismuth (Bi)	ug/L	ND	2.0	A011002	ND	2.0	A010998	ND	2.0	A010998
Total Boron (B)	ug/L	ND	50	A011002	ND	50	A010998	ND	50	A010998
Total Cadmium (Cd)	ug/L	ND	0.010	A011002	ND	0.010	A010998	0.033	0.010	A010998
Total Calcium (Ca)	ug/L	16000	100	A011002	13000	100	A010998	25000	100	A010998
Total Chromium (Cr)	ug/L	ND	1.0	A011002	ND	1.0	A010998	1.1	1.0	A010998
Total Cobalt (Co)	ug/L	ND	0.40	A011002	ND	0.40	A010998	2.1	0.40	A010998
Total Copper (Cu)	ug/L	ND	0.50	A011002	0.91	0.50	A010998	1.3	0.50	A010998
Total Iron (Fe)	ug/L	120	50	A011002	180	50	A010998	4000	50	A010998
Total Lead (Pb)	ug/L	ND	0.50	A011002	ND	0.50	A010998	0.68	0.50	A010998
Total Magnesium (Mg)	ug/L	7400	100	A011002	3400	100	A010998	12000	100	A010998
Total Manganese (Mn)	ug/L	33	2.0	A011002	13	2.0	A010998	1100	2.0	A010998
Total Molybdenum (Mo)	ug/L	ND	2.0	A011002	ND	2.0	A010998	ND	2.0	A010998
Total Nickel (Ni)	ug/L	ND	2.0	A011002	ND	2.0	A010998	ND	2.0	A010998
Total Phosphorus (P)	ug/L	ND	100	A011002	ND	100	A010998	ND	100	A010998
Total Potassium (K)	ug/L	840	100	A011002	1200	100	A010998	2700	100	A010998
Total Selenium (Se)	ug/L	ND	0.50	A011002	ND	0.50	A010998	ND	0.50	A010998
Total Silver (Ag)	ug/L	ND	0.10	A011002	ND	0.10	A010998	ND	0.10	A010998
Total Sodium (Na)	ug/L	36000	100	A011002	4600	100	A010998	25000	100	A010998
Total Strontium (Sr)	ug/L	72	2.0	A011002	55	2.0	A010998	140	2.0	A010998
Total Thallium (Tl)	ug/L	ND	0.10	A011002	ND	0.10	A010998	ND	0.10	A010998
Total Tin (Sn)	ug/L	ND	2.0	A011002	ND	2.0	A010998	ND	2.0	A010998
Total Titanium (Ti)	ug/L	ND	2.0	A011002	ND	2.0	A010998	12	2.0	A010998
Total Uranium (U)	ug/L	ND	0.10	A011002	ND	0.10	A010998	0.13	0.10	A010998
Total Vanadium (V)	ug/L	ND	2.0	A011002	ND	2.0	A010998	ND	2.0	A010998
Total Zinc (Zn)	ug/L	15	5.0	A011002	ND	5.0	A010998	7.2	5.0	A010998

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



BUREAU
VERITAS

Bureau Veritas Job #: C5B3347

Report Date: 2025/09/24

Central Newfoundland Waste Management Authority

Client Project #: SW-SAMPLES

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AVBG09			AVBG10			AVBG11		
Sampling Date		2025/09/10 08:30			2025/09/10 08:40			2025/09/10 08:50		
COC Number		C#1054829-01-01			C#1054829-01-01			C#1054829-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	9.85	N/A	A009311	0.480	N/A	A009311	60.8	N/A	A009311
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	330	1.0	A009302	14	1.0	A009302	1300	1.0	A009302
Calculated TDS	mg/L	690	1.0	A009317	31	1.0	A009317	3800	1.0	A009317
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	1.6	1.0	A009302	ND	1.0	A009302	15	1.0	A009302
Cation Sum	me/L	14.5	N/A	A009311	0.580	N/A	A009311	66.9	N/A	A009311
Hardness (CaCO ₃)	mg/L	350	1.0	A009309	18	1.0	A009309	680	1.0	A009309
Ion Balance (% Difference)	%	19.2	N/A	A009310	9.43	N/A	A009310	4.78	N/A	A009310
Langelier Index (@ 20C)	N/A	0.707		A009314	-2.05		A009314	1.55		A009314
Langelier Index (@ 4C)	N/A	0.460		A009315	-2.30		A009315	1.31		A009315
Nitrate (N)	mg/L	ND	0.050	A009313	ND	0.050	A009313	80	5.0	A009313
Saturation pH (@ 20C)	N/A	7.01		A009314	9.47		A009314	6.54		A009314
Saturation pH (@ 4C)	N/A	7.25		A009315	9.72		A009315	6.79		A009315

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	330	2.0	A015430	14	2.0	A014179	1300	2.0	A014186
Dissolved Chloride (Cl ⁻)	mg/L	37	1.0	A014024	6.8	1.0	A014024	760	10	A014024
Colour	TCU	30	5.0	A014027	35	5.0	A014027	780	150	A014027
Nitrate + Nitrite (N)	mg/L	ND	0.050	A014029	ND	0.050	A014029	170	5.0	A014029
Nitrite (N)	mg/L	ND	0.010	A014030	ND	0.010	A014030	94	5.0	A014030
Nitrogen (Ammonia Nitrogen)	mg/L	3.5	0.25	A015735	ND	0.050	A015735	220	0.25	A015735
Total Organic Carbon (C)	mg/L	70 (1)	5.0	A016390	7.4	0.50	A016390	160 (1)	5.0	A015791
Orthophosphate (P)	mg/L	ND	0.010	A014028	ND	0.010	A014028	0.19	0.010	A014028
pH	pH	7.71		A015426	7.42		A014176	8.09		A014181
Reactive Silica (SiO ₂)	mg/L	14	0.50	A014026	3.6	0.50	A014026	15	0.50	A014026
Dissolved Sulphate (SO ₄)	mg/L	110	4.0	A014025	ND	2.0	A014025	ND	2.0	A014025
Turbidity	NTU	43	0.10	A015253	2.1	0.10	A014622	34	0.10	A015253
Conductivity	uS/cm	1000	1.0	A015428	63	1.0	A014177	6900	1.0	A014184

Metals

Total Aluminum (Al)	ug/L	2500	50	A011002	20	5.0	A011002	95	50	A011002
Total Antimony (Sb)	ug/L	ND	10	A011002	ND	1.0	A011002	ND	10	A011002
Total Arsenic (As)	ug/L	530	10	A011002	ND	1.0	A011002	30	10	A011002
Total Barium (Ba)	ug/L	690	10	A011002	4.1	1.0	A011002	710	10	A011002
Total Beryllium (Be)	ug/L	ND	1.0	A011002	ND	0.10	A011002	ND	1.0	A011002

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to turbidity.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AVBG09			AVBG10			AVBG11		
Sampling Date		2025/09/10 08:30			2025/09/10 08:40			2025/09/10 08:50		
COC Number		C#1054829-01-01			C#1054829-01-01			C#1054829-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch
Total Bismuth (Bi)	ug/L	ND	20	A011002	ND	2.0	A011002	ND	20	A011002
Total Boron (B)	ug/L	ND	500	A011002	ND	50	A011002	3000	500	A011002
Total Cadmium (Cd)	ug/L	ND	0.10	A011002	ND	0.010	A011002	ND	0.10	A011002
Total Calcium (Ca)	ug/L	96000	1000	A011002	4700	100	A011002	120000	1000	A011002
Total Chromium (Cr)	ug/L	12	10	A011002	ND	1.0	A011002	54	10	A011002
Total Cobalt (Co)	ug/L	21	4.0	A011002	ND	0.40	A011002	9.9	4.0	A011002
Total Copper (Cu)	ug/L	15	5.0	A011002	ND	0.50	A011002	5.2	5.0	A011002
Total Iron (Fe)	ug/L	180000	500	A011002	140	50	A011002	5500	500	A011002
Total Lead (Pb)	ug/L	5.7	5.0	A011002	ND	0.50	A011002	ND	5.0	A011002
Total Magnesium (Mg)	ug/L	26000	1000	A011002	1500	100	A011002	91000	1000	A011002
Total Manganese (Mn)	ug/L	1800	20	A011002	26	2.0	A011002	930	20	A011002
Total Molybdenum (Mo)	ug/L	ND	20	A011002	ND	2.0	A011002	ND	20	A011002
Total Nickel (Ni)	ug/L	24	20	A011002	ND	2.0	A011002	80	20	A011002
Total Phosphorus (P)	ug/L	ND	1000	A011002	ND	100	A011002	1300	1000	A011002
Total Potassium (K)	ug/L	5200	1000	A011002	320	100	A011002	280000	1000	A011002
Total Selenium (Se)	ug/L	ND	5.0	A011002	ND	0.50	A011002	ND	5.0	A011002
Total Silver (Ag)	ug/L	ND	1.0	A011002	ND	0.10	A011002	ND	1.0	A011002
Total Sodium (Na)	ug/L	19000	1000	A011002	4900	100	A011002	690000	1000	A011002
Total Strontium (Sr)	ug/L	480	20	A011002	24	2.0	A011002	640	20	A011002
Total Thallium (Tl)	ug/L	ND	1.0	A011002	ND	0.10	A011002	ND	1.0	A011002
Total Tin (Sn)	ug/L	ND	20	A011002	ND	2.0	A011002	ND	20	A011002
Total Titanium (Ti)	ug/L	53	20	A011002	ND	2.0	A011002	ND	20	A011002
Total Uranium (U)	ug/L	1.2	1.0	A011002	ND	0.10	A011002	ND	1.0	A011002
Total Vanadium (V)	ug/L	79	20	A011002	ND	2.0	A011002	ND	20	A011002
Total Zinc (Zn)	ug/L	ND	50	A011002	ND	5.0	A011002	ND	50	A011002

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AVBG12		AVBG13		AVBG14		
Sampling Date		2025/09/10 09:05		2025/09/10 09:15		2025/09/10 09:30		
COC Number		C#1054829-01-01		C#1054829-01-01		C#1054829-01-01		
Sample #		00297		00298		00299		
	UNITS	SW-6	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch

Calculated Parameters								
Anion Sum	me/L	2.65	A009311	2.38	A009311	1.63	N/A	A009357
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	97	A009302	100	A009351	55	1.0	A009351
Calculated TDS	mg/L	140	A009317	120	A009365	92	1.0	A009365
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	1.3	A009302	6.7	A009351	ND	1.0	A009351
Cation Sum	me/L	2.51	A009311	2.56	A009311	1.64	N/A	A009357
Hardness (CaCO ₃)	mg/L	99	A009309	120	A009309	62	1.0	A009309
Ion Balance (% Difference)	%	2.71	A009310	3.64	A009310	0.310	N/A	A009310
Langelier Index (@ 20C)	N/A	0.148	A009314	0.759	A009314	-0.275		A009362
Langelier Index (@ 4C)	N/A	-0.103	A009315	0.508	A009363	-0.526		A009363
Nitrate (N)	mg/L	ND	A009313	ND	A009313	ND	0.050	A009313
Saturation pH (@ 20C)	N/A	7.99	A009314	8.09	A009314	8.41		A009362
Saturation pH (@ 4C)	N/A	8.24	A009315	8.34	A009363	8.66		A009363

Inorganics								
Total Alkalinity (Total as CaCO ₃)	mg/L	98	A015571	110	A014186	55	2.0	A014186
Dissolved Chloride (Cl ⁻)	mg/L	21	A014024	5.9	A014373	16	1.0	A014373
Colour	TCU	13	A014027	19	A014377	26	5.0	A014377
Nitrate + Nitrite (N)	mg/L	ND	A014029	ND	A014380	ND	0.050	A014380
Nitrite (N)	mg/L	ND	A014030	ND	A014382	ND	0.010	A014382
Nitrogen (Ammonia Nitrogen)	mg/L	ND	A015735	0.059	A015735	0.059	0.050	A015738
Total Organic Carbon (C)	mg/L	2.6	A015791	7.1	A013181	4.9	0.50	A015791
Orthophosphate (P)	mg/L	0.050	A014028	ND	A014379	ND	0.010	A014379
pH	pH	8.14	A015568	8.85	A014181	8.13		A014181
Reactive Silica (SiO ₂)	mg/L	13	A014026	3.6	A014376	8.6	0.50	A014376
Dissolved Sulphate (SO ₄)	mg/L	4.8	A014025	3.6	A014375	3.5	2.0	A014375
Turbidity	NTU	1.8	A015255	2.4	A015255	1.4	0.10	A014622
Conductivity	uS/cm	270	A015570	250	A014184	180	1.0	A014184

Metals								
Total Aluminum (Al)	ug/L	35	A011002	21	A011002	37	5.0	A011002
Total Antimony (Sb)	ug/L	ND	A011002	ND	A011002	ND	1.0	A011002
Total Arsenic (As)	ug/L	2.0	A011002	ND	A011002	1.5	1.0	A011002
Total Barium (Ba)	ug/L	64	A011002	71	A011002	37	1.0	A011002
Total Beryllium (Be)	ug/L	ND	A011002	ND	A011002	ND	0.10	A011002
Total Bismuth (Bi)	ug/L	ND	A011002	ND	A011002	ND	2.0	A011002

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AVBG12		AVBG13		AVBG14		
Sampling Date		2025/09/10 09:05		2025/09/10 09:15		2025/09/10 09:30		
COC Number		C#1054829-01-01		C#1054829-01-01		C#1054829-01-01		
Sample #		00297		00298		00299		
	UNITS	SW-6	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch
Total Boron (B)	ug/L	ND	A011002	ND	A011002	ND	50	A011002
Total Cadmium (Cd)	ug/L	ND	A011002	ND	A011002	ND	0.010	A011002
Total Calcium (Ca)	ug/L	24000	A011002	18000	A011002	16000	100	A011002
Total Chromium (Cr)	ug/L	ND	A011002	ND	A011002	ND	1.0	A011002
Total Cobalt (Co)	ug/L	ND	A011002	ND	A011002	ND	0.40	A011002
Total Copper (Cu)	ug/L	0.79	A011002	1.3	A011002	1.2	0.50	A011002
Total Iron (Fe)	ug/L	87	A011002	140	A011002	140	50	A011002
Total Lead (Pb)	ug/L	ND	A011002	ND	A011002	ND	0.50	A011002
Total Magnesium (Mg)	ug/L	9100	A011002	17000	A011002	5600	100	A011002
Total Manganese (Mn)	ug/L	16	A011002	35	A011002	26	2.0	A011002
Total Molybdenum (Mo)	ug/L	ND	A011002	ND	A011002	ND	2.0	A011002
Total Nickel (Ni)	ug/L	ND	A011002	ND	A011002	ND	2.0	A011002
Total Phosphorus (P)	ug/L	ND	A011002	ND	A011002	ND	100	A011002
Total Potassium (K)	ug/L	2200	A011002	920	A011002	1300	100	A011002
Total Selenium (Se)	ug/L	ND	A011002	ND	A011002	ND	0.50	A011002
Total Silver (Ag)	ug/L	ND	A011002	ND	A011002	ND	0.10	A011002
Total Sodium (Na)	ug/L	11000	A011002	4900	A011002	8300	100	A011002
Total Strontium (Sr)	ug/L	140	A011002	61	A011002	85	2.0	A011002
Total Thallium (Tl)	ug/L	ND	A011002	ND	A011002	ND	0.10	A011002
Total Tin (Sn)	ug/L	ND	A011002	ND	A011002	ND	2.0	A011002
Total Titanium (Ti)	ug/L	ND	A011002	ND	A011002	ND	2.0	A011002
Total Uranium (U)	ug/L	0.63	A011002	0.29	A011002	0.33	0.10	A011002
Total Vanadium (V)	ug/L	3.3	A011002	ND	A011002	2.0	2.0	A011002
Total Zinc (Zn)	ug/L	ND	A011002	ND	A011002	ND	5.0	A011002
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.								



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AVBG15		
Sampling Date		2025/09/10 09:40		
COC Number		C#1054829-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	22.9	N/A	A009357
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	470	1.0	A009351
Calculated TDS	mg/L	1400	1.0	A009365
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	23	1.0	A009351
Cation Sum	me/L	23.3	N/A	A009357
Hardness (CaCO ₃)	mg/L	290	1.0	A009309
Ion Balance (% Difference)	%	0.870	N/A	A009355
Langelier Index (@ 20C)	N/A	1.36		A009362
Langelier Index (@ 4C)	N/A	1.12		A009363
Nitrate (N)	mg/L	24	2.5	A009313
Saturation pH (@ 20C)	N/A	7.35		A009362
Saturation pH (@ 4C)	N/A	7.60		A009363
Inorganics				
Total Alkalinity (Total as CaCO ₃)	mg/L	490	2.0	A014186
Dissolved Chloride (Cl ⁻)	mg/L	380	5.0	A011970
Colour	TCU	150	25	A012916
Nitrate + Nitrite (N)	mg/L	27	2.5	A012918
Nitrite (N)	mg/L	2.5	0.10	A012919
Nitrogen (Ammonia Nitrogen)	mg/L	14	0.050	A015735
Total Organic Carbon (C)	mg/L	57 (1)	5.0	A015791
Orthophosphate (P)	mg/L	ND	0.010	A012917
pH	pH	8.71		A014181
Reactive Silica (SiO ₂)	mg/L	8.9	0.50	A012915
Dissolved Sulphate (SO ₄)	mg/L	18	2.0	A012914
Turbidity	NTU	18	0.10	A015641
Conductivity	uS/cm	2600	1.0	A014184
Metals				
Total Aluminum (Al)	ug/L	49	5.0	A010998
Total Antimony (Sb)	ug/L	1.9	1.0	A010998
Total Arsenic (As)	ug/L	8.8	1.0	A010998
Total Barium (Ba)	ug/L	240	1.0	A010998
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not Detected at a concentration equal or greater than the indicated Detection Limit. (1) Elevated reporting limit due to turbidity.				



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AVBG15		
Sampling Date		2025/09/10 09:40		
COC Number		C#1054829-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch
Total Beryllium (Be)	ug/L	ND	0.10	A010998
Total Bismuth (Bi)	ug/L	ND	2.0	A010998
Total Boron (B)	ug/L	1400	50	A010998
Total Cadmium (Cd)	ug/L	0.020	0.010	A010998
Total Calcium (Ca)	ug/L	37000	100	A010998
Total Chromium (Cr)	ug/L	8.0	1.0	A010998
Total Cobalt (Co)	ug/L	4.6	0.40	A010998
Total Copper (Cu)	ug/L	4.1	0.50	A010998
Total Iron (Fe)	ug/L	160	50	A010998
Total Lead (Pb)	ug/L	ND	0.50	A010998
Total Magnesium (Mg)	ug/L	47000	100	A010998
Total Manganese (Mn)	ug/L	110	2.0	A010998
Total Molybdenum (Mo)	ug/L	ND	2.0	A010998
Total Nickel (Ni)	ug/L	31	2.0	A010998
Total Phosphorus (P)	ug/L	210	100	A010998
Total Potassium (K)	ug/L	120000	1000	A010998
Total Selenium (Se)	ug/L	ND	0.50	A010998
Total Silver (Ag)	ug/L	ND	0.10	A010998
Total Sodium (Na)	ug/L	310000	100	A010998
Total Strontium (Sr)	ug/L	260	2.0	A010998
Total Thallium (Tl)	ug/L	ND	0.10	A010998
Total Tin (Sn)	ug/L	ND	2.0	A010998
Total Titanium (Ti)	ug/L	ND	2.0	A010998
Total Uranium (U)	ug/L	0.49	0.10	A010998
Total Vanadium (V)	ug/L	4.4	2.0	A010998
Total Zinc (Zn)	ug/L	7.0	5.0	A010998
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AVBG06		AVBG07	AVBG08		
Sampling Date		2025/09/10 08:05		2025/09/10 08:15	2025/09/10 08:20		
COC Number		C#1054829-01-01		C#1054829-01-01	C#1054829-01-01		
Sample #		00291		00292	00293		
	UNITS	847-SW-1	QC Batch	SW-1	SW-2	RDL	QC Batch

Inorganics							
Dissolved Organic Carbon (C)	mg/L	10	A015567	9.2	14	0.50	A015567
Phenols-4AAP	mg/L	ND	A012165	ND	ND	0.0010	A012165
Total Suspended Solids	mg/L	1.6	A011982	ND	5.7	1.0	A011982
Sulphide	mg/L	ND	A012262	ND	ND	0.020	A012257
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.							

Bureau Veritas ID		AVBG09			AVBG10			AVBG11		
Sampling Date		2025/09/10 08:30			2025/09/10 08:40			2025/09/10 08:50		
COC Number		C#1054829-01-01			C#1054829-01-01			C#1054829-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch

Inorganics										
Dissolved Organic Carbon (C)	mg/L	20 (1)	5.0	A015576	7.1	0.50	A015576	150 (2)	5.0	A015576
Phenols-4AAP	mg/L	0.0025	0.0010	A012242	ND	0.0010	A012242	0.055	0.0010	A012242
Total Suspended Solids	mg/L	33	5.0	A011982	ND	1.0	A011982	35	5.0	A011982
Sulphide	mg/L	0.044	0.020	A012257	ND	0.020	A012262	0.058	0.020	A012257
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.										
(1) Elevated reporting limit due to sample matrix.										
(2) Elevated reporting limit due to turbidity.										



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AVBG12		AVBG13		AVBG14		
Sampling Date		2025/09/10 09:05		2025/09/10 09:15		2025/09/10 09:30		
COC Number		C#1054829-01-01		C#1054829-01-01		C#1054829-01-01		
Sample #		00297		00298		00299		
	UNITS	SW-6	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch

Inorganics								
Dissolved Organic Carbon (C)	mg/L	2.4	A015576	6.5	A014586	4.6	0.50	A015576
Phenols-4AAP	mg/L	ND	A012242	ND	A012242	ND	0.0010	A012242
Total Suspended Solids	mg/L	ND	A012076	1.6	A012076	2.4	1.0	A012076
Sulphide	mg/L	ND	A012257	ND	A012257	ND	0.020	A012257

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		AVBG15		
Sampling Date		2025/09/10 09:40		
COC Number		C#1054829-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch

Inorganics				
Dissolved Organic Carbon (C)	mg/L	51 (1)	5.0	A015576
Phenols-4AAP	mg/L	0.0011	0.0010	A012242
Total Suspended Solids	mg/L	12	5.0	A012076
Sulphide	mg/L	ND	0.020	A012257

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to turbidity.



MERCURY BY COLD VAPOUR AA (WATER)

Bureau Veritas ID		AVBG06	AVBG07	AVBG08	AVBG09	AVBG10		
Sampling Date		2025/09/10 08:05	2025/09/10 08:15	2025/09/10 08:20	2025/09/10 08:30	2025/09/10 08:40		
COC Number		C#1054829-01-01	C#1054829-01-01	C#1054829-01-01	C#1054829-01-01	C#1054829-01-01		
Sample #		00291	00292	00293	00294	00295		
	UNITS	847-SW-1	SW-1	SW-2	SW-3	SW-4	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	ND	ND	ND	0.025	ND	0.013	A014548
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.								

Bureau Veritas ID		AVBG11	AVBG12	AVBG13		AVBG14		
Sampling Date		2025/09/10 08:50	2025/09/10 09:05	2025/09/10 09:15		2025/09/10 09:30		
COC Number		C#1054829-01-01	C#1054829-01-01	C#1054829-01-01		C#1054829-01-01		
Sample #		00296	00297	00298		00299		
	UNITS	SW-5	SW-6	SW-7	QC Batch	SW-8	RDL	QC Batch

Metals								
Total Mercury (Hg)	ug/L	ND	ND	ND	A014548	ND	0.013	A014554
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.								

Bureau Veritas ID		AVBG15		
Sampling Date		2025/09/10 09:40		
COC Number		C#1054829-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch

Metals				
Total Mercury (Hg)	ug/L	ND	0.013	A014554
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
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Sample AVBG07 [SW-1] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample AVBG08 [SW-2] : Poor RCap Ion Balance due to sample matrix. Anion sum does not include contribution from Total Organic Carbon.

Sample AVBG09 [SW-3] : Elevated reporting limits for trace metals due to sample matrix. Sulphur < Sulphide: Both values fall within the method uncertainty for duplicates and are likely equivalent. Poor RCap Ion Balance due to sample matrix. Anion sum does not include contribution from Total Organic Carbon.

Sample AVBG10 [SW-4] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample AVBG11 [SW-5] : Elevated reporting limits for trace metals due to sample matrix. Sulphur < Sulphide: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample AVBG12 [SW-6] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A010998	MTZ	Matrix Spike	Total Aluminum (Al)	2025/09/16		101	%	80 - 120
			Total Antimony (Sb)	2025/09/16		107	%	80 - 120
			Total Arsenic (As)	2025/09/16		100	%	80 - 120
			Total Barium (Ba)	2025/09/16		101	%	80 - 120
			Total Beryllium (Be)	2025/09/16		100	%	80 - 120
			Total Bismuth (Bi)	2025/09/16		101	%	80 - 120
			Total Boron (B)	2025/09/16		100	%	80 - 120
			Total Cadmium (Cd)	2025/09/16		98	%	80 - 120
			Total Calcium (Ca)	2025/09/16		NC	%	80 - 120
			Total Chromium (Cr)	2025/09/16		97	%	80 - 120
			Total Cobalt (Co)	2025/09/16		95	%	80 - 120
			Total Copper (Cu)	2025/09/16		93	%	80 - 120
			Total Iron (Fe)	2025/09/16		100	%	80 - 120
			Total Lead (Pb)	2025/09/16		101	%	80 - 120
			Total Magnesium (Mg)	2025/09/16		NC	%	80 - 120
			Total Manganese (Mn)	2025/09/16		NC	%	80 - 120
			Total Molybdenum (Mo)	2025/09/16		107	%	80 - 120
			Total Nickel (Ni)	2025/09/16		NC	%	80 - 120
			Total Phosphorus (P)	2025/09/16		103	%	80 - 120
			Total Potassium (K)	2025/09/16		NC	%	80 - 120
			Total Selenium (Se)	2025/09/16		99	%	80 - 120
			Total Silver (Ag)	2025/09/16		96	%	80 - 120
			Total Sodium (Na)	2025/09/16		NC	%	80 - 120
			Total Strontium (Sr)	2025/09/16		NC	%	80 - 120
			Total Thallium (Tl)	2025/09/16		103	%	80 - 120
			Total Tin (Sn)	2025/09/16		104	%	80 - 120
			Total Titanium (Ti)	2025/09/16		104	%	80 - 120
			Total Uranium (U)	2025/09/16		109	%	80 - 120
			Total Vanadium (V)	2025/09/16		100	%	80 - 120
			Total Zinc (Zn)	2025/09/16		95	%	80 - 120
A010998	MTZ	Spiked Blank	Total Aluminum (Al)	2025/09/16		98	%	80 - 120
			Total Antimony (Sb)	2025/09/16		102	%	80 - 120
			Total Arsenic (As)	2025/09/16		97	%	80 - 120
			Total Barium (Ba)	2025/09/16		97	%	80 - 120
			Total Beryllium (Be)	2025/09/16		97	%	80 - 120
			Total Bismuth (Bi)	2025/09/16		101	%	80 - 120
			Total Boron (B)	2025/09/16		96	%	80 - 120
			Total Cadmium (Cd)	2025/09/16		96	%	80 - 120
			Total Calcium (Ca)	2025/09/16		97	%	80 - 120
			Total Chromium (Cr)	2025/09/16		97	%	80 - 120
			Total Cobalt (Co)	2025/09/16		97	%	80 - 120
			Total Copper (Cu)	2025/09/16		96	%	80 - 120
			Total Iron (Fe)	2025/09/16		98	%	80 - 120
			Total Lead (Pb)	2025/09/16		100	%	80 - 120
			Total Magnesium (Mg)	2025/09/16		99	%	80 - 120
			Total Manganese (Mn)	2025/09/16		99	%	80 - 120
			Total Molybdenum (Mo)	2025/09/16		101	%	80 - 120
			Total Nickel (Ni)	2025/09/16		97	%	80 - 120
			Total Phosphorus (P)	2025/09/16		101	%	80 - 120
			Total Potassium (K)	2025/09/16		101	%	80 - 120
			Total Selenium (Se)	2025/09/16		95	%	80 - 120
			Total Silver (Ag)	2025/09/16		96	%	80 - 120
			Total Sodium (Na)	2025/09/16		99	%	80 - 120
			Total Strontium (Sr)	2025/09/16		99	%	80 - 120
			Total Thallium (Tl)	2025/09/16		101	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A010998	MTZ	Method Blank	Total Tin (Sn)	2025/09/16		101	%	80 - 120
			Total Titanium (Ti)	2025/09/16		99	%	80 - 120
			Total Uranium (U)	2025/09/16		105	%	80 - 120
			Total Vanadium (V)	2025/09/16		98	%	80 - 120
			Total Zinc (Zn)	2025/09/16		97	%	80 - 120
			Total Aluminum (Al)	2025/09/16	ND, RDL=5.0		ug/L	
			Total Antimony (Sb)	2025/09/16	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2025/09/16	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2025/09/16	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2025/09/16	ND, RDL=0.10		ug/L	
			Total Bismuth (Bi)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Boron (B)	2025/09/16	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2025/09/16	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2025/09/16	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2025/09/16	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2025/09/16	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2025/09/16	ND, RDL=0.50		ug/L	
			Total Iron (Fe)	2025/09/16	ND, RDL=50		ug/L	
			Total Lead (Pb)	2025/09/16	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2025/09/16	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2025/09/16	ND, RDL=100		ug/L	
			Total Potassium (K)	2025/09/16	ND, RDL=100		ug/L	
			Total Selenium (Se)	2025/09/16	ND, RDL=0.50		ug/L	
			Total Silver (Ag)	2025/09/16	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2025/09/16	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2025/09/16	ND, RDL=0.10		ug/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A010998	MTZ	RPD	Total Tin (Sn)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2025/09/16	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2025/09/16	ND, RDL=5.0		ug/L	
			Total Aluminum (Al)	2025/09/16	9.3		%	20
			Total Antimony (Sb)	2025/09/16	NC		%	20
			Total Arsenic (As)	2025/09/16	0.82		%	20
			Total Barium (Ba)	2025/09/16	1.1		%	20
			Total Beryllium (Be)	2025/09/16	NC		%	20
			Total Bismuth (Bi)	2025/09/16	NC		%	20
			Total Boron (B)	2025/09/16	NC		%	20
			Total Cadmium (Cd)	2025/09/16	NC		%	20
			Total Calcium (Ca)	2025/09/16	0.98		%	20
			Total Chromium (Cr)	2025/09/16	9.7		%	20
			Total Cobalt (Co)	2025/09/16	NC		%	20
			Total Copper (Cu)	2025/09/16	NC		%	20
			Total Iron (Fe)	2025/09/16	NC		%	20
			Total Lead (Pb)	2025/09/16	NC		%	20
			Total Magnesium (Mg)	2025/09/16	2.8		%	20
			Total Manganese (Mn)	2025/09/16	1.3		%	20
			Total Molybdenum (Mo)	2025/09/16	NC		%	20
			Total Nickel (Ni)	2025/09/16	NC		%	20
			Total Phosphorus (P)	2025/09/16	NC		%	20
			Total Potassium (K)	2025/09/16	3.5		%	20
			Total Selenium (Se)	2025/09/16	NC		%	20
			Total Silver (Ag)	2025/09/16	NC		%	20
			Total Sodium (Na)	2025/09/16	1.7		%	20
			Total Strontium (Sr)	2025/09/16	3.7		%	20
			Total Thallium (Tl)	2025/09/16	NC		%	20
			Total Tin (Sn)	2025/09/16	NC		%	20
			Total Titanium (Ti)	2025/09/16	NC		%	20
			Total Uranium (U)	2025/09/16	4.2		%	20
			Total Vanadium (V)	2025/09/16	0.22		%	20
			Total Zinc (Zn)	2025/09/16	NC		%	20
A011002	MTZ	Matrix Spike	Total Aluminum (Al)	2025/09/16		94	%	80 - 120
			Total Antimony (Sb)	2025/09/16		99	%	80 - 120
			Total Arsenic (As)	2025/09/16		98	%	80 - 120
			Total Barium (Ba)	2025/09/16		97	%	80 - 120
			Total Beryllium (Be)	2025/09/16		95	%	80 - 120
			Total Bismuth (Bi)	2025/09/16		95	%	80 - 120
			Total Boron (B)	2025/09/16		96	%	80 - 120
			Total Cadmium (Cd)	2025/09/16		97	%	80 - 120
			Total Calcium (Ca)	2025/09/16		97	%	80 - 120
			Total Chromium (Cr)	2025/09/16		95	%	80 - 120
			Total Cobalt (Co)	2025/09/16		97	%	80 - 120
			Total Copper (Cu)	2025/09/16		97	%	80 - 120
			Total Iron (Fe)	2025/09/16		101	%	80 - 120
			Total Lead (Pb)	2025/09/16		95	%	80 - 120
			Total Magnesium (Mg)	2025/09/16		100	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A011002	MTZ	Spiked Blank	Total Manganese (Mn)	2025/09/16		96	%	80 - 120
			Total Molybdenum (Mo)	2025/09/16		103	%	80 - 120
			Total Nickel (Ni)	2025/09/16		96	%	80 - 120
			Total Phosphorus (P)	2025/09/16		100	%	80 - 120
			Total Potassium (K)	2025/09/16		95	%	80 - 120
			Total Selenium (Se)	2025/09/16		96	%	80 - 120
			Total Silver (Ag)	2025/09/16		96	%	80 - 120
			Total Sodium (Na)	2025/09/16		NC	%	80 - 120
			Total Strontium (Sr)	2025/09/16		97	%	80 - 120
			Total Thallium (Tl)	2025/09/16		97	%	80 - 120
			Total Tin (Sn)	2025/09/16		100	%	80 - 120
			Total Titanium (Ti)	2025/09/16		96	%	80 - 120
			Total Uranium (U)	2025/09/16		104	%	80 - 120
			Total Vanadium (V)	2025/09/16		99	%	80 - 120
			Total Zinc (Zn)	2025/09/16		96	%	80 - 120
			Total Aluminum (Al)	2025/09/16		92	%	80 - 120
			Total Antimony (Sb)	2025/09/16		97	%	80 - 120
			Total Arsenic (As)	2025/09/16		96	%	80 - 120
			Total Barium (Ba)	2025/09/16		94	%	80 - 120
			Total Beryllium (Be)	2025/09/16		92	%	80 - 120
			Total Bismuth (Bi)	2025/09/16		95	%	80 - 120
			Total Boron (B)	2025/09/16		94	%	80 - 120
			Total Cadmium (Cd)	2025/09/16		96	%	80 - 120
			Total Calcium (Ca)	2025/09/16		95	%	80 - 120
			Total Chromium (Cr)	2025/09/16		95	%	80 - 120
			Total Cobalt (Co)	2025/09/16		97	%	80 - 120
			Total Copper (Cu)	2025/09/16		97	%	80 - 120
			Total Iron (Fe)	2025/09/16		100	%	80 - 120
			Total Lead (Pb)	2025/09/16		94	%	80 - 120
			Total Magnesium (Mg)	2025/09/16		99	%	80 - 120
			Total Manganese (Mn)	2025/09/16		95	%	80 - 120
			Total Molybdenum (Mo)	2025/09/16		100	%	80 - 120
			Total Nickel (Ni)	2025/09/16		98	%	80 - 120
			Total Phosphorus (P)	2025/09/16		98	%	80 - 120
			Total Potassium (K)	2025/09/16		94	%	80 - 120
			Total Selenium (Se)	2025/09/16		95	%	80 - 120
			Total Silver (Ag)	2025/09/16		94	%	80 - 120
			Total Sodium (Na)	2025/09/16		96	%	80 - 120
			Total Strontium (Sr)	2025/09/16		96	%	80 - 120
			Total Thallium (Tl)	2025/09/16		96	%	80 - 120
			Total Tin (Sn)	2025/09/16		97	%	80 - 120
			Total Titanium (Ti)	2025/09/16		93	%	80 - 120
			Total Uranium (U)	2025/09/16		102	%	80 - 120
			Total Vanadium (V)	2025/09/16		97	%	80 - 120
			Total Zinc (Zn)	2025/09/16		98	%	80 - 120
A011002	MTZ	Method Blank	Total Aluminum (Al)	2025/09/16	ND, RDL=5.0		ug/L	
			Total Antimony (Sb)	2025/09/16	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2025/09/16	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2025/09/16	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2025/09/16	ND, RDL=0.10		ug/L	



**BUREAU
VERITAS**

Bureau Veritas Job #: C5B3347
Report Date: 2025/09/24

Central Newfoundland Waste Management Authority
Client Project #: SW-SAMPLES

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A011002	MTZ	RPD	Total Bismuth (Bi)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Boron (B)	2025/09/16	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2025/09/16	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2025/09/16	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2025/09/16	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2025/09/16	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2025/09/16	ND, RDL=0.50		ug/L	
			Total Iron (Fe)	2025/09/16	ND, RDL=50		ug/L	
			Total Lead (Pb)	2025/09/16	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2025/09/16	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2025/09/16	ND, RDL=100		ug/L	
			Total Potassium (K)	2025/09/16	ND, RDL=100		ug/L	
			Total Selenium (Se)	2025/09/16	ND, RDL=0.50		ug/L	
			Total Silver (Ag)	2025/09/16	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2025/09/16	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2025/09/16	ND, RDL=0.10		ug/L	
			Total Tin (Sn)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2025/09/16	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2025/09/16	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2025/09/16	ND, RDL=5.0		ug/L	
			Total Aluminum (Al)	2025/09/16	0.29		%	20
			Total Antimony (Sb)	2025/09/16	NC		%	20
			Total Arsenic (As)	2025/09/16	NC		%	20
			Total Barium (Ba)	2025/09/16	0.27		%	20
			Total Beryllium (Be)	2025/09/16	NC		%	20
			Total Bismuth (Bi)	2025/09/16	NC		%	20



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Boron (B)	2025/09/16	NC		%	20
			Total Cadmium (Cd)	2025/09/16	4.3		%	20
			Total Calcium (Ca)	2025/09/16	1.6		%	20
			Total Chromium (Cr)	2025/09/16	NC		%	20
			Total Cobalt (Co)	2025/09/16	NC		%	20
			Total Copper (Cu)	2025/09/16	1.4		%	20
			Total Iron (Fe)	2025/09/16	0.98		%	20
			Total Lead (Pb)	2025/09/16	NC		%	20
			Total Magnesium (Mg)	2025/09/16	1.2		%	20
			Total Manganese (Mn)	2025/09/16	0.14		%	20
			Total Molybdenum (Mo)	2025/09/16	NC		%	20
			Total Nickel (Ni)	2025/09/16	NC		%	20
			Total Phosphorus (P)	2025/09/16	NC		%	20
			Total Potassium (K)	2025/09/16	1.2		%	20
			Total Selenium (Se)	2025/09/16	NC		%	20
			Total Silver (Ag)	2025/09/16	NC		%	20
			Total Sodium (Na)	2025/09/16	1.5		%	20
			Total Strontium (Sr)	2025/09/16	1.6		%	20
			Total Thallium (Tl)	2025/09/16	NC		%	20
			Total Tin (Sn)	2025/09/16	NC		%	20
			Total Titanium (Ti)	2025/09/16	NC		%	20
			Total Uranium (U)	2025/09/16	0.0084		%	20
			Total Vanadium (V)	2025/09/16	NC		%	20
			Total Zinc (Zn)	2025/09/16	NC		%	20
A011970	EMT	Matrix Spike [AVBG15-02]	Dissolved Chloride (Cl-)	2025/09/18		NC	%	80 - 120
A011970	EMT	Spiked Blank	Dissolved Chloride (Cl-)	2025/09/18		92	%	80 - 120
A011970	EMT	Method Blank	Dissolved Chloride (Cl-)	2025/09/18	ND, RDL=1.0		mg/L	
A011970	EMT	RPD [AVBG15-02]	Dissolved Chloride (Cl-)	2025/09/18	0.23		%	20
A011982	DME	QC Standard	Total Suspended Solids	2025/09/18		99	%	80 - 120
A011982	DME	Method Blank	Total Suspended Solids	2025/09/18	ND, RDL=1.0		mg/L	
A011982	DME	RPD	Total Suspended Solids	2025/09/18	3.9		%	20
A012076	DME	QC Standard	Total Suspended Solids	2025/09/22		99	%	80 - 120
A012076	DME	Method Blank	Total Suspended Solids	2025/09/22	ND, RDL=1.0		mg/L	
A012076	DME	RPD	Total Suspended Solids	2025/09/22	15		%	20
A012165	JJH	Matrix Spike	Phenols-4AAP	2025/09/17		100	%	80 - 120
A012165	JJH	Spiked Blank	Phenols-4AAP	2025/09/17		101	%	80 - 120
A012165	JJH	Method Blank	Phenols-4AAP	2025/09/17	ND, RDL=0.0010		mg/L	
A012165	JJH	RPD	Phenols-4AAP	2025/09/17	NC		%	20
A012242	JJH	Matrix Spike [AVBG09-07]	Phenols-4AAP	2025/09/17		98	%	80 - 120
A012242	JJH	Spiked Blank	Phenols-4AAP	2025/09/17		100	%	80 - 120
A012242	JJH	Method Blank	Phenols-4AAP	2025/09/17	ND, RDL=0.0010		mg/L	
A012242	JJH	RPD [AVBG09-07]	Phenols-4AAP	2025/09/17	4.1		%	20
A012257	SRT	Matrix Spike	Sulphide	2025/09/17		98	%	80 - 120
A012257	SRT	Spiked Blank	Sulphide	2025/09/17		94	%	80 - 120
A012257	SRT	Method Blank	Sulphide	2025/09/17	ND, RDL=0.020		mg/L	
A012257	SRT	RPD	Sulphide	2025/09/17	0		%	20
A012262	SRT	Matrix Spike	Sulphide	2025/09/17		101	%	80 - 120



**BUREAU
VERITAS**

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A012262	SRT	Spiked Blank	Sulphide	2025/09/17		96	%	80 - 120
A012262	SRT	Method Blank	Sulphide	2025/09/17	ND, RDL=0.020		mg/L	
A012262	SRT	RPD	Sulphide	2025/09/17	NC		%	20
A012914	EMT	Matrix Spike [AVBG15-02]	Dissolved Sulphate (SO4)	2025/09/18		104	%	80 - 120
A012914	EMT	Spiked Blank	Dissolved Sulphate (SO4)	2025/09/18		97	%	80 - 120
A012914	EMT	Method Blank	Dissolved Sulphate (SO4)	2025/09/18	ND, RDL=2.0		mg/L	
A012914	EMT	RPD [AVBG15-02]	Dissolved Sulphate (SO4)	2025/09/18	0.65		%	20
A012915	EMT	Matrix Spike [AVBG15-02]	Reactive Silica (SiO2)	2025/09/18		82	%	80 - 120
A012915	EMT	Spiked Blank	Reactive Silica (SiO2)	2025/09/18		91	%	80 - 120
A012915	EMT	Method Blank	Reactive Silica (SiO2)	2025/09/18	ND, RDL=0.50		mg/L	
A012915	EMT	RPD [AVBG15-02]	Reactive Silica (SiO2)	2025/09/18	0.31		%	20
A012916	MCN	Spiked Blank	Colour	2025/09/18		114	%	80 - 120
A012916	MCN	Method Blank	Colour	2025/09/18	ND, RDL=5.0		TCU	
A012916	MCN	RPD [AVBG15-02]	Colour	2025/09/18	15		%	20
A012917	MCN	Matrix Spike [AVBG15-02]	Orthophosphate (P)	2025/09/18		88	%	80 - 120
A012917	MCN	Spiked Blank	Orthophosphate (P)	2025/09/18		99	%	80 - 120
A012917	MCN	Method Blank	Orthophosphate (P)	2025/09/18	ND, RDL=0.010		mg/L	
A012917	MCN	RPD [AVBG15-02]	Orthophosphate (P)	2025/09/18	NC		%	20
A012918	EMT	Matrix Spike [AVBG15-02]	Nitrate + Nitrite (N)	2025/09/18		NC	%	80 - 120
A012918	EMT	Spiked Blank	Nitrate + Nitrite (N)	2025/09/18		89	%	80 - 120
A012918	EMT	Method Blank	Nitrate + Nitrite (N)	2025/09/18	ND, RDL=0.050		mg/L	
A012918	EMT	RPD [AVBG15-02]	Nitrate + Nitrite (N)	2025/09/18	3.4		%	20
A012919	EMT	Matrix Spike [AVBG15-02]	Nitrite (N)	2025/09/18		NC	%	80 - 120
A012919	EMT	Spiked Blank	Nitrite (N)	2025/09/18		97	%	80 - 120
A012919	EMT	Method Blank	Nitrite (N)	2025/09/18	ND, RDL=0.010		mg/L	
A012919	EMT	RPD [AVBG15-02]	Nitrite (N)	2025/09/18	2.1		%	20
A013181	S6S	Matrix Spike [AVBG13-04]	Total Organic Carbon (C)	2025/09/18		100	%	85 - 115
A013181	S6S	Spiked Blank	Total Organic Carbon (C)	2025/09/18		99	%	80 - 120
A013181	S6S	Method Blank	Total Organic Carbon (C)	2025/09/18	ND, RDL=0.50		mg/L	
A013181	S6S	RPD [AVBG13-04]	Total Organic Carbon (C)	2025/09/18	0.042		%	15
A014013	EMT	Matrix Spike	Dissolved Chloride (Cl-)	2025/09/19		95	%	80 - 120
A014013	EMT	Spiked Blank	Dissolved Chloride (Cl-)	2025/09/19		95	%	80 - 120
A014013	EMT	Method Blank	Dissolved Chloride (Cl-)	2025/09/19	ND, RDL=1.0		mg/L	
A014013	EMT	RPD	Dissolved Chloride (Cl-)	2025/09/19	NC		%	20
A014014	EMT	Matrix Spike	Dissolved Sulphate (SO4)	2025/09/19		97	%	80 - 120
A014014	EMT	Spiked Blank	Dissolved Sulphate (SO4)	2025/09/19		100	%	80 - 120
A014014	EMT	Method Blank	Dissolved Sulphate (SO4)	2025/09/19	ND, RDL=2.0		mg/L	
A014014	EMT	RPD	Dissolved Sulphate (SO4)	2025/09/19	NC		%	20
A014015	EMT	Matrix Spike	Reactive Silica (SiO2)	2025/09/19		92	%	80 - 120
A014015	EMT	Spiked Blank	Reactive Silica (SiO2)	2025/09/19		93	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A014015	EMT	Method Blank	Reactive Silica (SiO ₂)	2025/09/19	ND, RDL=0.50		mg/L	
A014015	EMT	RPD	Reactive Silica (SiO ₂)	2025/09/19	NC		%	20
A014016	MCN	Spiked Blank	Colour	2025/09/19		102	%	80 - 120
A014016	MCN	Method Blank	Colour	2025/09/19	ND, RDL=5.0		TCU	
A014016	MCN	RPD	Colour	2025/09/19	NC		%	20
A014017	EMT	Matrix Spike	Orthophosphate (P)	2025/09/19		94	%	80 - 120
A014017	EMT	Spiked Blank	Orthophosphate (P)	2025/09/19		98	%	80 - 120
A014017	EMT	Method Blank	Orthophosphate (P)	2025/09/19	ND, RDL=0.010		mg/L	
A014017	EMT	RPD	Orthophosphate (P)	2025/09/19	NC		%	20
A014018	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/09/19		94	%	80 - 120
A014018	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/09/19		101	%	80 - 120
A014018	MCN	Method Blank	Nitrate + Nitrite (N)	2025/09/19	ND, RDL=0.050		mg/L	
A014018	MCN	RPD	Nitrate + Nitrite (N)	2025/09/19	NC		%	20
A014019	EMT	Matrix Spike	Nitrite (N)	2025/09/19		99	%	80 - 120
A014019	EMT	Spiked Blank	Nitrite (N)	2025/09/19		103	%	80 - 120
A014019	EMT	Method Blank	Nitrite (N)	2025/09/19	ND, RDL=0.010		mg/L	
A014019	EMT	RPD	Nitrite (N)	2025/09/19	NC		%	20
A014024	EMT	Matrix Spike	Dissolved Chloride (Cl ⁻)	2025/09/19		NC	%	80 - 120
A014024	EMT	Spiked Blank	Dissolved Chloride (Cl ⁻)	2025/09/19		95	%	80 - 120
A014024	EMT	Method Blank	Dissolved Chloride (Cl ⁻)	2025/09/19	ND, RDL=1.0		mg/L	
A014024	EMT	RPD	Dissolved Chloride (Cl ⁻)	2025/09/19	0.089		%	20
A014025	EMT	Matrix Spike	Dissolved Sulphate (SO ₄)	2025/09/19		NC	%	80 - 120
A014025	EMT	Spiked Blank	Dissolved Sulphate (SO ₄)	2025/09/19		101	%	80 - 120
A014025	EMT	Method Blank	Dissolved Sulphate (SO ₄)	2025/09/19	ND, RDL=2.0		mg/L	
A014025	EMT	RPD	Dissolved Sulphate (SO ₄)	2025/09/19	0.45		%	20
A014026	EMT	Matrix Spike	Reactive Silica (SiO ₂)	2025/09/19		75 (1)	%	80 - 120
A014026	EMT	Spiked Blank	Reactive Silica (SiO ₂)	2025/09/19		94	%	80 - 120
A014026	EMT	Method Blank	Reactive Silica (SiO ₂)	2025/09/19	ND, RDL=0.50		mg/L	
A014026	EMT	RPD	Reactive Silica (SiO ₂)	2025/09/19	0.28		%	20
A014027	MCN	Spiked Blank	Colour	2025/09/19		103	%	80 - 120
A014027	MCN	Method Blank	Colour	2025/09/19	ND, RDL=5.0		TCU	
A014027	MCN	RPD	Colour	2025/09/19	15		%	20
A014028	EMT	Matrix Spike	Orthophosphate (P)	2025/09/19		131 (2)	%	80 - 120
A014028	EMT	Spiked Blank	Orthophosphate (P)	2025/09/19		93	%	80 - 120
A014028	EMT	Method Blank	Orthophosphate (P)	2025/09/19	ND, RDL=0.010		mg/L	
A014028	EMT	RPD	Orthophosphate (P)	2025/09/19	NC		%	20
A014029	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/09/19		NC	%	80 - 120
A014029	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/09/19		103	%	80 - 120
A014029	MCN	Method Blank	Nitrate + Nitrite (N)	2025/09/19	ND, RDL=0.050		mg/L	
A014029	MCN	RPD	Nitrate + Nitrite (N)	2025/09/19	5.8		%	20
A014030	EMT	Matrix Spike	Nitrite (N)	2025/09/19		103	%	80 - 120
A014030	EMT	Spiked Blank	Nitrite (N)	2025/09/19		105	%	80 - 120
A014030	EMT	Method Blank	Nitrite (N)	2025/09/19	ND, RDL=0.010		mg/L	



**BUREAU
VERITAS**

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A014030	EMT	RPD	Nitrite (N)	2025/09/19	8.8		%	20
A014176	J1A	Spiked Blank	pH	2025/09/19		100	%	97 - 103
A014176	J1A	RPD	pH	2025/09/19	0.097		%	N/A
A014177	J1A	Spiked Blank	Conductivity	2025/09/19		98	%	80 - 120
A014177	J1A	Method Blank	Conductivity	2025/09/19	ND, RDL=1.0		uS/cm	
A014177	J1A	RPD	Conductivity	2025/09/19	0.39		%	10
A014179	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/09/19		92	%	80 - 120
A014179	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/09/19	ND, RDL=2.0		mg/L	
A014179	J1A	RPD	Total Alkalinity (Total as CaCO3)	2025/09/19	14		%	20
A014181	J1A	Spiked Blank	pH	2025/09/19		100	%	97 - 103
A014181	J1A	RPD	pH	2025/09/20	0.89		%	N/A
A014184	J1A	Spiked Blank	Conductivity	2025/09/19		97	%	80 - 120
A014184	J1A	Method Blank	Conductivity	2025/09/21	ND, RDL=1.0		uS/cm	
A014184	J1A	RPD	Conductivity	2025/09/20	0		%	10
A014186	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/09/19		93	%	80 - 120
A014186	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/09/20	ND, RDL=2.0		mg/L	
A014186	J1A	RPD	Total Alkalinity (Total as CaCO3)	2025/09/20	1.7		%	20
A014373	MCN	Matrix Spike	Dissolved Chloride (Cl-)	2025/09/22		107	%	80 - 120
A014373	MCN	Spiked Blank	Dissolved Chloride (Cl-)	2025/09/22		100	%	80 - 120
A014373	MCN	Method Blank	Dissolved Chloride (Cl-)	2025/09/22	ND, RDL=1.0		mg/L	
A014373	MCN	RPD	Dissolved Chloride (Cl-)	2025/09/22	NC		%	20
A014375	MCN	Matrix Spike	Dissolved Sulphate (SO4)	2025/09/22		104	%	80 - 120
A014375	MCN	Spiked Blank	Dissolved Sulphate (SO4)	2025/09/22		107	%	80 - 120
A014375	MCN	Method Blank	Dissolved Sulphate (SO4)	2025/09/22	ND, RDL=2.0		mg/L	
A014375	MCN	RPD	Dissolved Sulphate (SO4)	2025/09/22	NC		%	20
A014376	MCN	Matrix Spike	Reactive Silica (SiO2)	2025/09/22		94	%	80 - 120
A014376	MCN	Spiked Blank	Reactive Silica (SiO2)	2025/09/22		100	%	80 - 120
A014376	MCN	Method Blank	Reactive Silica (SiO2)	2025/09/22	ND, RDL=0.50		mg/L	
A014376	MCN	RPD	Reactive Silica (SiO2)	2025/09/22	NC		%	20
A014377	M2C	Spiked Blank	Colour	2025/09/23		112	%	80 - 120
A014377	M2C	Method Blank	Colour	2025/09/23	ND, RDL=5.0		TCU	
A014377	M2C	RPD	Colour	2025/09/23	NC		%	20
A014379	MCN	Matrix Spike	Orthophosphate (P)	2025/09/22		95	%	80 - 120
A014379	MCN	Spiked Blank	Orthophosphate (P)	2025/09/22		95	%	80 - 120
A014379	MCN	Method Blank	Orthophosphate (P)	2025/09/22	ND, RDL=0.010		mg/L	
A014379	MCN	RPD	Orthophosphate (P)	2025/09/22	NC		%	20
A014380	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/09/22		104	%	80 - 120
A014380	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/09/22		100	%	80 - 120
A014380	MCN	Method Blank	Nitrate + Nitrite (N)	2025/09/22	ND, RDL=0.050		mg/L	
A014380	MCN	RPD	Nitrate + Nitrite (N)	2025/09/22	NC		%	20
A014382	MCN	Matrix Spike	Nitrite (N)	2025/09/22		102	%	80 - 120
A014382	MCN	Spiked Blank	Nitrite (N)	2025/09/22		101	%	80 - 120
A014382	MCN	Method Blank	Nitrite (N)	2025/09/22	ND, RDL=0.010		mg/L	
A014382	MCN	RPD	Nitrite (N)	2025/09/22	NC		%	20



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A014548	JEP	Matrix Spike	Total Mercury (Hg)	2025/09/20		98	%	80 - 120
A014548	JEP	Spiked Blank	Total Mercury (Hg)	2025/09/20		99	%	80 - 120
A014548	JEP	Method Blank	Total Mercury (Hg)	2025/09/20	ND, RDL=0.013		ug/L	
A014548	JEP	RPD	Total Mercury (Hg)	2025/09/20	NC		%	20
A014554	JEP	Matrix Spike [AVBG15-06]	Total Mercury (Hg)	2025/09/20		94	%	80 - 120
A014554	JEP	Spiked Blank	Total Mercury (Hg)	2025/09/20		95	%	80 - 120
A014554	JEP	Method Blank	Total Mercury (Hg)	2025/09/20	ND, RDL=0.013		ug/L	
A014554	JEP	RPD [AVBG14-06]	Total Mercury (Hg)	2025/09/20	NC		%	20
A014586	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/09/20		99	%	85 - 115
A014586	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/09/20		98	%	80 - 120
A014586	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/09/20	ND, RDL=0.50		mg/L	
A014586	S6S	RPD	Dissolved Organic Carbon (C)	2025/09/20	0.92		%	15
A014622	KMC	QC Standard	Turbidity	2025/09/20		97	%	80 - 120
A014622	KMC	Spiked Blank	Turbidity	2025/09/20		99	%	80 - 120
A014622	KMC	Method Blank	Turbidity	2025/09/20	ND, RDL=0.10		NTU	
A014622	KMC	RPD	Turbidity	2025/09/20	16		%	20
A015253	KMC	QC Standard	Turbidity	2025/09/21		104	%	80 - 120
A015253	KMC	Spiked Blank	Turbidity	2025/09/21		98	%	80 - 120
A015253	KMC	Method Blank	Turbidity	2025/09/21	ND, RDL=0.10		NTU	
A015253	KMC	RPD	Turbidity	2025/09/21	3.8		%	20
A015255	KMC	QC Standard	Turbidity	2025/09/21		100	%	80 - 120
A015255	KMC	Spiked Blank	Turbidity	2025/09/21		97	%	80 - 120
A015255	KMC	Method Blank	Turbidity	2025/09/21	ND, RDL=0.10		NTU	
A015255	KMC	RPD	Turbidity	2025/09/21	15		%	20
A015258	KMC	QC Standard	Turbidity	2025/09/21		98	%	80 - 120
A015258	KMC	Spiked Blank	Turbidity	2025/09/21		99	%	80 - 120
A015258	KMC	Method Blank	Turbidity	2025/09/21	ND, RDL=0.10		NTU	
A015258	KMC	RPD	Turbidity	2025/09/21	14		%	20
A015426	J1A	Spiked Blank	pH	2025/09/22		100	%	97 - 103
A015426	J1A	RPD [AVBG09-02]	pH	2025/09/22	1.1		%	N/A
A015428	J1A	Spiked Blank	Conductivity	2025/09/22		98	%	80 - 120
A015428	J1A	Method Blank	Conductivity	2025/09/22	ND, RDL=1.0		uS/cm	
A015428	J1A	RPD [AVBG09-02]	Conductivity	2025/09/22	1.0		%	10
A015430	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/09/22		92	%	80 - 120
A015430	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/09/22	ND, RDL=2.0		mg/L	
A015430	J1A	RPD [AVBG09-02]	Total Alkalinity (Total as CaCO3)	2025/09/22	0.81		%	20
A015567	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/09/22		96	%	85 - 115
A015567	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/09/22		100	%	80 - 120
A015567	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/09/22	ND, RDL=0.50		mg/L	
A015567	S6S	RPD	Dissolved Organic Carbon (C)	2025/09/22	1.7		%	15
A015568	J1A	Spiked Blank	pH	2025/09/22		100	%	97 - 103
A015568	J1A	RPD [AVBG12-02]	pH	2025/09/22	0.21		%	N/A
A015570	J1A	Spiked Blank	Conductivity	2025/09/22		100	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A015570	J1A	Method Blank	Conductivity	2025/09/22	ND, RDL=1.0		uS/cm	
A015570	J1A	RPD [AVBG12-02]	Conductivity	2025/09/22	0.75		%	10
A015571	J1A	Spiked Blank	Total Alkalinity (Total as CaCO ₃)	2025/09/22		96	%	80 - 120
A015571	J1A	Method Blank	Total Alkalinity (Total as CaCO ₃)	2025/09/22	ND, RDL=2.0		mg/L	
A015571	J1A	RPD [AVBG12-02]	Total Alkalinity (Total as CaCO ₃)	2025/09/22	1.0		%	20
A015576	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/09/23		96	%	85 - 115
A015576	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/09/23		97	%	80 - 120
A015576	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/09/23	ND, RDL=0.50		mg/L	
A015576	S6S	RPD	Dissolved Organic Carbon (C)	2025/09/23	1.2		%	15
A015641	J1A	QC Standard	Turbidity	2025/09/22		96	%	80 - 120
A015641	J1A	Spiked Blank	Turbidity	2025/09/22		98	%	80 - 120
A015641	J1A	Method Blank	Turbidity	2025/09/22	ND, RDL=0.10		NTU	
A015641	J1A	RPD	Turbidity	2025/09/22	NC		%	20
A015735	MCN	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/09/23		92	%	80 - 120
A015735	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/09/23		100	%	80 - 120
A015735	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/09/23	ND, RDL=0.050		mg/L	
A015735	MCN	RPD	Nitrogen (Ammonia Nitrogen)	2025/09/23	18		%	20
A015738	MCN	Matrix Spike [AVBG14-08]	Nitrogen (Ammonia Nitrogen)	2025/09/23		96	%	80 - 120
A015738	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/09/23		106	%	80 - 120
A015738	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/09/23	ND, RDL=0.050		mg/L	
A015738	MCN	RPD [AVBG14-08]	Nitrogen (Ammonia Nitrogen)	2025/09/23	6.1		%	20
A015791	S6S	Matrix Spike	Total Organic Carbon (C)	2025/09/23		96	%	85 - 115
A015791	S6S	Spiked Blank	Total Organic Carbon (C)	2025/09/23		101	%	80 - 120
A015791	S6S	Method Blank	Total Organic Carbon (C)	2025/09/23	ND, RDL=0.50		mg/L	
A015791	S6S	RPD	Total Organic Carbon (C)	2025/09/23	6.8		%	15
A016390	S6S	Matrix Spike	Total Organic Carbon (C)	2025/09/23		100	%	85 - 115
A016390	S6S	Spiked Blank	Total Organic Carbon (C)	2025/09/23		100	%	80 - 120
A016390	S6S	Method Blank	Total Organic Carbon (C)	2025/09/23	ND, RDL=0.50		mg/L	
A016390	S6S	RPD	Total Organic Carbon (C)	2025/09/23	0.53		%	15

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Poor spike recovery due to probable sample matrix interference.

(2) Elevated spike recovery due to probable sample matrix interference.



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Colleen Acker, B.Sc, Scientific Service Specialist

Cristina Carriere, Senior Scientific Specialist

Ernie Publicover, Scientific Specialist

Bureau Veritas Certified by Ernie Publicover, Scientific Specialist

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Your Project #: SW SAMPLES
Site#: 00012
Your C.O.C. #: C#1066479-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/12/02
Report #: R8661665
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E7715

Received: 2025/11/21, 09:30

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	10	N/A	2025/11/26	N/A	SM 24 4500-CO2 D
Alkalinity	9	N/A	2025/11/25	ATL SOP 00142	SM 24 2320 B
Alkalinity	1	N/A	2025/11/26	ATL SOP 00142	SM 24 2320 B
Chloride	10	N/A	2025/11/27	ATL SOP 00014	SM 24 4500-Cl- E m
Colour	10	N/A	2025/11/28	ATL SOP 00020	SM 24 2120C m
Organic carbon - Diss (DOC)-Lab Filtered (2)	10	N/A	2025/11/26	ATL SOP 00203	SM 24 5310B m
Conductance - water	9	N/A	2025/11/25	ATL SOP 00004	SM 24 2510B m
Conductance - water	1	N/A	2025/11/26	ATL SOP 00004	SM 24 2510B m
Hardness (calculated as CaCO3)	5	N/A	2025/11/26	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	5	N/A	2025/11/27	ATL SOP 00048	Auto Calc
Mercury - Total (CVAA,LL)	3	2025/11/26	2025/11/26	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	7	2025/11/27	2025/11/27	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS	5	2025/11/25	2025/11/25	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	5	2025/11/25	2025/11/26	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	10	N/A	2025/11/29	N/A	Auto Calc.
Anion and Cation Sum	10	N/A	2025/11/29	N/A	Auto Calc.
Nitrogen Ammonia - water	10	N/A	2025/11/29	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	9	N/A	2025/11/28	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/11/30	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	10	N/A	2025/11/27	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	8	N/A	2025/11/28	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	2	N/A	2025/12/01	ATL SOP 00018	ASTM D3867-16
Phenols (4AAP) (1)	10	N/A	2025/12/01	CAM SOP-00444	OMOE E3179 m
pH (3)	9	N/A	2025/11/25	ATL SOP 00003	SM 24 4500-H+ B m
pH (3)	1	N/A	2025/11/26	ATL SOP 00003	SM 24 4500-H+ B m
Phosphorus - ortho	10	N/A	2025/11/28	ATL SOP 00021	SM 24 4500-P E m
Sat. pH and Langelier Index (@ 20C)	10	N/A	2025/11/29	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	10	N/A	2025/11/29	ATL SOP 00049	Auto Calc.
Reactive Silica	10	N/A	2025/11/27	ATL SOP 00022	EPA 366.0 m
Sulphate	10	N/A	2025/11/27	ATL SOP 00023	ASTM D516-16 m
Sulphide (1)	10	N/A	2025/11/26	CAM SOP-00455	SM 24 4500-S G m
Total Dissolved Solids (TDS calc)	10	N/A	2025/11/29	N/A	Auto Calc.



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Central Newfoundland Waste Management Authority
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Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/12/02
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E7715

Received: 2025/11/21, 09:30

Sample Matrix: Water
Samples Received: 10

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Organic carbon - Total (TOC) (2)	10	N/A	2025/11/26	ATL SOP 00203	SM 24 5310B m
Total Suspended Solids	5	2025/11/25	2025/11/26	ATL SOP 00007	SM 24 2540D m
Total Suspended Solids	5	2025/11/25	2025/11/27	ATL SOP 00007	SM 24 2540D m
Turbidity	10	N/A	2025/11/26	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

(3) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



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Your C.O.C. #: C#1066479-01-01

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Report Date: 2025/12/02
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E7715

Received: 2025/11/21, 09:30

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Augustina Isesele, Customer Solutions Representative
Email: Augustina.isesele@bureauveritas.com
Phone# (902) 420-0203

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ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS04			AXOS05			AXOS06		
Sampling Date		2025/11/19 07:50			2025/11/19 08:00			2025/11/19 08:15		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00291			00292			00293		
	UNITS	847-SW-1	RDL	QC Batch	SW-1	RDL	QC Batch	SW-2	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	1.28	N/A	A058918	0.980	N/A	A058918	2.72	N/A	A058918
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	16	1.0	A058913	35	1.0	A058913	65	1.0	A058913
Calculated TDS	mg/L	83	1.0	A058928	56	1.0	A058928	160	1.0	A058928
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	A058913	ND	1.0	A058913	ND	1.0	A058913
Cation Sum	me/L	1.59	N/A	A058918	1.10	N/A	A058918	2.97	N/A	A058918
Hardness (CaCO ₃)	mg/L	26	1.0	A058916	44	1.0	A058916	79	1.0	A058916
Ion Balance (% Difference)	%	10.8	N/A	A058917	5.77	N/A	A058917	4.39	N/A	A058917
Langelier Index (@ 20C)	N/A	-2.21		A058924	-1.23		A058924	-0.557		A058924
Langelier Index (@ 4C)	N/A	-2.46		A058925	-1.48		A058925	-0.807		A058925
Nitrate (N)	mg/L	0.13	0.050	A058919	0.12	0.050	A058919	2.4	0.25	A058919
Saturation pH (@ 20C)	N/A	9.37		A058924	8.81		A058924	8.37		A058924
Saturation pH (@ 4C)	N/A	9.62		A058925	9.07		A058925	8.62		A058925

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	16	2.0	A061103	35	2.0	A061121	66	2.0	A061121
Dissolved Chloride (Cl ⁻)	mg/L	34	1.0	A062423	7.6	1.0	A062423	39	1.0	A062423
Colour	TCU	150	25	A062428	51	10	A062428	49	5.0	A062428
Nitrate + Nitrite (N)	mg/L	0.13	0.050	A062431	0.13	0.050	A062431	2.4	0.25	A062431
Nitrite (N)	mg/L	ND	0.010	A062433	0.012	0.010	A062433	ND	0.010	A062433
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	A063466	ND	0.050	A063466	ND	0.050	A063466
Total Organic Carbon (C)	mg/L	17	0.50	A061882	9.4	0.50	A061882	8.8	0.50	A061882
Orthophosphate (P)	mg/L	ND	0.010	A062430	ND	0.010	A062430	ND	0.010	A062430
pH	pH	7.16		A061099	7.59		A061116	7.82		A061116
Reactive Silica (SiO ₂)	mg/L	5.2	0.50	A062427	4.9	0.50	A062427	5.8	0.50	A062427
Dissolved Sulphate (SO ₄)	mg/L	ND	2.0	A062426	2.4	2.0	A062426	5.7	2.0	A062426
Turbidity	NTU	1.0	0.10	A061379	0.62	0.10	A061379	1.1	0.10	A061379
Conductivity	uS/cm	170	1.0	A061102	110	1.0	A061119	310	1.0	A061119

Metals

Total Aluminum (Al)	ug/L	190	5.0	A060843	66	5.0	A060839	27	5.0	A060843
Total Antimony (Sb)	ug/L	ND	1.0	A060843	ND	1.0	A060839	ND	1.0	A060843
Total Arsenic (As)	ug/L	ND	1.0	A060843	ND	1.0	A060839	ND	1.0	A060843
Total Barium (Ba)	ug/L	11	1.0	A060843	5.8	1.0	A060839	14	1.0	A060843
Total Beryllium (Be)	ug/L	ND	0.10	A060843	ND	0.10	A060839	ND	0.10	A060843
Total Bismuth (Bi)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS04			AXOS05			AXOS06		
Sampling Date		2025/11/19 07:50			2025/11/19 08:00			2025/11/19 08:15		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00291			00292			00293		
	UNITS	847-SW-1	RDL	QC Batch	SW-1	RDL	QC Batch	SW-2	RDL	QC Batch
Total Boron (B)	ug/L	ND	50	A060843	ND	50	A060839	ND	50	A060843
Total Cadmium (Cd)	ug/L	ND	0.010	A060843	0.012	0.010	A060839	ND	0.010	A060843
Total Calcium (Ca)	ug/L	5800	100	A060843	8900	100	A060839	15000	100	A060843
Total Chromium (Cr)	ug/L	ND	1.0	A060843	ND	1.0	A060839	ND	1.0	A060843
Total Cobalt (Co)	ug/L	ND	0.40	A060843	ND	0.40	A060839	ND	0.40	A060843
Total Copper (Cu)	ug/L	0.62	0.50	A060843	0.87	0.50	A060839	0.59	0.50	A060843
Total Iron (Fe)	ug/L	300	50	A060843	52	50	A060839	150	50	A060843
Total Lead (Pb)	ug/L	ND	0.50	A060843	ND	0.50	A060839	ND	0.50	A060843
Total Magnesium (Mg)	ug/L	2700	100	A060843	5200	100	A060839	9900	100	A060843
Total Manganese (Mn)	ug/L	12	2.0	A060843	3.7	2.0	A060839	8.5	2.0	A060843
Total Molybdenum (Mo)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Nickel (Ni)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Phosphorus (P)	ug/L	ND	100	A060843	ND	100	A060839	ND	100	A060843
Total Potassium (K)	ug/L	410	100	A060843	660	100	A060839	4700	100	A060843
Total Selenium (Se)	ug/L	ND	0.50	A060843	ND	0.50	A060839	ND	0.50	A060843
Total Silver (Ag)	ug/L	ND	0.10	A060843	ND	0.10	A060839	ND	0.10	A060843
Total Sodium (Na)	ug/L	24000	100	A060843	4900	100	A060839	29000	100	A060843
Total Strontium (Sr)	ug/L	21	2.0	A060843	48	2.0	A060839	83	2.0	A060843
Total Thallium (Tl)	ug/L	ND	0.10	A060843	ND	0.10	A060839	ND	0.10	A060843
Total Tin (Sn)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Titanium (Ti)	ug/L	2.8	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Uranium (U)	ug/L	ND	0.10	A060843	ND	0.10	A060839	ND	0.10	A060843
Total Vanadium (V)	ug/L	ND	2.0	A060843	ND	2.0	A060839	ND	2.0	A060843
Total Zinc (Zn)	ug/L	ND	5.0	A060843	7.5	5.0	A060839	ND	5.0	A060843

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



**BUREAU
VERITAS**

Bureau Veritas Job #: C5E7715

Report Date: 2025/12/02

Central Newfoundland Waste Management Authority

Client Project #: SW SAMPLES

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS07			AXOS08			AXOS09		
Sampling Date		2025/11/19 08:25			2025/11/19 08:35			2025/11/19 08:50		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch

Calculated Parameters

Anion Sum	me/L	9.20	N/A	A058918	0.500	N/A	A058918	65.6	N/A	A058918
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	240	1.0	A058913	11	1.0	A058913	2200	1.0	A058913
Calculated TDS	mg/L	540	1.0	A058928	34	1.0	A058928	3500	1.0	A058928
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	1.6	1.0	A058913	ND	1.0	A058913	32	1.0	A058913
Cation Sum	me/L	9.85	N/A	A058918	0.670	N/A	A058918	61.8	N/A	A058918
Hardness (CaCO ₃)	mg/L	410	1.0	A058916	18	1.0	A058916	520	1.0	A058916
Ion Balance (% Difference)	%	3.41	N/A	A058917	14.5	N/A	A058917	2.97	N/A	A058917
Langelier Index (@ 20C)	N/A	0.782		A058924	-2.51		A058924	1.76		A058924
Langelier Index (@ 4C)	N/A	0.534		A058925	-2.77		A058925	1.52		A058925
Nitrate (N)	mg/L	4.1	0.25	A058919	0.19	0.050	A058919	48	2.5	A058919
Saturation pH (@ 20C)	N/A	7.06		A058924	9.61		A058924	6.43		A058924
Saturation pH (@ 4C)	N/A	7.30		A058925	9.86		A058925	6.67		A058925

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	240	2.0	A061113	11	2.0	A061121	2200	20	A061121
Dissolved Chloride (Cl ⁻)	mg/L	43	1.0	A062423	9.3	1.0	A062423	630	10	A062423
Colour	TCU	79	25	A062428	79	25	A062428	670	150	A062428
Nitrate + Nitrite (N)	mg/L	4.2	0.25	A062431	0.21	0.050	A062431	48	2.5	A062431
Nitrite (N)	mg/L	0.074	0.010	A062433	0.012	0.010	A062433	0.26	0.010	A062433
Nitrogen (Ammonia Nitrogen)	mg/L	2.6	0.25	A063466	ND	0.050	A063470	250	25	A063470
Total Organic Carbon (C)	mg/L	25 (1)	5.0	A061886	11	0.50	A061882	120 (1)	50	A061886
Orthophosphate (P)	mg/L	ND	0.010	A062430	ND	0.010	A062430	0.28	0.010	A062430
pH	pH	7.84		A061104	7.09		A061116	8.19		A061116
Reactive Silica (SiO ₂)	mg/L	9.5	0.50	A062427	4.0	0.50	A062427	15	0.50	A062427
Dissolved Sulphate (SO ₄)	mg/L	130	10	A062426	ND	2.0	A062426	ND	2.0	A062426
Turbidity	NTU	9.3	0.10	A061390	0.80	0.10	A061390	53	0.10	A061379
Conductivity	uS/cm	930	1.0	A061112	67	1.0	A061119	6500	1.0	A061119

Metals

Total Aluminum (Al)	ug/L	100	5.0	A060839	110	5.0	A060839	93	5.0	A060839
Total Antimony (Sb)	ug/L	1.1	1.0	A060839	ND	1.0	A060839	2.8	1.0	A060839
Total Arsenic (As)	ug/L	8.3	1.0	A060839	ND	1.0	A060839	32	1.0	A060839
Total Barium (Ba)	ug/L	400	1.0	A060839	4.9	1.0	A060839	590	1.0	A060839
Total Beryllium (Be)	ug/L	ND	0.10	A060839	ND	0.10	A060839	ND	0.10	A060839

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to turbidity.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS07			AXOS08			AXOS09		
Sampling Date		2025/11/19 08:25			2025/11/19 08:35			2025/11/19 08:50		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00294			00295			00296		
	UNITS	SW-3	RDL	QC Batch	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch
Total Bismuth (Bi)	ug/L	ND	2.0	A060839	ND	2.0	A060839	ND	2.0	A060839
Total Boron (B)	ug/L	200	50	A060839	ND	50	A060839	2700	50	A060839
Total Cadmium (Cd)	ug/L	0.026	0.010	A060839	ND	0.010	A060839	ND (1)	0.10	A060839
Total Calcium (Ca)	ug/L	110000	100	A060839	4400	100	A060839	91000	100	A060839
Total Chromium (Cr)	ug/L	1.3	1.0	A060839	ND	1.0	A060839	54	1.0	A060839
Total Cobalt (Co)	ug/L	6.3	0.40	A060839	ND	0.40	A060839	8.9	0.40	A060839
Total Copper (Cu)	ug/L	13	0.50	A060839	0.50	0.50	A060839	6.2	0.50	A060839
Total Iron (Fe)	ug/L	2400	50	A060839	190	50	A060839	5200	50	A060839
Total Lead (Pb)	ug/L	ND	0.50	A060839	ND	0.50	A060839	ND	0.50	A060839
Total Magnesium (Mg)	ug/L	34000	100	A060839	1600	100	A060839	71000	100	A060839
Total Manganese (Mn)	ug/L	520	2.0	A060839	40	2.0	A060839	770	2.0	A060839
Total Molybdenum (Mo)	ug/L	ND	2.0	A060839	ND	2.0	A060839	ND	2.0	A060839
Total Nickel (Ni)	ug/L	14	2.0	A060839	ND	2.0	A060839	63	2.0	A060839
Total Phosphorus (P)	ug/L	ND	100	A060839	ND	100	A060839	1300	100	A060839
Total Potassium (K)	ug/L	6900	100	A060839	550	100	A060839	250000	1000	A060839
Total Selenium (Se)	ug/L	ND	0.50	A060839	ND	0.50	A060839	0.51	0.50	A060839
Total Silver (Ag)	ug/L	ND	0.10	A060839	ND	0.10	A060839	ND	0.10	A060839
Total Sodium (Na)	ug/L	29000	100	A060839	6800	100	A060839	610000	100	A060839
Total Strontium (Sr)	ug/L	480	2.0	A060839	20	2.0	A060839	510	2.0	A060839
Total Thallium (Tl)	ug/L	ND	0.10	A060839	ND	0.10	A060839	ND	0.10	A060839
Total Tin (Sn)	ug/L	ND	2.0	A060839	ND	2.0	A060839	4.8	2.0	A060839
Total Titanium (Ti)	ug/L	2.3	2.0	A060839	ND	2.0	A060839	21	2.0	A060839
Total Uranium (U)	ug/L	1.5	0.10	A060839	ND	0.10	A060839	0.21	0.10	A060839
Total Vanadium (V)	ug/L	ND	2.0	A060839	ND	2.0	A060839	22	2.0	A060839
Total Zinc (Zn)	ug/L	49	5.0	A060839	ND	5.0	A060839	22	5.0	A060839

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS10			AXOS11		AXOS12		
Sampling Date		2025/11/19 09:00			2025/11/19 09:15		2025/11/19 09:25		
COC Number		C#1066479-01-01			C#1066479-01-01		C#1066479-01-01		
Sample #		00297			00298		00299		
	UNITS	SW-6	RDL	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch

Calculated Parameters									
Anion Sum	me/L	1.63	N/A	A058918	1.48	A058918	1.96	N/A	A058918
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	63	1.0	A058913	66	A058913	8.4	1.0	A058913
Calculated TDS	mg/L	92	1.0	A058928	78	A058928	120	1.0	A058928
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	ND	1.0	A058913	ND	A058913	ND	1.0	A058913
Cation Sum	me/L	1.75	N/A	A058918	1.69	A058918	2.09	N/A	A058918
Hardness (CaCO ₃)	mg/L	71	1.0	A058916	75	A058916	44	1.0	A058916
Ion Balance (% Difference)	%	3.55	N/A	A058917	6.62	A058917	3.21	N/A	A058917
Langelier Index (@ 20C)	N/A	-0.568		A058924	-0.814	A058924	-2.52		A058924
Langelier Index (@ 4C)	N/A	-0.819		A058925	-1.07	A058925	-2.77		A058925
Nitrate (N)	mg/L	0.51	0.050	A058919	0.20	A058919	0.19	0.050	A058919
Saturation pH (@ 20C)	N/A	8.38		A058924	8.41	A058924	9.41		A058924
Saturation pH (@ 4C)	N/A	8.63		A058925	8.66	A058925	9.66		A058925

Inorganics									
Total Alkalinity (Total as CaCO ₃)	mg/L	63	2.0	A061121	66	A061103	8.4	2.0	A061103
Dissolved Chloride (Cl ⁻)	mg/L	8.5	1.0	A062423	5.2	A062423	43	1.0	A062434
Colour	TCU	53	25	A062428	46	A062428	29	5.0	A062441
Nitrate + Nitrite (N)	mg/L	0.52	0.050	A062431	0.22	A062431	0.19	0.050	A062443
Nitrite (N)	mg/L	0.012	0.010	A062433	0.016	A062433	ND	0.010	A062446
Nitrogen (Ammonia Nitrogen)	mg/L	0.052	0.050	A063470	0.065	A063470	ND	0.050	A063470
Total Organic Carbon (C)	mg/L	6.7	0.50	A061882	6.9	A061882	7.1	0.50	A061882
Orthophosphate (P)	mg/L	ND	0.010	A062430	ND	A062430	ND	0.010	A062449
pH	pH	7.81		A061116	7.60	A061099	6.89		A061099
Reactive Silica (SiO ₂)	mg/L	7.5	0.50	A062427	4.1	A062427	4.3	0.50	A062440
Dissolved Sulphate (SO ₄)	mg/L	4.4	2.0	A062426	ND	A062426	28	2.0	A062439
Turbidity	NTU	1.0	0.10	A061379	14	A061379	0.26	0.10	A061397
Conductivity	uS/cm	170	1.0	A061119	160	A061102	250	1.0	A061102

Metals									
Total Aluminum (Al)	ug/L	80	5.0	A060839	330	A060839	44	5.0	A060839
Total Antimony (Sb)	ug/L	ND	1.0	A060839	ND	A060839	ND	1.0	A060839
Total Arsenic (As)	ug/L	ND	1.0	A060839	ND	A060839	ND	1.0	A060839
Total Barium (Ba)	ug/L	41	1.0	A060839	60	A060839	8.2	1.0	A060839
Total Beryllium (Be)	ug/L	ND	0.10	A060839	ND	A060839	ND	0.10	A060839
Total Bismuth (Bi)	ug/L	ND	2.0	A060839	ND	A060839	ND	2.0	A060839

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS10			AXOS11		AXOS12		
Sampling Date		2025/11/19 09:00			2025/11/19 09:15		2025/11/19 09:25		
COC Number		C#1066479-01-01			C#1066479-01-01		C#1066479-01-01		
Sample #		00297			00298		00299		
	UNITS	SW-6	RDL	QC Batch	SW-7	QC Batch	SW-8	RDL	QC Batch
Total Boron (B)	ug/L	ND	50	A060839	ND	A060839	ND	50	A060839
Total Cadmium (Cd)	ug/L	ND	0.010	A060839	ND	A060839	ND	0.010	A060839
Total Calcium (Ca)	ug/L	14000	100	A060839	13000	A060839	10000	100	A060839
Total Chromium (Cr)	ug/L	ND	1.0	A060839	1.0	A060839	ND	1.0	A060839
Total Cobalt (Co)	ug/L	ND	0.40	A060839	ND	A060839	ND	0.40	A060839
Total Copper (Cu)	ug/L	1.4	0.50	A060839	1.8	A060839	ND	0.50	A060839
Total Iron (Fe)	ug/L	71	50	A060839	350	A060839	ND	50	A060839
Total Lead (Pb)	ug/L	ND	0.50	A060839	ND	A060839	ND	0.50	A060839
Total Magnesium (Mg)	ug/L	8400	100	A060839	10000	A060839	4400	100	A060839
Total Manganese (Mn)	ug/L	5.0	2.0	A060839	17	A060839	2.1	2.0	A060839
Total Molybdenum (Mo)	ug/L	ND	2.0	A060839	ND	A060839	ND	2.0	A060839
Total Nickel (Ni)	ug/L	ND	2.0	A060839	ND	A060839	ND	2.0	A060839
Total Phosphorus (P)	ug/L	ND	100	A060839	ND	A060839	ND	100	A060839
Total Potassium (K)	ug/L	1100	100	A060839	790	A060839	470	100	A060839
Total Selenium (Se)	ug/L	ND	0.50	A060839	ND	A060839	ND	0.50	A060839
Total Silver (Ag)	ug/L	ND	0.10	A060839	ND	A060839	ND	0.10	A060839
Total Sodium (Na)	ug/L	6900	100	A060839	3700	A060839	28000	100	A060839
Total Strontium (Sr)	ug/L	47	2.0	A060839	38	A060839	31	2.0	A060839
Total Thallium (Tl)	ug/L	ND	0.10	A060839	ND	A060839	ND	0.10	A060839
Total Tin (Sn)	ug/L	ND	2.0	A060839	ND	A060839	ND	2.0	A060839
Total Titanium (Ti)	ug/L	ND	2.0	A060839	8.1	A060839	ND	2.0	A060839
Total Uranium (U)	ug/L	0.35	0.10	A060839	0.15	A060839	ND	0.10	A060839
Total Vanadium (V)	ug/L	3.8	2.0	A060839	ND	A060839	ND	2.0	A060839
Total Zinc (Zn)	ug/L	ND	5.0	A060839	ND	A060839	ND	5.0	A060839

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS13		
Sampling Date		2025/11/19 09:35		
COC Number		C#1066479-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	10.4	N/A	A058918
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	270	1.0	A058913
Calculated TDS	mg/L	620	1.0	A058928
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	3.0	1.0	A058913
Cation Sum	me/L	11.3	N/A	A058918
Hardness (CaCO ₃)	mg/L	240	1.0	A058916
Ion Balance (% Difference)	%	4.32	N/A	A058917
Langelier Index (@ 20C)	N/A	0.683		A058924
Langelier Index (@ 4C)	N/A	0.435		A058925
Nitrate (N)	mg/L	16	0.50	A058919
Saturation pH (@ 20C)	N/A	7.40		A058924
Saturation pH (@ 4C)	N/A	7.65		A058925
Inorganics				
Total Alkalinity (Total as CaCO ₃)	mg/L	270	2.0	A061113
Dissolved Chloride (Cl ⁻)	mg/L	130	5.0	A062434
Colour	TCU	73	25	A062441
Nitrate + Nitrite (N)	mg/L	17	0.50	A062443
Nitrite (N)	mg/L	1.4	0.050	A062446
Nitrogen (Ammonia Nitrogen)	mg/L	5.1	0.25	A063470
Total Organic Carbon (C)	mg/L	22 (1)	5.0	A061890
Orthophosphate (P)	mg/L	ND	0.010	A062449
pH	pH	8.08		A061104
Reactive Silica (SiO ₂)	mg/L	7.2	0.50	A062440
Dissolved Sulphate (SO ₄)	mg/L	13	2.0	A062439
Turbidity	NTU	9.4	0.10	A061397
Conductivity	uS/cm	1200	1.0	A061112
Metals				
Total Aluminum (Al)	ug/L	640	5.0	A060839
Total Antimony (Sb)	ug/L	ND	1.0	A060839
Total Arsenic (As)	ug/L	2.3	1.0	A060839
Total Barium (Ba)	ug/L	170	1.0	A060839
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not Detected at a concentration equal or greater than the indicated Detection Limit. (1) Elevated reporting limit due to turbidity.				



ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Bureau Veritas ID		AXOS13		
Sampling Date		2025/11/19 09:35		
COC Number		C#1066479-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch
Total Beryllium (Be)	ug/L	ND	0.10	A060839
Total Bismuth (Bi)	ug/L	ND	2.0	A060839
Total Boron (B)	ug/L	490	50	A060839
Total Cadmium (Cd)	ug/L	0.024	0.010	A060839
Total Calcium (Ca)	ug/L	45000	100	A060839
Total Chromium (Cr)	ug/L	4.7	1.0	A060839
Total Cobalt (Co)	ug/L	2.3	0.40	A060839
Total Copper (Cu)	ug/L	4.5	0.50	A060839
Total Iron (Fe)	ug/L	640	50	A060839
Total Lead (Pb)	ug/L	ND	0.50	A060839
Total Magnesium (Mg)	ug/L	31000	100	A060839
Total Manganese (Mn)	ug/L	38	2.0	A060839
Total Molybdenum (Mo)	ug/L	ND	2.0	A060839
Total Nickel (Ni)	ug/L	13	2.0	A060839
Total Phosphorus (P)	ug/L	ND	100	A060839
Total Potassium (K)	ug/L	44000	100	A060839
Total Selenium (Se)	ug/L	ND	0.50	A060839
Total Silver (Ag)	ug/L	ND	0.10	A060839
Total Sodium (Na)	ug/L	120000	100	A060839
Total Strontium (Sr)	ug/L	200	2.0	A060839
Total Thallium (Tl)	ug/L	ND	0.10	A060839
Total Tin (Sn)	ug/L	ND	2.0	A060839
Total Titanium (Ti)	ug/L	18	2.0	A060839
Total Uranium (U)	ug/L	0.51	0.10	A060839
Total Vanadium (V)	ug/L	2.1	2.0	A060839
Total Zinc (Zn)	ug/L	7.7	5.0	A060839
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AXOS04		AXOS05	AXOS06		AXOS07		
Sampling Date		2025/11/19 07:50		2025/11/19 08:00	2025/11/19 08:15		2025/11/19 08:25		
COC Number		C#1066479-01-01		C#1066479-01-01	C#1066479-01-01		C#1066479-01-01		
Sample #		00291		00292	00293		00294		
	UNITS	847-SW-1	RDL	SW-1	SW-2	RDL	SW-3	RDL	QC Batch

Inorganics									
Dissolved Organic Carbon (C)	mg/L	17 (1)	5.0	9.5	9.0	0.50	27 (1)	5.0	A062008
Phenols-4AAP	mg/L	ND	0.0010	ND	ND	0.0010	0.0014	0.0010	A065070
Total Suspended Solids	mg/L	1.6	1.0	ND	ND	1.0	3.2	2.0	A060885
Sulphide	mg/L	ND	0.020	ND	ND	0.020	ND	0.020	A062005

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.

Bureau Veritas ID		AXOS08			AXOS09			AXOS10		
Sampling Date		2025/11/19 08:35			2025/11/19 08:50			2025/11/19 09:00		
COC Number		C#1066479-01-01			C#1066479-01-01			C#1066479-01-01		
Sample #		00295			00296			00297		
	UNITS	SW-4	RDL	QC Batch	SW-5	RDL	QC Batch	SW-6	RDL	QC Batch

Inorganics										
Dissolved Organic Carbon (C)	mg/L	11	0.50	A062008	140 (1)	50	A062008	7.0	0.50	A062008
Phenols-4AAP	mg/L	ND	0.0010	A065070	0.0067	0.0050	A065070	ND	0.0010	A065070
Total Suspended Solids	mg/L	1.2	1.0	A060885	57	5.0	A061087	ND	1.0	A061087
Sulphide	mg/L	ND	0.020	A062005	0.054	0.020	A062004	ND	0.020	A062005

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AXOS11		AXOS12		AXOS13		
Sampling Date		2025/11/19 09:15		2025/11/19 09:25		2025/11/19 09:35		
COC Number		C#1066479-01-01		C#1066479-01-01		C#1066479-01-01		
Sample #		00298		00299		00287		
	UNITS	SW-7	QC Batch	SW-8	RDL	SW-9	RDL	QC Batch

Inorganics								
Dissolved Organic Carbon (C)	mg/L	7.2	A062008	7.4	0.50	24 (1)	5.0	A062008
Phenols-4AAP	mg/L	ND	A065070	ND	0.0010	0.0012	0.0010	A065070
Total Suspended Solids	mg/L	5.2	A061087	ND	1.0	19	2.0	A061308
Sulphide	mg/L	ND	A062005	ND	0.020	ND	0.020	A062005

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

(1) Elevated reporting limit due to sample matrix.

**MERCURY BY COLD VAPOUR AA (WATER)**

Bureau Veritas ID		AXOS04	AXOS05	AXOS06		AXOS07		
Sampling Date		2025/11/19 07:50	2025/11/19 08:00	2025/11/19 08:15		2025/11/19 08:25		
COC Number		C#1066479-01-01	C#1066479-01-01	C#1066479-01-01		C#1066479-01-01		
Sample #		00291	00292	00293		00294		
	UNITS	847-SW-1	SW-1	SW-2	QC Batch	SW-3	RDL	QC Batch

Metals

Total Mercury (Hg)	ug/L	ND	ND	ND	A061281	ND	0.013	A062235
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		AXOS08	AXOS09	AXOS10	AXOS11	AXOS12		
Sampling Date		2025/11/19 08:35	2025/11/19 08:50	2025/11/19 09:00	2025/11/19 09:15	2025/11/19 09:25		
COC Number		C#1066479-01-01	C#1066479-01-01	C#1066479-01-01	C#1066479-01-01	C#1066479-01-01		
Sample #		00295	00296	00297	00298	00299		
	UNITS	SW-4	SW-5	SW-6	SW-7	SW-8	RDL	QC Batch

Metals

Total Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	0.013	A062235
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		AXOS13		
Sampling Date		2025/11/19 09:35		
COC Number		C#1066479-01-01		
Sample #		00287		
	UNITS	SW-9	RDL	QC Batch

Metals

Total Mercury (Hg)	ug/L	ND	0.013	A062235
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.7°C
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Sample AXOS04 [847-SW-1] : Poor RCap Ion Balance due to sample matrix. Anion sum does not include contribution from Total Organic Carbon.

Sample AXOS05 [SW-1] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample AXOS08 [SW-4] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample AXOS11 [SW-7] : Poor RCap Ion Balance due to sample matrix.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A060839	MOA	Matrix Spike	Total Aluminum (Al)	2025/11/26		NC	%	80 - 120
			Total Antimony (Sb)	2025/11/26		110	%	80 - 120
			Total Arsenic (As)	2025/11/26		106	%	80 - 120
			Total Barium (Ba)	2025/11/26		98	%	80 - 120
			Total Beryllium (Be)	2025/11/26		99	%	80 - 120
			Total Bismuth (Bi)	2025/11/26		96	%	80 - 120
			Total Boron (B)	2025/11/26		99	%	80 - 120
			Total Cadmium (Cd)	2025/11/26		98	%	80 - 120
			Total Calcium (Ca)	2025/11/26		NC	%	80 - 120
			Total Chromium (Cr)	2025/11/26		101	%	80 - 120
			Total Cobalt (Co)	2025/11/26		101	%	80 - 120
			Total Copper (Cu)	2025/11/26		99	%	80 - 120
			Total Iron (Fe)	2025/11/26		94	%	80 - 120
			Total Lead (Pb)	2025/11/26		96	%	80 - 120
			Total Magnesium (Mg)	2025/11/26		107	%	80 - 120
			Total Manganese (Mn)	2025/11/26		102	%	80 - 120
			Total Molybdenum (Mo)	2025/11/26		112	%	80 - 120
			Total Nickel (Ni)	2025/11/26		100	%	80 - 120
			Total Phosphorus (P)	2025/11/26		108	%	80 - 120
			Total Potassium (K)	2025/11/26		103	%	80 - 120
			Total Selenium (Se)	2025/11/26		99	%	80 - 120
			Total Silver (Ag)	2025/11/26		97	%	80 - 120
			Total Sodium (Na)	2025/11/26		NC	%	80 - 120
			Total Strontium (Sr)	2025/11/26		NC	%	80 - 120
			Total Thallium (Tl)	2025/11/26		98	%	80 - 120
			Total Tin (Sn)	2025/11/26		107	%	80 - 120
			Total Titanium (Ti)	2025/11/26		108	%	80 - 120
			Total Uranium (U)	2025/11/26		106	%	80 - 120
			Total Vanadium (V)	2025/11/26		106	%	80 - 120
			Total Zinc (Zn)	2025/11/26		99	%	80 - 120
A060839	MOA	Spiked Blank	Total Aluminum (Al)	2025/11/25		104	%	80 - 120
			Total Antimony (Sb)	2025/11/25		104	%	80 - 120
			Total Arsenic (As)	2025/11/25		102	%	80 - 120
			Total Barium (Ba)	2025/11/25		100	%	80 - 120
			Total Beryllium (Be)	2025/11/25		97	%	80 - 120
			Total Bismuth (Bi)	2025/11/25		101	%	80 - 120
			Total Boron (B)	2025/11/25		99	%	80 - 120
			Total Cadmium (Cd)	2025/11/25		101	%	80 - 120
			Total Calcium (Ca)	2025/11/25		101	%	80 - 120
			Total Chromium (Cr)	2025/11/25		102	%	80 - 120
			Total Cobalt (Co)	2025/11/25		103	%	80 - 120
			Total Copper (Cu)	2025/11/25		102	%	80 - 120
			Total Iron (Fe)	2025/11/25		105	%	80 - 120
			Total Lead (Pb)	2025/11/25		97	%	80 - 120
			Total Magnesium (Mg)	2025/11/25		107	%	80 - 120
			Total Manganese (Mn)	2025/11/25		103	%	80 - 120
			Total Molybdenum (Mo)	2025/11/25		105	%	80 - 120
			Total Nickel (Ni)	2025/11/25		102	%	80 - 120
			Total Phosphorus (P)	2025/11/25		105	%	80 - 120
			Total Potassium (K)	2025/11/25		103	%	80 - 120
			Total Selenium (Se)	2025/11/25		98	%	80 - 120
			Total Silver (Ag)	2025/11/25		98	%	80 - 120
			Total Sodium (Na)	2025/11/25		101	%	80 - 120
			Total Strontium (Sr)	2025/11/25		103	%	80 - 120
			Total Thallium (Tl)	2025/11/25		102	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A060839	MOA	Method Blank	Total Tin (Sn)	2025/11/25		105	%	80 - 120
			Total Titanium (Ti)	2025/11/25		105	%	80 - 120
			Total Uranium (U)	2025/11/25		102	%	80 - 120
			Total Vanadium (V)	2025/11/25		104	%	80 - 120
			Total Zinc (Zn)	2025/11/25		103	%	80 - 120
			Total Aluminum (Al)	2025/11/25	ND, RDL=5.0		ug/L	
			Total Antimony (Sb)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Bismuth (Bi)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Boron (B)	2025/11/25	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2025/11/25	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2025/11/25	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2025/11/25	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Iron (Fe)	2025/11/25	ND, RDL=50		ug/L	
			Total Lead (Pb)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2025/11/25	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2025/11/25	ND, RDL=100		ug/L	
			Total Potassium (K)	2025/11/25	ND, RDL=100		ug/L	
			Total Selenium (Se)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Silver (Ag)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2025/11/25	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2025/11/25	ND, RDL=0.10		ug/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A060839	MOA	RPD	Total Tin (Sn)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2025/11/25	ND, RDL=5.0		ug/L	
			Total Aluminum (Al)	2025/11/26	3.9		%	20
			Total Antimony (Sb)	2025/11/26	0.96		%	20
			Total Arsenic (As)	2025/11/26	2.4		%	20
			Total Barium (Ba)	2025/11/26	3.4		%	20
			Total Beryllium (Be)	2025/11/26	NC		%	20
			Total Bismuth (Bi)	2025/11/26	NC		%	20
			Total Boron (B)	2025/11/26	4.8		%	20
			Total Cadmium (Cd)	2025/11/26	NC		%	20
			Total Calcium (Ca)	2025/11/26	6.1		%	20
			Total Chromium (Cr)	2025/11/26	3.1		%	20
			Total Cobalt (Co)	2025/11/26	6.0		%	20
			Total Copper (Cu)	2025/11/26	6.1		%	20
			Total Iron (Fe)	2025/11/26	5.9		%	20
			Total Lead (Pb)	2025/11/26	NC		%	20
			Total Magnesium (Mg)	2025/11/26	4.4		%	20
			Total Manganese (Mn)	2025/11/26	1.4		%	20
			Total Molybdenum (Mo)	2025/11/26	3.1		%	20
			Total Nickel (Ni)	2025/11/26	4.3		%	20
			Total Phosphorus (P)	2025/11/26	3.4		%	20
			Total Potassium (K)	2025/11/26	4.9		%	20
			Total Selenium (Se)	2025/11/26	NC		%	20
			Total Silver (Ag)	2025/11/26	NC		%	20
			Total Sodium (Na)	2025/11/26	3.8		%	20
			Total Strontium (Sr)	2025/11/26	4.7		%	20
			Total Thallium (Tl)	2025/11/26	NC		%	20
			Total Tin (Sn)	2025/11/26	NC		%	20
			Total Titanium (Ti)	2025/11/26	NC		%	20
			Total Uranium (U)	2025/11/26	NC		%	20
			Total Vanadium (V)	2025/11/26	3.8		%	20
			Total Zinc (Zn)	2025/11/26	8.7		%	20
A060843	MTZ	Matrix Spike	Total Aluminum (Al)	2025/11/25		101	%	80 - 120
			Total Antimony (Sb)	2025/11/25		108	%	80 - 120
			Total Arsenic (As)	2025/11/25		103	%	80 - 120
			Total Barium (Ba)	2025/11/25		101	%	80 - 120
			Total Beryllium (Be)	2025/11/25		102	%	80 - 120
			Total Bismuth (Bi)	2025/11/25		106	%	80 - 120
			Total Boron (B)	2025/11/25		104	%	80 - 120
			Total Cadmium (Cd)	2025/11/25		105	%	80 - 120
			Total Calcium (Ca)	2025/11/25		104	%	80 - 120
			Total Chromium (Cr)	2025/11/25		104	%	80 - 120
			Total Cobalt (Co)	2025/11/25		103	%	80 - 120
			Total Copper (Cu)	2025/11/25		103	%	80 - 120
			Total Iron (Fe)	2025/11/25		107	%	80 - 120
			Total Lead (Pb)	2025/11/25		102	%	80 - 120
			Total Magnesium (Mg)	2025/11/25		109	%	80 - 120



**BUREAU
VERITAS**

Bureau Veritas Job #: C5E7715
Report Date: 2025/12/02

Central Newfoundland Waste Management Authority
Client Project #: SW SAMPLES

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A060843	MTZ	Spiked Blank	Total Manganese (Mn)	2025/11/25		102	%	80 - 120
			Total Molybdenum (Mo)	2025/11/25		110	%	80 - 120
			Total Nickel (Ni)	2025/11/25		103	%	80 - 120
			Total Phosphorus (P)	2025/11/25		109	%	80 - 120
			Total Potassium (K)	2025/11/25		105	%	80 - 120
			Total Selenium (Se)	2025/11/25		102	%	80 - 120
			Total Silver (Ag)	2025/11/25		102	%	80 - 120
			Total Sodium (Na)	2025/11/25		108	%	80 - 120
			Total Strontium (Sr)	2025/11/25		102	%	80 - 120
			Total Thallium (Tl)	2025/11/25		108	%	80 - 120
			Total Tin (Sn)	2025/11/25		107	%	80 - 120
			Total Titanium (Ti)	2025/11/25		106	%	80 - 120
			Total Uranium (U)	2025/11/25		110	%	80 - 120
			Total Vanadium (V)	2025/11/25		105	%	80 - 120
			Total Zinc (Zn)	2025/11/25		105	%	80 - 120
			Total Aluminum (Al)	2025/11/25		102	%	80 - 120
			Total Antimony (Sb)	2025/11/25		107	%	80 - 120
			Total Arsenic (As)	2025/11/25		103	%	80 - 120
			Total Barium (Ba)	2025/11/25		101	%	80 - 120
			Total Beryllium (Be)	2025/11/25		101	%	80 - 120
			Total Bismuth (Bi)	2025/11/25		105	%	80 - 120
			Total Boron (B)	2025/11/25		104	%	80 - 120
			Total Cadmium (Cd)	2025/11/25		104	%	80 - 120
			Total Calcium (Ca)	2025/11/25		104	%	80 - 120
			Total Chromium (Cr)	2025/11/25		103	%	80 - 120
			Total Cobalt (Co)	2025/11/25		104	%	80 - 120
			Total Copper (Cu)	2025/11/25		105	%	80 - 120
			Total Iron (Fe)	2025/11/25		106	%	80 - 120
			Total Lead (Pb)	2025/11/25		102	%	80 - 120
			Total Magnesium (Mg)	2025/11/25		111	%	80 - 120
			Total Manganese (Mn)	2025/11/25		104	%	80 - 120
			Total Molybdenum (Mo)	2025/11/25		108	%	80 - 120
			Total Nickel (Ni)	2025/11/25		104	%	80 - 120
			Total Phosphorus (P)	2025/11/25		108	%	80 - 120
			Total Potassium (K)	2025/11/25		106	%	80 - 120
			Total Selenium (Se)	2025/11/25		102	%	80 - 120
			Total Silver (Ag)	2025/11/25		101	%	80 - 120
			Total Sodium (Na)	2025/11/25		108	%	80 - 120
			Total Strontium (Sr)	2025/11/25		103	%	80 - 120
			Total Thallium (Tl)	2025/11/25		108	%	80 - 120
			Total Tin (Sn)	2025/11/25		107	%	80 - 120
			Total Titanium (Ti)	2025/11/25		104	%	80 - 120
			Total Uranium (U)	2025/11/25		108	%	80 - 120
			Total Vanadium (V)	2025/11/25		105	%	80 - 120
			Total Zinc (Zn)	2025/11/25		105	%	80 - 120
A060843	MTZ	Method Blank	Total Aluminum (Al)	2025/11/25	ND, RDL=5.0		ug/L	
			Total Antimony (Sb)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2025/11/25	ND, RDL=0.10		ug/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Bismuth (Bi)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Boron (B)	2025/11/25	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2025/11/25	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2025/11/25	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2025/11/25	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2025/11/25	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Iron (Fe)	2025/11/25	ND, RDL=50		ug/L	
			Total Lead (Pb)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2025/11/25	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2025/11/25	ND, RDL=100		ug/L	
			Total Potassium (K)	2025/11/25	ND, RDL=100		ug/L	
			Total Selenium (Se)	2025/11/25	ND, RDL=0.50		ug/L	
			Total Silver (Ag)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2025/11/25	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Tin (Sn)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2025/11/25	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2025/11/25	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2025/11/25	ND, RDL=5.0		ug/L	
A060885	ISM	QC Standard	Total Suspended Solids	2025/11/26		99	%	80 - 120
A060885	ISM	Method Blank	Total Suspended Solids	2025/11/26	ND, RDL=1.0		mg/L	
A060885	ISM	RPD [AXOS07-02]	Total Suspended Solids	2025/11/26	NC		%	20
A061087	RD4	QC Standard	Total Suspended Solids	2025/11/27		100	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A061087	RD4	Method Blank	Total Suspended Solids	2025/11/27	ND, RDL=1.0		mg/L	
A061087	RD4	RPD	Total Suspended Solids	2025/11/27	10		%	20
A061099	J1A	Spiked Blank	pH	2025/11/25		99	%	97 - 103
A061099	J1A	RPD	pH	2025/11/25	0.086		%	N/A
A061102	J1A	Spiked Blank	Conductivity	2025/11/25		100	%	80 - 120
A061102	J1A	Method Blank	Conductivity	2025/11/25	ND, RDL=1.0		uS/cm	
A061102	J1A	RPD	Conductivity	2025/11/25	0		%	10
A061103	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/11/25		100	%	80 - 120
A061103	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/11/25	ND, RDL=2.0		mg/L	
A061103	J1A	RPD	Total Alkalinity (Total as CaCO3)	2025/11/25	2.6		%	20
A061104	J1A	Spiked Blank	pH	2025/11/25		99	%	97 - 103
A061104	J1A	RPD [AXOS13-01]	pH	2025/11/25	1.4		%	N/A
A061112	J1A	Spiked Blank	Conductivity	2025/11/25		100	%	80 - 120
A061112	J1A	Method Blank	Conductivity	2025/11/25	ND, RDL=1.0		uS/cm	
A061112	J1A	RPD [AXOS13-01]	Conductivity	2025/11/25	0.26		%	10
A061113	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/11/25		99	%	80 - 120
A061113	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/11/25	ND, RDL=2.0		mg/L	
A061113	J1A	RPD [AXOS13-01]	Total Alkalinity (Total as CaCO3)	2025/11/25	1.9		%	20
A061116	J1A	Spiked Blank	pH	2025/11/25		99	%	97 - 103
A061116	J1A	RPD	pH	2025/11/25	1.1		%	N/A
A061119	J1A	Spiked Blank	Conductivity	2025/11/25		99	%	80 - 120
A061119	J1A	Method Blank	Conductivity	2025/11/26	ND, RDL=1.0		uS/cm	
A061119	J1A	RPD	Conductivity	2025/11/25	0.79		%	10
A061121	J1A	Spiked Blank	Total Alkalinity (Total as CaCO3)	2025/11/25		99	%	80 - 120
A061121	J1A	Method Blank	Total Alkalinity (Total as CaCO3)	2025/11/26	ND, RDL=2.0		mg/L	
A061121	J1A	RPD	Total Alkalinity (Total as CaCO3)	2025/11/25	9.0		%	20
A061281	JEP	Matrix Spike	Total Mercury (Hg)	2025/11/26		97	%	80 - 120
A061281	JEP	Spiked Blank	Total Mercury (Hg)	2025/11/26		96	%	80 - 120
A061281	JEP	Method Blank	Total Mercury (Hg)	2025/11/26	ND, RDL=0.013		ug/L	
A061281	JEP	RPD	Total Mercury (Hg)	2025/11/26	NC		%	20
A061308	RD4	QC Standard	Total Suspended Solids	2025/11/27		99	%	80 - 120
A061308	RD4	Method Blank	Total Suspended Solids	2025/11/27	ND, RDL=1.0		mg/L	
A061308	RD4	RPD	Total Suspended Solids	2025/11/27	11		%	20
A061379	KMC	QC Standard	Turbidity	2025/11/26		103	%	80 - 120
A061379	KMC	Spiked Blank	Turbidity	2025/11/26		102	%	80 - 120
A061379	KMC	Method Blank	Turbidity	2025/11/26	ND, RDL=0.10		NTU	
A061379	KMC	RPD	Turbidity	2025/11/26	20		%	20
A061390	J1A	QC Standard	Turbidity	2025/11/26		106	%	80 - 120
A061390	J1A	Spiked Blank	Turbidity	2025/11/26		102	%	80 - 120
A061390	J1A	Method Blank	Turbidity	2025/11/26	ND, RDL=0.10		NTU	
A061390	J1A	RPD	Turbidity	2025/11/26	NC		%	20
A061397	J1A	QC Standard	Turbidity	2025/11/26		104	%	80 - 120
A061397	J1A	Spiked Blank	Turbidity	2025/11/26		102	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A061397	J1A	Method Blank	Turbidity	2025/11/26	ND, RDL=0.10		NTU	
A061397	J1A	RPD [AXOS13-01]	Turbidity	2025/11/26	2.4		%	20
A061882	S6S	Matrix Spike [AXOS12-04]	Total Organic Carbon (C)	2025/11/26		98	%	85 - 115
A061882	S6S	Spiked Blank	Total Organic Carbon (C)	2025/11/26		103	%	80 - 120
A061882	S6S	Method Blank	Total Organic Carbon (C)	2025/11/26	ND, RDL=0.50		mg/L	
A061882	S6S	RPD [AXOS12-04]	Total Organic Carbon (C)	2025/11/26	0.70		%	15
A061886	S6S	Matrix Spike	Total Organic Carbon (C)	2025/11/26		101	%	85 - 115
A061886	S6S	Spiked Blank	Total Organic Carbon (C)	2025/11/26		102	%	80 - 120
A061886	S6S	Method Blank	Total Organic Carbon (C)	2025/11/26	ND, RDL=0.50		mg/L	
A061886	S6S	RPD	Total Organic Carbon (C)	2025/11/26	2.2		%	15
A061890	S6S	Matrix Spike	Total Organic Carbon (C)	2025/11/26		99	%	85 - 115
A061890	S6S	Spiked Blank	Total Organic Carbon (C)	2025/11/26		101	%	80 - 120
A061890	S6S	Method Blank	Total Organic Carbon (C)	2025/11/26	ND, RDL=0.50		mg/L	
A061890	S6S	RPD	Total Organic Carbon (C)	2025/11/26	NC		%	15
A062004	SRT	Matrix Spike	Sulphide	2025/11/26		101	%	80 - 120
A062004	SRT	Spiked Blank	Sulphide	2025/11/26		97	%	80 - 120
A062004	SRT	Method Blank	Sulphide	2025/11/26	ND, RDL=0.020		mg/L	
A062004	SRT	RPD	Sulphide	2025/11/26	NC		%	20
A062005	SRT	Matrix Spike	Sulphide	2025/11/26		105	%	80 - 120
A062005	SRT	Spiked Blank	Sulphide	2025/11/26		97	%	80 - 120
A062005	SRT	Method Blank	Sulphide	2025/11/26	ND, RDL=0.020		mg/L	
A062005	SRT	RPD	Sulphide	2025/11/26	NC		%	20
A062008	S6S	Matrix Spike	Dissolved Organic Carbon (C)	2025/11/26		98	%	85 - 115
A062008	S6S	Spiked Blank	Dissolved Organic Carbon (C)	2025/11/26		104	%	80 - 120
A062008	S6S	Method Blank	Dissolved Organic Carbon (C)	2025/11/26	ND, RDL=0.50		mg/L	
A062008	S6S	RPD	Dissolved Organic Carbon (C)	2025/11/26	12		%	15
A062235	JEP	Matrix Spike [AXOS08-05]	Total Mercury (Hg)	2025/11/27		97	%	80 - 120
A062235	JEP	Spiked Blank	Total Mercury (Hg)	2025/11/27		95	%	80 - 120
A062235	JEP	Method Blank	Total Mercury (Hg)	2025/11/27	ND, RDL=0.013		ug/L	
A062235	JEP	RPD [AXOS07-05]	Total Mercury (Hg)	2025/11/27	NC		%	20
A062423	MCN	Matrix Spike	Dissolved Chloride (Cl-)	2025/11/27		93	%	80 - 120
A062423	MCN	Spiked Blank	Dissolved Chloride (Cl-)	2025/11/27		94	%	80 - 120
A062423	MCN	Method Blank	Dissolved Chloride (Cl-)	2025/11/27	ND, RDL=1.0		mg/L	
A062423	MCN	RPD	Dissolved Chloride (Cl-)	2025/11/27	2.0		%	20
A062426	MCN	Matrix Spike	Dissolved Sulphate (SO4)	2025/11/27		99	%	80 - 120
A062426	MCN	Spiked Blank	Dissolved Sulphate (SO4)	2025/11/27		98	%	80 - 120
A062426	MCN	Method Blank	Dissolved Sulphate (SO4)	2025/11/27	ND, RDL=2.0		mg/L	
A062426	MCN	RPD	Dissolved Sulphate (SO4)	2025/11/27	NC		%	20
A062427	MCN	Matrix Spike	Reactive Silica (SiO2)	2025/11/27		NC	%	80 - 120
A062427	MCN	Spiked Blank	Reactive Silica (SiO2)	2025/11/27		93	%	80 - 120
A062427	MCN	Method Blank	Reactive Silica (SiO2)	2025/11/27	ND, RDL=0.50		mg/L	
A062427	MCN	RPD	Reactive Silica (SiO2)	2025/11/27	0.75		%	20
A062428	MCN	Spiked Blank	Colour	2025/11/28		108	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A062428	MCN	Method Blank	Colour	2025/11/28	ND, RDL=5.0		TCU	
A062428	MCN	RPD	Colour	2025/11/28	8.6		%	20
A062430	MCN	Matrix Spike	Orthophosphate (P)	2025/11/28		93	%	80 - 120
A062430	MCN	Spiked Blank	Orthophosphate (P)	2025/11/28		101	%	80 - 120
A062430	MCN	Method Blank	Orthophosphate (P)	2025/11/28	ND, RDL=0.010		mg/L	
A062430	MCN	RPD	Orthophosphate (P)	2025/11/28	NC		%	20
A062431	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/11/28		103	%	80 - 120
A062431	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/11/28		98	%	80 - 120
A062431	MCN	Method Blank	Nitrate + Nitrite (N)	2025/11/28	ND, RDL=0.050		mg/L	
A062431	MCN	RPD	Nitrate + Nitrite (N)	2025/11/28	NC		%	20
A062433	MCN	Matrix Spike	Nitrite (N)	2025/11/27		100	%	80 - 120
A062433	MCN	Spiked Blank	Nitrite (N)	2025/11/27		108	%	80 - 120
A062433	MCN	Method Blank	Nitrite (N)	2025/11/27	ND, RDL=0.010		mg/L	
A062433	MCN	RPD	Nitrite (N)	2025/11/27	NC		%	20
A062434	MCN	Matrix Spike	Dissolved Chloride (Cl-)	2025/11/27		93	%	80 - 120
A062434	MCN	Spiked Blank	Dissolved Chloride (Cl-)	2025/11/27		93	%	80 - 120
A062434	MCN	Method Blank	Dissolved Chloride (Cl-)	2025/11/27	ND, RDL=1.0		mg/L	
A062434	MCN	RPD	Dissolved Chloride (Cl-)	2025/11/27	1.1		%	20
A062439	MCN	Matrix Spike	Dissolved Sulphate (SO4)	2025/11/27		94	%	80 - 120
A062439	MCN	Spiked Blank	Dissolved Sulphate (SO4)	2025/11/27		97	%	80 - 120
A062439	MCN	Method Blank	Dissolved Sulphate (SO4)	2025/11/27	ND, RDL=2.0		mg/L	
A062439	MCN	RPD	Dissolved Sulphate (SO4)	2025/11/27	1.2		%	20
A062440	MCN	Matrix Spike	Reactive Silica (SiO2)	2025/11/27		88	%	80 - 120
A062440	MCN	Spiked Blank	Reactive Silica (SiO2)	2025/11/27		89	%	80 - 120
A062440	MCN	Method Blank	Reactive Silica (SiO2)	2025/11/27	ND, RDL=0.50		mg/L	
A062440	MCN	RPD	Reactive Silica (SiO2)	2025/11/27	2.4		%	20
A062441	MCN	Spiked Blank	Colour	2025/11/28		95	%	80 - 120
A062441	MCN	Method Blank	Colour	2025/11/28	ND, RDL=5.0		TCU	
A062441	MCN	RPD	Colour	2025/11/28	2.8		%	20
A062443	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/11/28		98	%	80 - 120
A062443	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/11/28		104	%	80 - 120
A062443	MCN	Method Blank	Nitrate + Nitrite (N)	2025/11/28	ND, RDL=0.050		mg/L	
A062443	MCN	RPD	Nitrate + Nitrite (N)	2025/11/28	NC		%	20
A062446	MCN	Matrix Spike	Nitrite (N)	2025/11/27		95	%	80 - 120
A062446	MCN	Spiked Blank	Nitrite (N)	2025/11/27		105	%	80 - 120
A062446	MCN	Method Blank	Nitrite (N)	2025/11/27	ND, RDL=0.010		mg/L	
A062446	MCN	RPD	Nitrite (N)	2025/11/27	NC		%	20
A062449	MCN	Matrix Spike	Orthophosphate (P)	2025/11/28		88	%	80 - 120
A062449	MCN	Spiked Blank	Orthophosphate (P)	2025/11/28		98	%	80 - 120
A062449	MCN	Method Blank	Orthophosphate (P)	2025/11/28	ND, RDL=0.010		mg/L	
A062449	MCN	RPD	Orthophosphate (P)	2025/11/28	NC		%	20
A063466	KMC	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/11/29		95	%	80 - 120
A063466	KMC	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/11/29		100	%	80 - 120



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A063466	KMC	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/11/29	ND, RDL=0.050		mg/L	
A063466	KMC	RPD	Nitrogen (Ammonia Nitrogen)	2025/11/29	NC		%	20
A063470	KMC	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2025/11/29		97	%	80 - 120
A063470	KMC	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2025/11/29		101	%	80 - 120
A063470	KMC	Method Blank	Nitrogen (Ammonia Nitrogen)	2025/11/29	ND, RDL=0.050		mg/L	
A063470	KMC	RPD	Nitrogen (Ammonia Nitrogen)	2025/11/29	NC		%	20
A065070	JJH	Matrix Spike	Phenols-4AAP	2025/12/01		102	%	80 - 120
A065070	JJH	Spiked Blank	Phenols-4AAP	2025/12/01		99	%	80 - 120
A065070	JJH	Method Blank	Phenols-4AAP	2025/12/01	ND, RDL=0.0010		mg/L	
A065070	JJH	RPD	Phenols-4AAP	2025/12/01	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Ernie Publicover, Scientific Specialist

Louise Harding, Scientific Specialist

Bureau Veritas Certified by Ernie Publicover, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



Your Project #: LAGOON SAMPLES MONTHLY
Site#: 00012
Your C.O.C. #: 1035608

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/04/08
Report #: R8516683
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C535383

Received: 2025/04/02, 09:02

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Biochemical Oxygen Demand	1	2025/04/02	2025/04/07	ATL SOP 00041	SM 24 5210B m
Ferrous Iron in Water by Colourimetry (1)	1	N/A	2025/04/02	SYD SOP 00178	SM 24 3500-Fe B m
Ferric Iron in Water by Calculation (1)	1	N/A	2025/04/07	SYD SOP 00178	SM 24 3500-Fe B m
Metals Water Total MS	1	2025/04/03	2025/04/03	ATL SOP 00058	EPA 6020B R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/04/03	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2025/04/04	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2025/04/04	ATL SOP 00018	ASTM D3867-16
pH (2)	1	N/A	2025/04/04	ATL SOP 00003	SM 24 4500-H+ B m
Total Kjeldahl Nitrogen - calculated	1	2025/04/02	2025/04/03	Auto Calc	Auto Calc
Nitrogen - Total	1	N/A	2025/04/03	ATL SOP-00208	ASTM D8083 m
Phosphorus Total Colourimetry	1	2025/04/04	2025/04/07	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	1	2025/04/04	2025/04/04	ATL SOP 00007	SM 24 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.



Your Project #: LAGOON SAMPLES MONTHLY
Site#: 00012
Your C.O.C. #: 1035608

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/04/08
Report #: R8516683
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C535383

Received: 2025/04/02, 09:02

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Sydney, 465 George Street, Sydney, NS, B1P 1K5

(2) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Jaspreet Kaur, Project Manager 1

Email: jaspreet.kaur@bureauveritas.com

Phone# (902)420-0203

=====

This report has been generated and distributed using a secure automated process.

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FERROUS/FERRIC ANALYSIS (TOTAL) -NEW

Bureau Veritas ID		APLI86		
Sampling Date		2025/03/31 13:00		
COC Number		1035608		
Sample #		00287		
	UNITS	00287	RDL	QC Batch

Calculated Parameters				
Iron (ferric)	mg/L	ND	0.50	9902893
Inorganics				
Iron (ferrous)	mg/L	ND	0.50	9902963
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		APLI86		
Sampling Date		2025/03/31 13:00		
COC Number		1035608		
Sample #		00287		
	UNITS	DISCHARGE-SW9	RDL	QC Batch

Calculated Parameters				
Total Kjeldahl Nitrogen (TKN)	mg/L	2.7	0.10	9902672
Nitrate (N)	mg/L	1.6	0.050	9902585
Inorganics				
Biochemical Oxygen Demand	mg/L	16	5.7	9902713
Nitrate + Nitrite (N)	mg/L	1.6	0.050	9902635
Nitrite (N)	mg/L	0.025	0.010	9903247
Total Nitrogen (N)	mg/L	4.0	0.10	9903393
pH	pH	7.88		9904006
Total Phosphorus	mg/L	0.035	0.020	9904061
Total Suspended Solids	mg/L	5.6	2.0	9904187
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



ELEMENTS BY ICP/MS (WATER)

Bureau Veritas ID		APLI86		
Sampling Date		2025/03/31 13:00		
COC Number		1035608		
Sample #		00287		
	UNITS	DISCHARGE-SW9	RDL	QC Batch
Metals				
Total Iron (Fe)	ug/L	320	50	9903319
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.9°C
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Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9902635	EMT	Matrix Spike	Nitrate + Nitrite (N)	2025/04/03		101	%	80 - 120
9902635	EMT	Spiked Blank	Nitrate + Nitrite (N)	2025/04/03		102	%	80 - 120
9902635	EMT	Method Blank	Nitrate + Nitrite (N)	2025/04/03	ND, RDL=0.050		mg/L	
9902635	EMT	RPD	Nitrate + Nitrite (N)	2025/04/03	1.4		%	20
9902713	LRK	QC Standard	Biochemical Oxygen Demand	2025/04/07		85	%	80 - 120
9902713	LRK	Spiked Blank	Biochemical Oxygen Demand	2025/04/07		94	%	80 - 120
9902713	LRK	Method Blank	Biochemical Oxygen Demand	2025/04/07	ND, RDL=2.0		mg/L	
9902713	LRK	RPD [APLI86-02]	Biochemical Oxygen Demand	2025/04/07	NC		%	25
9902963	AWI	Matrix Spike [APLI86-07]	Iron (ferrous)	2025/04/02		98	%	80 - 120
9902963	AWI	Spiked Blank	Iron (ferrous)	2025/04/02		101	%	80 - 120
9902963	AWI	Method Blank	Iron (ferrous)	2025/04/02	ND, RDL=0.50		mg/L	
9902963	AWI	RPD [APLI86-07]	Iron (ferrous)	2025/04/02	NC		%	20
9903247	EMT	Matrix Spike	Nitrite (N)	2025/04/04		105	%	80 - 120
9903247	EMT	Spiked Blank	Nitrite (N)	2025/04/04		102	%	80 - 120
9903247	EMT	Method Blank	Nitrite (N)	2025/04/04	ND, RDL=0.010		mg/L	
9903247	EMT	RPD	Nitrite (N)	2025/04/04	NC		%	20
9903319	MTZ	Matrix Spike	Total Iron (Fe)	2025/04/03		103	%	80 - 120
9903319	MTZ	Spiked Blank	Total Iron (Fe)	2025/04/03		107	%	80 - 120
9903319	MTZ	Method Blank	Total Iron (Fe)	2025/04/03	ND, RDL=50		ug/L	
9903319	MTZ	RPD	Total Iron (Fe)	2025/04/03	NC		%	20
9903393	SSI	Matrix Spike [APLI86-06]	Total Nitrogen (N)	2025/04/03		107	%	80 - 120
9903393	SSI	Spiked Blank	Total Nitrogen (N)	2025/04/03		107	%	85 - 115
9903393	SSI	Method Blank	Total Nitrogen (N)	2025/04/03	ND, RDL=0.10		mg/L	
9903393	SSI	RPD [APLI86-06]	Total Nitrogen (N)	2025/04/03	2.1		%	20
9904006	KMC	Spiked Blank	pH	2025/04/04		99	%	97 - 103
9904006	KMC	RPD	pH	2025/04/04	0.70		%	N/A
9904061	EMT	Matrix Spike	Total Phosphorus	2025/04/07		93	%	80 - 120
9904061	EMT	Spiked Blank	Total Phosphorus	2025/04/07		100	%	80 - 120
9904061	EMT	Method Blank	Total Phosphorus	2025/04/07	ND, RDL=0.020		mg/L	
9904061	EMT	RPD	Total Phosphorus	2025/04/07	NC		%	25
9904187	ISM	QC Standard	Total Suspended Solids	2025/04/04		98	%	80 - 120
9904187	ISM	Method Blank	Total Suspended Solids	2025/04/04	ND, RDL=1.0		mg/L	
9904187	ISM	RPD	Total Suspended Solids	2025/04/04	10		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Ernie Publicover, Scientific Specialist

Kathy Martin, Laboratory Manager

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



Your Project #: LAGOON SAMPLES-MONTHLY
Site#: 00012
Your C.O.C. #: C#1024759-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/05/14
Report #: R8537856
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C549267

Received: 2025/05/02, 09:36

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Biochemical Oxygen Demand	1	2025/05/02	2025/05/07	ATL SOP 00041	SM 24 5210B m
Ferrous Iron in Water by Colourimetry (1)	1	N/A	2025/05/02	SYD SOP 00178	SM 24 3500-Fe B m
Ferric Iron in Water by Calculation (1)	1	N/A	2025/05/06	SYD SOP 00178	SM 24 3500-Fe B m
Metals Water Total MS	1	2025/05/02	2025/05/06	ATL SOP 00058	EPA 6020B R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/05/13	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2025/05/14	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2025/05/14	ATL SOP 00018	ASTM D3867-16
pH (2)	1	N/A	2025/05/09	ATL SOP 00003	SM 24 4500-H+ B m
Total Kjeldahl Nitrogen - calculated	1	2025/05/02	2025/05/12	Auto Calc	Auto Calc
Nitrogen - Total	1	N/A	2025/05/08	ATL SOP-00208	ASTM D8083 m
Phosphorus Total Colourimetry	1	2025/05/07	2025/05/09	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	1	2025/05/06	2025/05/07	ATL SOP 00007	SM 24 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.



Your Project #: LAGOON SAMPLES-MONTHLY
Site#: 00012
Your C.O.C. #: C#1024759-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/05/14
Report #: R8537856
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C549267

Received: 2025/05/02, 09:36

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Sydney, 465 George Street, Sydney, NS, B1P 1K5

(2) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Jaspreet Kaur, Project Manager 1

Email: jaspreet.kaur@bureauveritas.com

Phone# (902)420-0203

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



FERROUS/FERRIC ANALYSIS (TOTAL) -NEW

Bureau Veritas ID		AQLX98		
Sampling Date		2025/04/30 11:30		
COC Number		C#1024759-01-01		
Sample #		00287		
	UNITS	DISCHARGE-SW-9	RDL	QC Batch
Calculated Parameters				
Iron (ferric)	mg/L	ND	0.50	9921279
Inorganics				
Iron (ferrous)	mg/L	ND	0.50	9921029
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQLX98		
Sampling Date		2025/04/30 11:30		
COC Number		C#1024759-01-01		
Sample #		00287		
	UNITS	DISCHARGE-SW-9	RDL	QC Batch
Calculated Parameters				
Total Kjeldahl Nitrogen (TKN)	mg/L	1.8	1.0	9921139
Nitrate (N)	mg/L	0.75	0.050	9920851
Inorganics				
Biochemical Oxygen Demand	mg/L	18	4.9	9921005
Nitrate + Nitrite (N)	mg/L	0.82	0.050	9927622
Nitrite (N)	mg/L	0.076	0.010	9927532
Total Nitrogen (N)	mg/L	2.6 (1)	1.0	9924115
pH	pH	8.01		9925158
Total Phosphorus	mg/L	0.045	0.020	9923671
Total Suspended Solids	mg/L	5.6	2.0	9923221
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				
(1) Elevated reporting limit due to sample matrix.				



ELEMENTS BY ICP/MS (WATER)

Bureau Veritas ID		AQLX98		
Sampling Date		2025/04/30 11:30		
COC Number		C#1024759-01-01		
Sample #		00287		
	UNITS	DISCHARGE-SW-9	RDL	QC Batch
Metals				
Total Iron (Fe)	ug/L	200	50	9921296
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	10.0°C
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Ferrous bottle used by client for sample, the preservative expired on 25/02/23.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9921005	LRK	QC Standard	Biochemical Oxygen Demand	2025/05/07		87	%	80 - 120
9921005	LRK	Spiked Blank	Biochemical Oxygen Demand	2025/05/07		82	%	80 - 120
9921005	LRK	Method Blank	Biochemical Oxygen Demand	2025/05/07	ND, RDL=2.0		mg/L	
9921005	LRK	RPD	Biochemical Oxygen Demand	2025/05/07	15		%	25
9921029	AWI	Matrix Spike	Iron (ferrous)	2025/05/02		NC	%	80 - 120
9921029	AWI	Spiked Blank	Iron (ferrous)	2025/05/02		98	%	80 - 120
9921029	AWI	Method Blank	Iron (ferrous)	2025/05/02	ND, RDL=0.50		mg/L	
9921029	AWI	RPD	Iron (ferrous)	2025/05/02	1.8 (1)		%	20
9921296	MOA	Matrix Spike	Total Iron (Fe)	2025/05/05		104	%	80 - 120
9921296	MOA	Spiked Blank	Total Iron (Fe)	2025/05/05		108	%	80 - 120
9921296	MOA	Method Blank	Total Iron (Fe)	2025/05/05	ND, RDL=50		ug/L	
9921296	MOA	RPD	Total Iron (Fe)	2025/05/05	3.5		%	20
9923221	ISM	QC Standard	Total Suspended Solids	2025/05/07		100	%	80 - 120
9923221	ISM	Method Blank	Total Suspended Solids	2025/05/07	ND, RDL=1.0		mg/L	
9923221	ISM	RPD	Total Suspended Solids	2025/05/07	0		%	20
9923671	MCN	Matrix Spike	Total Phosphorus	2025/05/09		102	%	80 - 120
9923671	MCN	Spiked Blank	Total Phosphorus	2025/05/08		101	%	80 - 120
9923671	MCN	Method Blank	Total Phosphorus	2025/05/08	ND, RDL=0.020		mg/L	
9923671	MCN	RPD	Total Phosphorus	2025/05/09	1.8		%	25
9924115	SSI	Matrix Spike	Total Nitrogen (N)	2025/05/08		NC	%	80 - 120
9924115	SSI	Spiked Blank	Total Nitrogen (N)	2025/05/08		105	%	85 - 115
9924115	SSI	Method Blank	Total Nitrogen (N)	2025/05/08	ND, RDL=0.10		mg/L	
9924115	SSI	RPD	Total Nitrogen (N)	2025/05/08	1.4		%	20
9925158	KMC	Spiked Blank	pH	2025/05/09		99	%	97 - 103
9925158	KMC	RPD	pH	2025/05/09	0.81		%	N/A
9927532	MCN	Matrix Spike	Nitrite (N)	2025/05/14		99	%	80 - 120
9927532	MCN	Spiked Blank	Nitrite (N)	2025/05/14		100	%	80 - 120
9927532	MCN	Method Blank	Nitrite (N)	2025/05/14	ND, RDL=0.010		mg/L	
9927532	MCN	RPD	Nitrite (N)	2025/05/14	1.6		%	20
9927622	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/05/13		97	%	80 - 120
9927622	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/05/13		101	%	80 - 120
9927622	MCN	Method Blank	Nitrate + Nitrite (N)	2025/05/13	ND, RDL=0.050		mg/L	
9927622	MCN	RPD	Nitrate + Nitrite (N)	2025/05/13	0.96		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

(1) Detection limit elevated due to dilution required to bring analyte within calibrated range.



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Janah Rhyno, Scientific Specialist

Kathy Martin, Laboratory Manager

Bureau Veritas Certified by Janah Rhyno, Scientific Specialist

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Your Project #: LAGOON SAMPLES MONTHLY
Site#: 00012
Your C.O.C. #: C#1020093-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/06/12
Report #: R8556113
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C562474

Received: 2025/05/30, 09:42

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Biochemical Oxygen Demand	1	2025/05/30	2025/06/04	ATL SOP 00041	SM 24 5210B m
Ferrous Iron in Water by Colourimetry (1)	1	N/A	2025/06/03	SYD SOP 00178	SM 24 3500-Fe B m
Ferric Iron in Water by Calculation (1)	1	N/A	2025/06/04	SYD SOP 00178	SM 24 3500-Fe B m
Metals Water Total MS	1	2025/06/02	2025/06/03	ATL SOP 00058	EPA 6020B R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/06/11	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2025/06/10	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2025/06/11	ATL SOP 00018	ASTM D3867-16
pH (2)	1	N/A	2025/06/03	ATL SOP 00003	SM 24 4500-H+ B m
Total Kjeldahl Nitrogen - calculated	1	2025/05/30	2025/06/12	Auto Calc	Auto Calc
Nitrogen - Total	1	N/A	2025/06/09	ATL SOP-00208	ASTM D8083 m
Phosphorus Total Colourimetry	1	2025/06/04	2025/06/05	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	1	2025/06/04	2025/06/05	ATL SOP 00007	SM 24 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.



Your Project #: LAGOON SAMPLES MONTHLY
Site#: 00012
Your C.O.C. #: C#1020093-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/06/12
Report #: R8556113
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C562474

Received: 2025/05/30, 09:42

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Sydney, 465 George Street, Sydney, NS, B1P 1K5

(2) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Augustina Isesele, Customer Solutions Representative

Email: Augustina.isesele@bureauveritas.com

Phone# (902) 420-0203

=====

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FERROUS/FERRIC ANALYSIS (TOTAL) -NEW

Bureau Veritas ID		ARJP02		
Sampling Date		2025/05/28 09:00		
COC Number		C#1020093-01-01		
Sample #		00287		
	UNITS	DISCHARGE-SW-9	RDL	QC Batch
Calculated Parameters				
Iron (ferric)	mg/L	ND	0.50	9939035
Inorganics				
Iron (ferrous)	mg/L	ND	0.50	9941005
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ARJP02		
Sampling Date		2025/05/28 09:00		
COC Number		C#1020093-01-01		
Sample #		00287		
	UNITS	DISCHARGE-SW-9	RDL	QC Batch
Calculated Parameters				
Total Kjeldahl Nitrogen (TKN)	mg/L	41	0.10	9938632
Nitrate (N)	mg/L	0.68	0.050	9938921
Inorganics				
Biochemical Oxygen Demand	mg/L	ND	5.0	9939029
Nitrate + Nitrite (N)	mg/L	0.87	0.050	9945794
Nitrite (N)	mg/L	0.19	0.010	9945502
Total Nitrogen (N)	mg/L	41	0.10	9944943
pH	pH	8.44		9940748
Total Phosphorus	mg/L	0.15	0.020	9941745
Total Suspended Solids	mg/L	9.6	2.0	9941756
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



ELEMENTS BY ICP/MS (WATER)

Bureau Veritas ID		ARJP02		
Sampling Date		2025/05/28 09:00		
COC Number		C#1020093-01-01		
Sample #		00287		
	UNITS	DISCHARGE-SW-9	RDL	QC Batch
Metals				
Total Iron (Fe)	ug/L	180	50	9940399
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
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Average temperature upon receipt >10°C.

Ferrous sample received past holding time at the testing laboratory (BV Sydney, NS). Mark Atwood requested that analysis be completed. 05/03/2025
NBU

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9939029	LRK	QC Standard	Biochemical Oxygen Demand	2025/06/04		89	%	80 - 120
9939029	LRK	Spiked Blank	Biochemical Oxygen Demand	2025/06/04		88	%	80 - 120
9939029	LRK	Method Blank	Biochemical Oxygen Demand	2025/06/04	ND, RDL=2.0		mg/L	
9939029	LRK	RPD [ARJP02-02]	Biochemical Oxygen Demand	2025/06/04	NC		%	25
9940399	MOA	Matrix Spike	Total Iron (Fe)	2025/06/03		103	%	80 - 120
9940399	MOA	Spiked Blank	Total Iron (Fe)	2025/06/03		105	%	80 - 120
9940399	MOA	Method Blank	Total Iron (Fe)	2025/06/03	ND, RDL=50		ug/L	
9940399	MOA	RPD	Total Iron (Fe)	2025/06/03	NC		%	20
9940748	KMC	Spiked Blank	pH	2025/06/03		99	%	97 - 103
9940748	KMC	RPD	pH	2025/06/03	0.39		%	N/A
9941005	AWI	Matrix Spike [ARJP02-07]	Iron (ferrous)	2025/06/03		90	%	80 - 120
9941005	AWI	Spiked Blank	Iron (ferrous)	2025/06/03		96	%	80 - 120
9941005	AWI	Method Blank	Iron (ferrous)	2025/06/03	ND, RDL=0.50		mg/L	
9941005	AWI	RPD [ARJP02-07]	Iron (ferrous)	2025/06/03	NC		%	20
9941745	MCN	Matrix Spike	Total Phosphorus	2025/06/05		101	%	80 - 120
9941745	MCN	Spiked Blank	Total Phosphorus	2025/06/05		98	%	80 - 120
9941745	MCN	Method Blank	Total Phosphorus	2025/06/05	ND, RDL=0.020		mg/L	
9941745	MCN	RPD	Total Phosphorus	2025/06/05	0.50		%	25
9941756	RD4	QC Standard	Total Suspended Solids	2025/06/05		99	%	80 - 120
9941756	RD4	Method Blank	Total Suspended Solids	2025/06/05	ND, RDL=1.0		mg/L	
9941756	RD4	RPD	Total Suspended Solids	2025/06/05	9.0		%	20
9944943	SSI	Matrix Spike	Total Nitrogen (N)	2025/06/09		104	%	80 - 120
9944943	SSI	Spiked Blank	Total Nitrogen (N)	2025/06/09		94	%	85 - 115
9944943	SSI	Method Blank	Total Nitrogen (N)	2025/06/09	ND, RDL=0.10		mg/L	
9944943	SSI	RPD	Total Nitrogen (N)	2025/06/09	9.4 (1)		%	20
9945502	MCN	Matrix Spike	Nitrite (N)	2025/06/10		106	%	80 - 120
9945502	MCN	Spiked Blank	Nitrite (N)	2025/06/10		108	%	80 - 120
9945502	MCN	Method Blank	Nitrite (N)	2025/06/10	ND, RDL=0.010		mg/L	
9945502	MCN	RPD	Nitrite (N)	2025/06/10	NC		%	20
9945794	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/06/10		82	%	80 - 120
9945794	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/06/10		99	%	80 - 120
9945794	MCN	Method Blank	Nitrate + Nitrite (N)	2025/06/10	ND, RDL=0.050		mg/L	
9945794	MCN	RPD	Nitrate + Nitrite (N)	2025/06/10	2.3		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Elevated reporting limit due to sample matrix.



Bureau Veritas Job #: C562474
Report Date: 2025/06/12

Central Newfoundland Waste Management Authority
Client Project #: LAGOON SAMPLES MONTHLY

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Kathy Martin, Laboratory Manager

Bureau Veritas Certified by Ernie Publicover, Scientific Specialist

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Your Project #: LAGOON SAMPLES - MONTHLY
Site#: 00012
Your C.O.C. #: 1047076-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/07/10
Report #: R8573120
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C576767

Received: 2025/06/27, 09:47

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Biochemical Oxygen Demand	1	2025/06/27	2025/07/02	ATL SOP 00041	SM 24 5210B m
Ferrous Iron in Water by Colourimetry (1)	1	N/A	2025/06/27	SYD SOP 00178	SM 24 3500-Fe B m
Ferric Iron in Water by Calculation (1)	1	N/A	2025/07/03	SYD SOP 00178	SM 24 3500-Fe B m
Metals Water Total MS	1	2025/07/02	2025/07/03	ATL SOP 00058	EPA 6020B R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/07/07	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2025/07/07	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2025/07/07	ATL SOP 00018	ASTM D3867-16
pH (2)	1	N/A	2025/07/03	ATL SOP 00003	SM 24 4500-H+ B m
Total Kjeldahl Nitrogen - calculated	1	2025/06/27	2025/07/10	Auto Calc	Auto Calc
Nitrogen - Total	1	N/A	2025/07/09	ATL SOP-00208	ASTM D8083 m
Phosphorus Total Colourimetry	1	2025/07/07	2025/07/08	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	1	2025/07/02	2025/07/03	ATL SOP 00007	SM 24 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.



Your Project #: LAGOON SAMPLES - MONTHLY
Site#: 00012
Your C.O.C. #: 1047076-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/07/10
Report #: R8573120
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C576767

Received: 2025/06/27, 09:47

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Sydney, 465 George Street, Sydney, NS, B1P 1K5

(2) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Augustina Isesele, Customer Solutions Representative
Email: Augustina.isesele@bureauveritas.com
Phone# (902) 420-0203

=====

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FERROUS/FERRIC ANALYSIS (TOTAL) -NEW

Bureau Veritas ID		ASKC11		
Sampling Date		2025/06/25 10:00		
COC Number		1047076-01-01		
Sample #		00287		
	UNITS	Discharge - SW-9	RDL	QC Batch
Calculated Parameters				
Iron (ferric)	mg/L	ND	0.50	9959512
Inorganics				
Iron (ferrous)	mg/L	0.86	0.50	9959063
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ASKC11		
Sampling Date		2025/06/25 10:00		
COC Number		1047076-01-01		
Sample #		00287		
	UNITS	Discharge - SW-9	RDL	QC Batch

Calculated Parameters				
Total Kjeldahl Nitrogen (TKN)	mg/L	42	0.50	9959213
Nitrate (N)	mg/L	0.14	0.050	9959095
Inorganics				
Biochemical Oxygen Demand	mg/L	18	2.0	9958982
Nitrate + Nitrite (N)	mg/L	0.34	0.050	9963157
Nitrite (N)	mg/L	0.20	0.010	9963229
Total Nitrogen (N)	mg/L	42	0.50	9965837
pH	pH	8.42		9962383
Total Phosphorus	mg/L	0.38	0.020	9964119
Total Suspended Solids	mg/L	11	2.5	9961742
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



ELEMENTS BY ICP/MS (WATER)

Bureau Veritas ID		ASKC11		
Sampling Date		2025/06/25 10:00		
COC Number		1047076-01-01		
Sample #		00287		
	UNITS	Discharge - SW-9	RDL	QC Batch
Metals				
Total Iron (Fe)	ug/L	420	50	9961440
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
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Sample ASKC11 [Discharge - SW-9] : Total Iron < Ferrous Iron: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9958982	LRK	QC Standard	Biochemical Oxygen Demand	2025/07/02		74 (1)	%	80 - 120
9958982	LRK	Spiked Blank	Biochemical Oxygen Demand	2025/07/02		69 (2)	%	80 - 120
9958982	LRK	Method Blank	Biochemical Oxygen Demand	2025/07/02	ND, RDL=2.0		mg/L	
9958982	LRK	RPD	Biochemical Oxygen Demand	2025/07/02	2.6		%	25
9959063	AWI	Matrix Spike	Iron (ferrous)	2025/06/27		96	%	80 - 120
9959063	AWI	Spiked Blank	Iron (ferrous)	2025/06/27		99	%	80 - 120
9959063	AWI	Method Blank	Iron (ferrous)	2025/06/27	ND, RDL=0.50		mg/L	
9959063	AWI	RPD	Iron (ferrous)	2025/06/27	1.8		%	20
9961440	MTZ	Matrix Spike	Total Iron (Fe)	2025/07/02		98	%	80 - 120
9961440	MTZ	Spiked Blank	Total Iron (Fe)	2025/07/02		99	%	80 - 120
9961440	MTZ	Method Blank	Total Iron (Fe)	2025/07/02	ND, RDL=50		ug/L	
9961742	ISM	QC Standard	Total Suspended Solids	2025/07/03		100	%	80 - 120
9961742	ISM	Method Blank	Total Suspended Solids	2025/07/03	ND, RDL=1.0		mg/L	
9961742	ISM	RPD [ASKC11-01]	Total Suspended Solids	2025/07/03	8.7		%	20
9962383	M2C	Spiked Blank	pH	2025/07/03		100	%	97 - 103
9962383	M2C	RPD	pH	2025/07/03	0.60		%	N/A
9963157	EMT	Matrix Spike	Nitrate + Nitrite (N)	2025/07/07		95	%	80 - 120
9963157	EMT	Spiked Blank	Nitrate + Nitrite (N)	2025/07/07		98	%	80 - 120
9963157	EMT	Method Blank	Nitrate + Nitrite (N)	2025/07/07	ND, RDL=0.050		mg/L	
9963157	EMT	RPD	Nitrate + Nitrite (N)	2025/07/07	NC		%	20
9963229	EMT	Matrix Spike	Nitrite (N)	2025/07/07		101	%	80 - 120
9963229	EMT	Spiked Blank	Nitrite (N)	2025/07/07		100	%	80 - 120
9963229	EMT	Method Blank	Nitrite (N)	2025/07/07	ND, RDL=0.010		mg/L	
9963229	EMT	RPD	Nitrite (N)	2025/07/07	NC		%	20
9964119	MCN	Matrix Spike	Total Phosphorus	2025/07/08		104	%	80 - 120
9964119	MCN	Spiked Blank	Total Phosphorus	2025/07/08		99	%	80 - 120
9964119	MCN	Method Blank	Total Phosphorus	2025/07/08	ND, RDL=0.020		mg/L	
9964119	MCN	RPD	Total Phosphorus	2025/07/08	NC		%	25
9965837	S6S	Matrix Spike	Total Nitrogen (N)	2025/07/09		109	%	80 - 120
9965837	S6S	Spiked Blank	Total Nitrogen (N)	2025/07/09		101	%	85 - 115
9965837	S6S	Method Blank	Total Nitrogen (N)	2025/07/09	ND, RDL=0.10		mg/L	
9965837	S6S	RPD	Total Nitrogen (N)	2025/07/09	1.6		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Reference material recovery low.

(2) Second source recovery low.



BUREAU
VERITAS

Bureau Veritas Job #: C576767

Report Date: 2025/07/10

Central Newfoundland Waste Management Authority

Client Project #: LAGOON SAMPLES - MONTHLY

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Ernlie Publicover, Scientific Specialist

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Your Project #: LAGOON SAMPLES-MONTHLY
Site#: 00012
Your C.O.C. #: C#1062930-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/11/12
Report #: R8649324
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D7624

Received: 2025/10/31, 09:25

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Biochemical Oxygen Demand	1	2025/10/31	2025/11/05	ATL SOP 00041	SM 24 5210B m
Ferrous Iron in Water by Colourimetry (1)	1	N/A	2025/10/31	SYD SOP 00178	SM 24 3500-Fe B m
Ferric Iron in Water by Calculation (1)	1	N/A	2025/11/05	SYD SOP 00178	SM 24 3500-Fe B m
Metals Water Total MS	1	2025/11/03	2025/11/04	ATL SOP 00058	EPA 6020B R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/11/07	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2025/11/07	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2025/11/11	ATL SOP 00018	ASTM D3867-16
pH (2)	1	N/A	2025/11/06	ATL SOP 00003	SM 24 4500-H+ B m
Total Kjeldahl Nitrogen - calculated	1	2025/10/31	2025/11/10	Auto Calc	Auto Calc
Nitrogen - Total	1	N/A	2025/11/07	ATL SOP-00208	ASTM D8083 m
Phosphorus Total Colourimetry	1	2025/11/03	2025/11/05	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	1	2025/11/03	2025/11/04	ATL SOP 00007	SM 24 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.



Your Project #: LAGOON SAMPLES-MONTHLY
Site#: 00012
Your C.O.C. #: C#1062930-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/11/12
Report #: R8649324
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D7624

Received: 2025/10/31, 09:25

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Sydney, 465 George Street, Sydney, NS, B1P 1K5

(2) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Augustina Isesele, Customer Solutions Representative
Email: Augustina.isesele@bureauveritas.com
Phone# (902) 420-0203

=====

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FERROUS/FERRIC ANALYSIS (TOTAL) -NEW

Bureau Veritas ID		AWUS60		
Sampling Date		2025/10/29 09:30		
COC Number		C#1062930-01-01		
Sample #		00012		
	UNITS	DISCHARGE	RDL	QC Batch
Calculated Parameters				
Iron (ferric)	mg/L	ND	0.50	A044605
Inorganics				
Iron (ferrous)	mg/L	ND	0.50	A044671
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWUS60		
Sampling Date		2025/10/29 09:30		
COC Number		C#1062930-01-01		
Sample #		00012		
	UNITS	DISCHARGE	RDL	QC Batch
Calculated Parameters				
Total Kjeldahl Nitrogen (TKN)	mg/L	16	5.0	A044301
Nitrate (N)	mg/L	57	2.5	A044297
Inorganics				
Biochemical Oxygen Demand	mg/L	9.4	4.8	A044276
Nitrate + Nitrite (N)	mg/L	60	2.5	A048628
Nitrite (N)	mg/L	3.1	0.10	A048630
Total Nitrogen (N)	mg/L	69 (1)	1.0	A049483
pH	pH	8.55		A048523
Total Phosphorus	mg/L	0.13	0.020	A045503
Total Suspended Solids	mg/L	13	2.5	A045593
RDL = Reportable Detection Limit QC Batch = Quality Control Batch (1) Elevated reporting limit due to turbidity.				



ELEMENTS BY ICP/MS (WATER)

Bureau Veritas ID		AWUS60		
Sampling Date		2025/10/29 09:30		
COC Number		C#1062930-01-01		
Sample #		00012		
	UNITS	DISCHARGE	RDL	QC Batch
Metals				
Total Iron (Fe)	ug/L	100	50	A045521
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.0°C
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Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A044276	LRK	QC Standard	Biochemical Oxygen Demand	2025/11/05		83	%	80 - 120
A044276	LRK	Spiked Blank	Biochemical Oxygen Demand	2025/11/05		65 (1)	%	80 - 120
A044276	LRK	Method Blank	Biochemical Oxygen Demand	2025/11/05	ND, RDL=2.0		mg/L	
A044276	LRK	RPD	Biochemical Oxygen Demand	2025/11/05	2.2		%	25
A044671	AWI	Matrix Spike [AWUS60-06]	Iron (ferrous)	2025/10/31		99	%	80 - 120
A044671	AWI	Spiked Blank	Iron (ferrous)	2025/10/31		98	%	80 - 120
A044671	AWI	Method Blank	Iron (ferrous)	2025/10/31	ND, RDL=0.50		mg/L	
A044671	AWI	RPD [AWUS60-06]	Iron (ferrous)	2025/10/31	NC		%	20
A045503	MCN	Matrix Spike	Total Phosphorus	2025/11/05		97	%	80 - 120
A045503	MCN	Spiked Blank	Total Phosphorus	2025/11/05		98	%	80 - 120
A045503	MCN	Method Blank	Total Phosphorus	2025/11/05	ND, RDL=0.020		mg/L	
A045503	MCN	RPD	Total Phosphorus	2025/11/05	NC		%	25
A045521	MTZ	Matrix Spike	Total Iron (Fe)	2025/11/03		105	%	80 - 120
A045521	MTZ	Spiked Blank	Total Iron (Fe)	2025/11/03		104	%	80 - 120
A045521	MTZ	Method Blank	Total Iron (Fe)	2025/11/03	ND, RDL=50		ug/L	
A045521	MTZ	RPD	Total Iron (Fe)	2025/11/03	NC		%	20
A045593	RD4	QC Standard	Total Suspended Solids	2025/11/04		99	%	80 - 120
A045593	RD4	Method Blank	Total Suspended Solids	2025/11/04	ND, RDL=1.0		mg/L	
A045593	RD4	RPD [AWUS60-01]	Total Suspended Solids	2025/11/04	17		%	20
A048523	J1A	Spiked Blank	pH	2025/11/06		99	%	97 - 103
A048523	J1A	RPD	pH	2025/11/06	0.81		%	N/A
A048628	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/11/07		101	%	80 - 120
A048628	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/11/07		99	%	80 - 120
A048628	MCN	Method Blank	Nitrate + Nitrite (N)	2025/11/07	ND, RDL=0.050		mg/L	
A048628	MCN	RPD	Nitrate + Nitrite (N)	2025/11/07	NC		%	20
A048630	MCN	Matrix Spike	Nitrite (N)	2025/11/07		115	%	80 - 120
A048630	MCN	Spiked Blank	Nitrite (N)	2025/11/07		110	%	80 - 120
A048630	MCN	Method Blank	Nitrite (N)	2025/11/07	ND, RDL=0.010		mg/L	
A048630	MCN	RPD	Nitrite (N)	2025/11/07	NC		%	20
A049483	S6S	Matrix Spike	Total Nitrogen (N)	2025/11/07		NC	%	80 - 120
A049483	S6S	Spiked Blank	Total Nitrogen (N)	2025/11/07		102	%	85 - 115
A049483	S6S	Method Blank	Total Nitrogen (N)	2025/11/07	ND, RDL=0.10		mg/L	
A049483	S6S	RPD	Total Nitrogen (N)	2025/11/07	0.87		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Second source recovery low. Reference material recovery acceptable.



BUREAU
VERITAS

Bureau Veritas Job #: C5D7624
Report Date: 2025/11/12

Central Newfoundland Waste Management Authority
Client Project #: LAGOON SAMPLES-MONTHLY

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Ernie Publicover, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Suzanne Rogers, General Manager responsible for Nova Scotia Environmental laboratory operations.



Your Project #: LAGOON SAMPLES-MONTHLY
Site#: 00012
Your C.O.C. #: C#1066474-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/12/16
Report #: R8669540
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5F4062

Received: 2025/12/05, 09:36

Sample Matrix: Water
Samples Received: 1

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Ferrous Iron in Water by Colourimetry (1)	1	N/A	2025/12/05	SYD SOP 00178	SM 24 3500-Fe B m
Ferric Iron in Water by Calculation (1)	1	N/A	2025/12/12	SYD SOP 00178	SM 24 3500-Fe B m
Metals Water Total MS	1	2025/12/11	2025/12/11	ATL SOP 00058	EPA 6020B R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2025/12/16	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2025/12/15	ATL SOP 00017	SM 24 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2025/12/16	ATL SOP 00018	ASTM D3867-16
pH (2)	1	N/A	2025/12/13	ATL SOP 00003	SM 24 4500-H+ B m
Total Kjeldahl Nitrogen - calculated	1	2025/12/05	2025/12/16	Auto Calc	Auto Calc
Nitrogen - Total	1	N/A	2025/12/15	ATL SOP-00208	ASTM D8083 m
Phosphorus Total Colourimetry	1	2025/12/09	2025/12/11	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	1	2025/12/05	2025/12/08	ATL SOP 00007	SM 24 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Sydney, 465 George Street , Sydney, NS, B1P 1K5



Your Project #: LAGOON SAMPLES-MONTHLY
Site#: 00012
Your C.O.C. #: C#1066474-01-01

Attention: Mark Attwood

Central Newfoundland Waste Management Authority
P.O. Box 254, Route 3-1-09
Norris Arm, NL
CANADA A0G 3M0

Report Date: 2025/12/16
Report #: R8669540
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5F4062

Received: 2025/12/05, 09:36

(2) The APHA Standard Method requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Augustina Isesele, Customer Solutions Representative
Email: Augustina.isesele@bureauveritas.com
Phone# (902) 420-0203

=====

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FERROUS/FERRIC ANALYSIS (TOTAL) -NEW

Bureau Veritas ID		AYBH43		
Sampling Date		2025/11/30 16:00		
COC Number		C#1066474-01-01		
Sample #		00287		
	UNITS	00287	RDL	QC Batch
Calculated Parameters				
Iron (ferric)	mg/L	ND	0.50	A068431
Inorganics				
Iron (ferrous)	mg/L	ND	0.50	A068424
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.				



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AYBH43		
Sampling Date		2025/11/30 16:00		
COC Number		C#1066474-01-01		
Sample #		00287		
	UNITS	DISCHARGE - SW-9	RDL	QC Batch
Calculated Parameters				
Total Kjeldahl Nitrogen (TKN)	mg/L	11	1.0	A067992
Nitrate (N)	mg/L	23	1.0	A068278
Inorganics				
Nitrate + Nitrite (N)	mg/L	25	1.0	A074081
Nitrite (N)	mg/L	2.4	0.050	A074080
Total Nitrogen (N)	mg/L	35 (1)	1.0	A073365
pH	pH	8.35		A072719
Total Phosphorus	mg/L	0.076	0.020	A070220
Total Suspended Solids	mg/L	11	5.0	A068410
RDL = Reportable Detection Limit QC Batch = Quality Control Batch (1) Elevated reporting limit due to turbidity.				



ELEMENTS BY ICP/MS (WATER)

Bureau Veritas ID		AYBH43		
Sampling Date		2025/11/30 16:00		
COC Number		C#1066474-01-01		
Sample #		00287		
	UNITS	DISCHARGE - SW-9	RDL	QC Batch
Metals				
Total Iron (Fe)	ug/L	220	50	A071718
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C
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Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A068410	ISM	QC Standard	Total Suspended Solids	2025/12/08		97	%	80 - 120
A068410	ISM	Method Blank	Total Suspended Solids	2025/12/08	ND, RDL=1.0		mg/L	
A068410	ISM	RPD	Total Suspended Solids	2025/12/08	2.8		%	20
A068424	AWI	Matrix Spike [AYBH43-06]	Iron (ferrous)	2025/12/05		88	%	80 - 120
A068424	AWI	Spiked Blank	Iron (ferrous)	2025/12/05		102	%	80 - 120
A068424	AWI	Method Blank	Iron (ferrous)	2025/12/05	ND, RDL=0.50		mg/L	
A068424	AWI	RPD [AYBH43-06]	Iron (ferrous)	2025/12/05	NC		%	20
A070220	MCN	Matrix Spike	Total Phosphorus	2025/12/11		100	%	80 - 120
A070220	MCN	Spiked Blank	Total Phosphorus	2025/12/11		105	%	80 - 120
A070220	MCN	Method Blank	Total Phosphorus	2025/12/11	ND, RDL=0.020		mg/L	
A070220	MCN	RPD	Total Phosphorus	2025/12/11	2.0		%	25
A071718	MLB	Matrix Spike	Total Iron (Fe)	2025/12/12		102	%	80 - 120
A071718	MLB	Spiked Blank	Total Iron (Fe)	2025/12/11		108	%	80 - 120
A071718	MLB	Method Blank	Total Iron (Fe)	2025/12/11	ND, RDL=50		ug/L	
A071718	MLB	RPD	Total Iron (Fe)	2025/12/11	5.4		%	20
A072719	J1A	Spiked Blank	pH	2025/12/12		100	%	97 - 103
A072719	J1A	RPD	pH	2025/12/12	3.0		%	N/A
A073365	S6S	Matrix Spike	Total Nitrogen (N)	2025/12/15		108	%	80 - 120
A073365	S6S	Spiked Blank	Total Nitrogen (N)	2025/12/15		111	%	85 - 115
A073365	S6S	Method Blank	Total Nitrogen (N)	2025/12/15	ND, RDL=0.10		mg/L	
A073365	S6S	RPD	Total Nitrogen (N)	2025/12/15	2.6		%	20
A074080	MCN	Matrix Spike	Nitrite (N)	2025/12/15		101	%	80 - 120
A074080	MCN	Spiked Blank	Nitrite (N)	2025/12/15		98	%	80 - 120
A074080	MCN	Method Blank	Nitrite (N)	2025/12/15	ND, RDL=0.010		mg/L	
A074080	MCN	RPD	Nitrite (N)	2025/12/15	NC		%	20
A074081	MCN	Matrix Spike	Nitrate + Nitrite (N)	2025/12/16		113	%	80 - 120
A074081	MCN	Spiked Blank	Nitrate + Nitrite (N)	2025/12/16		105	%	80 - 120
A074081	MCN	Method Blank	Nitrate + Nitrite (N)	2025/12/16	ND, RDL=0.050		mg/L	
A074081	MCN	RPD	Nitrate + Nitrite (N)	2025/12/16	0.45		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Kathy Martin, Laboratory Manager

Bureau Veritas Certified by Ernie Publicover, Scientific Specialist

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Appendix C - Certificate of Approval



eNGLOBE



**Government of Newfoundland and Labrador
Department of Environment and Climate Change
Pollution Prevention Division**

CERTIFICATE OF APPROVAL

Pursuant to the Environmental Protection Act, SNL 2002, Sections 16, 78 and 83.

Issued: January 15, 2023
Expiration: January 31, 2028

Approval No: WMS-17-12-001
File No: 839.CRS.001

Central Newfoundland Waste Management (CNWM)

P.O. Box 254
Norris Arm, NL A0G 3M0
Telephone: 709-653-2900
Facsimile: 709-653-2920

Attention: Mr. Ed Evans, C.A.O.

Re: Approval to operate a Regional Waste Management Facility to serve Central and Western Newfoundland Regions

Approval is hereby given for the continued operation of a Regional Waste Management Facility located at Norris Arm North, including an engineered lined landfill for the disposal of municipal solid waste; a permanent Household Hazardous Waste (HHW) depot; and a Construction and Demolition (C&D) landfill.

This approval does not release the holder from the obligation to obtain appropriate approvals from other concerned provincial, federal and municipal agencies. Approval from the Department of Environment and Climate Change (the Department) shall be obtained prior to any significant change in the design, construction, installation, or operation of the facility, including any future expansion of the works. This certificate shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the holder without obtaining written prior approval from the Minister.

This approval is subject to the terms and conditions attached hereto, as may be revised from time to time by the Department. Failure to comply with any of the terms and conditions may render this certificate of approval null and void, may require CNWM to cease all activities associated with this certificate of approval, may place the CNWM and its agent(s) in violation of the *Environmental Protection Act*, SNL, 2002, c. E-14-2, and will hold the CNWM responsible for taking such remedial measures as may be prescribed by the Department. The Department reserves the right to add, delete, modify or revoke this approval at any time.


For **MINISTER**

General

1. The Central Newfoundland Waste Management Facility (CNWM) is intended to serve the municipal solid waste management of the Central, Western, Northern Peninsula, Baie Verte Green Bay and Coast of Bay Regions of the Province.
2. Copies of all environmental standards/guidance documents are posted to the Department's website. www.env.gov.nl.ca/env/env_protection/waste/index.html
3. If different from the terms and conditions set out in the Department's environmental standards, those directly stated in the Certificate of Approval (Approval) shall apply.
4. A copy of this Approval shall be kept on site at all times.
5. All responsible personnel who are directly involved with operation and maintenance of the facility shall be provided copies of this Approval and shall be fully aware of the terms and conditions pertaining.
6. Separate approvals or an amendment to this Approval will be required for other waste management activities and/or facilities at this site.
7. Through a Memorandum-of-Understanding the Department has authorized the Department of Digital Government and Service NL (DGSNL) to act on its behalf in inspecting and/or auditing the operation of waste management facilities, for compliance under this approval and all applicable provincial Acts and Regulations. The Regional DGSNL Office may be used as the local point of contact in all cases. DGSNL may contact the Department as necessary for review and consultation on monitoring results, inspections, reports, and changes or amendments to the Approval.
8. The CNWM shall advise the Department or DGSNL of any new participants joining or proposing to leave the regional waste management facility.
9. The CNWM shall develop and keep up to date a Municipal Solid Waste Management and Public Education Plan. Information regarding the education plan and advances in this regard shall be included in the annual report for the facility, and updates provided as changes and advancements are made
10. The CNWM shall immediately notify the Department or DGSNL in writing of any change in the legal name, address, ownership, or facility operator's associated with the site.
11. Any proposed development within 3.0 km of the site shall be referred to the Department for review.
12. Notwithstanding the content of this Certificate of Approval, where options for waste treatment/disposal are limited, the Department shall be consulted regarding accommodation of the waste.

Financial Assurance

13. The CNWM is responsible to ensure that appropriate and adequate financial assurances and/or environmental impairment liability and/or pollution abatement assurance and automotive insurance policies are in place for all operators contracted to support the operations of this waste management facility.

Application Submissions

14. The Central Regional Service Board submitted the following in support of this approval:
- a. E-mail communication December 22, 2022.
 - b. 2021 Annual Report and Environmental Monitoring Report submitted February 28, 2022.

Legislation Standards and Guidelines

15. The activities associated with this facility may involve, but not be limited to, the following provincial Acts and Regulations as amended:
- *Environmental Protection Act RSNL, 2002*
 - *Air Pollution Control Regulations, 2022*
 - *Storage and Handling of Gasoline and Associated Products Regulations, 2003*
 - *Used Oil and Used Glycol Control Regulations, 2018*
 - *Halocarbon Regulations, 2005*
 - *Pesticides Control Regulations, 2007*
 - *Water Resources Act, 2002 as amended*
 - *Environmental Control Water and Sewage Regulations, 2003.*
 - *Occupational Health and Safety Act RSNL, 1990*
 - *Dangerous Goods Transportation Act, 2006*
 - *Municipalities Act, 1999*
 - *Regional Service Board Act, 1990*
 - *Transportation and Works Act, 1995 (and Highway specifications as amended)*
16. The activities associated with this facility may involve, but not be limited to, the following Federal Acts and Regulations as enforced by the respective regulatory agencies:
- *Canadian Environmental Protection Act and Regulations*
 - *Transportation of Dangerous Goods Act and Regulations*
 - *Fisheries Act*
 - *National Fire Code*
 - *Health of Animals Act*
 - *Fertilizers Act*

Quality Control/Quality Assurance

17. Facility design, construction and operation must incorporate acceptable quality control/ quality assurance (QC/QA) protocols and provide for changes if necessary to maintain and improve performance. Appropriate protocol will include testing and inspection procedures and reports, with a deficiency summary, itemized corrections and any other information requested by the Department. Consideration shall be given to implementation of an environmental management system following the "Plan- Do- Check- Revise where necessary" scheme with a view to continual improvement.

Site and Facility Construction/Maintenance

18. Environmentally sound practices are required in all aspects of construction and ongoing maintenance activities, including facility construction and landscaping. This includes: appropriate storage, recycling and disposal of litter, debris, hazardous or special waste material, waste dangerous goods and other waste associated with construction and ongoing maintenance activities.
19. Erosion and sediment control measures are to be installed and maintained as required, such that watercourses or water resources adjacent to and downstream of the site are protected from siltation. The

Environmental Protection Act prohibits release of a material that may cause an adverse effect.

20. All areas exposed during construction, and any temporary diversion or control structures such as berms, ditches, etc., shall be stabilized as soon as practical.
21. When dewatering of construction areas is required, the water must not be discharged directly to a watercourse or water resource, nor to a conveyance (a ditch, culvert, manhole) that may lead to a watercourse or water resource without confirmation to meet discharge limits.
22. Grubbing and excavated material shall be used for ongoing site rehabilitation, or stored for future use in a manner that will not result in sedimentation of adjacent and downstream watercourses or water resources.
23. Sufficient area at the weigh scales, for incoming materials and for safe movement and queuing of vehicles and equipment shall be maintained throughout the site.
24. Site access roads shall be maintained to minimize dust generation. The use of dust suppressants other than water or calcium chloride shall require approval of the Director. CNWM shall use best management practices when applying calcium chloride or any other approved dust suppressant.
25. The Department reserves the right to require the installation of infrastructure for further treatment of releases to the environment where the discharge limit(s) is/are exceeded.
26. All necessary engineering documentation/facility plans, drawings and specifications shall be submitted to and approved in writing by the Department, prior to the construction, modification or expansion of 1) additional containment cells, 2) landfill gas management systems, 3) sludge handling facilities, 4) leachate treatment systems, 5) facilities for processing recyclables or managing organics, 6) storage of waste including household hazardous waste, 7) special waste disposal cells/locations, or any other construction activity at the facility.

Operation and Maintenance of a Regional MSW Landfill

27. Unsupervised landfill disposal is not permitted. Incoming waste shall be routinely scrutinized to ensure unacceptable waste is not received at the site.
28. Regular and uniform compaction of waste is recommended to maximize utilization of air space and minimize voids.
29. The CNWM shall ensure that all exposed waste disposed to containment cells is covered with a minimum of 150 mm of clean soil (or alternate daily cover that has been pre-approved in writing by the Department), as a minimum, at the end of each operating day.
30. Intermediate cover, which is placed when a cell is filled, shall consist of at least 450 mm depth of soil and shall be enhanced to the standard for final cover if not overfilled within one year of placement.

Operation and Maintenance of a Construction and Demolition Landfill

31. Compliance with the Environmental Standards for Construction and Demolition (C&D) Waste Disposal (GD-PPD-050.3) is required [env-protection-waste-guidancedocs-gd-ppd-050.3-environmental-standards-for-construction-and-demolition-waste-disposal-sites.pdf \(gov.nl.ca\)](https://www.gov.nl.ca/env-protection-waste-guidancedocs-gd-ppd-050.3-environmental-standards-for-construction-and-demolition-waste-disposal-sites.pdf) .
32. Only inert C&D debris may be disposed at the site. Where a waste material presents a management problem, consultation with the Department is required.
33. Incoming waste shall be routinely scrutinized to ensure unacceptable waste is not received at the site. Unacceptable waste includes C & D debris that is clearly contaminated with municipal solid waste, organic waste or potentially hazardous waste, and it shall be redirected to an appropriate part of the waste management facility, or as recommended in the facility contingency plan; or as determined in consultation with the Department and other responsible agencies as applicable.
34. CNWM shall provide supervision when any material is being disposed at the C & D facility including areas for temporary storage for materials management and recyclables.
35. Storage of material for reuse or recycling may be conducted in a safe manner as long as the material remains in usable condition. Details of on-site storage inventory and of transfer or processing shall be provided to the Department as part of the annual report.
36. Temporary stockpiling of incoming material shall be restricted to levels considered safe for pile stability, occupational health and safety considerations and to minimize fire risk.
37. C & D waste shall be compacted in cells separated by layers of cover material at least every three months for every 1000 cubic metres of material. Waste placement and covering shall take place so that exposed surface area does not exceed 200 square metres at any one time. Guidelines with respect to intermediate and final cover apply where utilization of the site may be interrupted.
38. Debris containing drywall is not to be used for landfill cover to avoid production of hydrogen sulfide under wet anaerobic conditions.
39. A "special waste" disposal area may be designated for the disposal of demolition debris that could present an occupational health and safety hazard due to airborne contaminants if containment is disrupted. Material of this nature may be contaminated with among other things, lead based paint, dust, fibreglass and asbestos containing material. The debris shall be secondarily contained by wrapping in uncompromised six mm polyethylene. Signage and precautions shall be put in place to permanently demark this area and prevent re-excavation.
40. An environmental monitoring program specific to the C & D storage area for recyclables shall be submitted for approval by the Department as part of the annual report for the facility.
41. Additional storage and management practice requirements are contained in Appendix A of this approval.

Operations and Maintenance of a Household Hazardous Waste Depot

42. CNWM has designated a management and collection site for household hazardous waste (HHW) which accepts hazardous materials from area residents for appropriate containment, storage, packaging and secure transport by a licensed transporter to an approved recycling or final disposal facility. Appropriately trained staff oversee all waste received at and shipped from the site.
43. Compliance with the Department's most recent version of the Environmental Standards for Permanent Household Hazardous Waste Depots (GD-PPD-059) is required [env-protection-waste-guidancedocs-gd-ppd-59.3-hhw-permanet-depots.pdf \(gov.nl.ca\)](https://www.gov.nl.ca/env-protection-waste-guidancedocs-gd-ppd-59.3-hhw-permanet-depots.pdf) .
44. Separate approvals or an amendment of this approval is required for additional storage, management or processing of waste at this site.
45. Staff shall be trained in the handling of hazardous waste, and the associated workplace hazards; shall be properly equipped and trained in the use of Personal Protective Equipment; shall abide by applicable occupational health and safety guidelines and legislation at all times; and , shall be familiar with environmental health, safety and emergency contingency plans, spill or accidental release response protocols, equipment and contact information.
46. Clear signage shall be in place, and information shall be made available to the public on safe containment, segregation and disposal practices for hazardous household products and waste materials.
47. Only hazardous waste from residential households, or residential in origin may be accepted for management and transfer to appropriate disposal at this site. Only HHW which can be safely stored and appropriately recycled or disposed is to be accepted.
48. Detailed records of hazardous waste materials that are redirected or rejected shall be maintained.
49. Sufficient area shall be maintained for safe movement of vehicles and operation of equipment.
50. CNMW shall provide supervision when any material is being disposed to or remove from the facility to ensure unacceptable waste is not received at the site.
51. A written policy on waste acceptance including a list of acceptable and unacceptable hazardous waste by category, volume, and means of containment must be established. This will include provision to redirect or reject excluded waste. The facility contingency plan shall address waste redirection.
52. Questions regarding the acceptability of a waste material shall be directed to the regional DGSNL office or to the Department. Due to the hazardous nature of materials stored at the depot, the "precautionary principle" shall prevail.
53. Where it is considered reasonably safe to do so, established methods and procedures shall be adhered to determine the hazardous nature of waste materials of unknown origin or mixtures. Only adequately trained personnel shall conduct these established methods and procedures.
54. The following shall NOT be accepted at the HHW depot:
 - a. Biomedical waste;

- b. Sharps;
- c. Asbestos containing material;
- d. Radioactive material (including low level radioactive material or naturally occurring radioactive material (NORM) waste); with the exception of residential household smoke detectors;
- e. Organic waste;
- f. Special waste;
- g. International waste;
- h. Unidentifiable or unclassifiable materials.

55. Storage structures must comply with national and municipal fire codes and building codes.

56. All holding tanks for used oil shall be approved by DGSNL as per regulations.

57. Spill containment areas must be designed to keep incompatible materials separated and be constructed of materials that are compatible with the stored waste. The secondary containment areas must have the capacity for the total volume of waste storage capacity plus 10%.

Operations and Maintenance Manuals/Plans

58. The CNWM shall develop and maintain Operations and Maintenance Manuals/Plans in accordance with the Department's General Environmental Standards for MSW Management Facilities/Systems specific to each facility associated with the Regional Site/System.

59. All site operations are to be conducted in accordance with up-to-date Facility Operations Plans approved by the Department. Changes to operations shall be noted in the facility annual report and updates filed with the Department as appropriate. The goal is to always maintain a high level of operational efficiency with minimal adverse environmental impact. A non-exhaustive list of operations and maintenance manual inclusions is provided in the applicable Department environmental standards documents as posted on the Departmental website. The purpose of the Facility Operations Plan is to ensure facility operators and employees are trained and are clear on how daily operations proceed, that routine maintenance is conducted, and that contingency plans are appropriately enacted.

Landfill Gas Management

60. Landfill gas collection work and equipment, if and when installed, shall be in accordance with the latest versions of the Code for Digester Gas and Landfill Gas Installations CAN/CGA-B105-M93 and CAN/CSA-B149.3.

Surface Water Management

61. The CNWM shall ensure that site run-on is minimized by appropriate drainage ditching and sloping; and that run-off from the site does not detrimentally impact off-site receptors.

62. The CNWM shall ensure that surface water at the site that has not been in contact with leachate or solid waste, bypasses the leachate collection-storage-treatment system, and is directed to the engineered wetland or the storm sewer drainage system from the site. Any water discharged from the site shall meet discharge water criteria.

63. Side slopes of disposal areas shall be properly stabilized and maintained to limit erosion; and any final cover applied shall be sloped to ensure positive drainage and prevent pooling of water on the surface.

64. No authority is granted by this Approval to enable the discharge of surface water beyond the property boundary and onto adjoining lands without the authorization of the affected landowner(s). It is the responsibility of the CNWM to ensure that the authorization of said landowner(s) is current and valid. Failure to retain said authorization may result in this Approval being null and void.
65. The Department shall be advised where it is necessary to construct a sedimentation pond to treat run-off from the site.
66. Sampling sites for discharge of surface water runoff shall be approved by the Department, and shall not be moved, relocated or otherwise altered without written permission.
67. The Department reserves the right to require changes to the sampling program where deemed necessary.
68. The CNWM shall be required to mitigate significant adverse impacts to receiving watercourses which are impacted as a result of point source and non-point source discharges attributed to the facility.

Leachate System Management

69. Any changes or alterations to the leachate collection system shall be submitted to the Department for review and prior approval.
70. The leachate collection system shall be capable of maintaining a maximum head of 300 mm above the liner excluding the leachate sumps, during routine operations and be sloped to allow the leachate to drain.
71. The leachate collection system shall:
- a. be of suitable infrastructure to handle storage, treatment, and discharge volumes anticipated for the site;
 - b. be hydraulically separate from the facility's storm water system;
 - c. function year round;
 - d. function effectively throughout the lifespan of the landfill;
 - e. be equipped to record instantaneous and total flows;
 - f. have storage capacity to accommodate a 100 year storm event for the drainage basin;
 - g. be chemically compatible with the waste and leachate characteristics;
 - h. provide access for inspection, monitoring flow and head; controlling flow and cleaning;
 - i. function effectively under dynamic and static loading events for all development phases;
 - j. use geosynthetic fabrics specified for leachate generation/ flow into post-closure phase; and
 - k. be designed to prevent the passage of fine sediment into and any blockage of piping systems.
72. Daily visual inspection of the leachate system shall be conducted as well as annual testing.
73. Provision shall be made to characterize and address leachate quality that may exceed the installed wetland treatment capacity. The Department may be consulted on this issue to ensure that discharge water quality criteria are adhered to.

Discharge Water Quality

74. Water discharged from the site shall meet criteria limits as set out in the *Environmental Control Water and Sewage Regulations, 2003*.

75. Effluent discharge criteria are defined in the following table, Table 1. Discharge water not meeting these criteria shall be treated to meet criteria limits prior to discharge.

Table 1: Effluent Discharge Criteria (all units are mg/L unless otherwise noted)			
Parameter	Maximum Allowable Range	Parameter	Maximum Allowable Range
Biological Oxygen Demand	20		
Total Dissolved Solids (TDS)	1000	Mercury	0.005
Total Suspended Solids (TSS)	30	Nickel	0.5
Total Petroleum Hydrocarbon (TPH)	15	Nitrates	10
Arsenic	0.5	Ammonia	2.0
Barium	5.0	Phenols	0.1
Boron	5.0	Phosphates (total as P ₂ O ₅)	1.0
Cadmium	0.05	Selenium	0.01
Chromium	1.0	Sulfides	0.5
Copper	0.3	Silver	0.05
Cyanide	0.025	Zinc	0.5
Iron	10	pH	5.5 – 9.0 pH units
Lead	0.2	Radium 226	0.37Bq/L

Effluent Monitoring Program

76. CNWM shall perform an Effluent Monitoring Program as per the schedule listed in Table 2 below. Analytical results shall be submitted as per the Reporting section.

Table 2: Effluent Monitoring Schedule		
Location	Parameters	Frequency
SW-9 (Final discharge point)	pH, TSS, nitrate, phosphorous, BOD	Monthly
	WCA	Quarterly
Influent from Landfill	pH, TSS, nitrate, phosphorous, BOD	Quarterly
Effluent from landfill	pH, TSS, nitrate, phosphorous, BOD	Quarterly
Lift Station	pH, TSS, nitrate, phosphorous, BOD	Quarterly

Water Chemistry Analysis (WCA)

77. Four times per calendar year and not less than thirty (30) days apart, CNWM shall perform Water Quality Analysis as per Table 3. Refer to Table 3 for the locations and required parameters. Analytical results shall be submitted as per the Reporting section. Sampling shall commence as soon as sites become accessible.

Table 3: Water Chemistry Analysis Program		
Ref No:	Location	Parameters
	847-SW1-Background	General Parameters: temperature, dissolved oxygen (DO), nitrate + nitrite, nitrate, nitrite, pH, TSS, colour, sodium, potassium, calcium, sulphide, magnesium, ammonia, alkalinity, sulphate, chloride, turbidity, reactive silica, orthophosphate, phosphorous, DOC, conductance, TDS (calculated), phenolics, carbonate (CaCO ₃), hardness (CaCO ₃), bicarbonate (CaCO ₃)
	SW1 to SW9	
	MWH to MWL	
		Metals Scan: aluminium, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium,

		chromium, cobalt, copper, iron, lead, manganese, molybdenum, mercury, nickel, selenium, silver, strontium, thallium, tin, titanium, uranium, vanadium, zinc
		Note that TSS, temperature and dissolved oxygen are not required for groundwater i.e. MW locations.

Sampling, Laboratory Analysis and QA/QC

78. Unless otherwise approved by the Department, surface, groundwater and leachate sampling shall be conducted, as a minimum, according to methods described in ***Sampling of Water and Wastewater-Industrial Effluent Applications GD-PPD-066***.
79. Unless otherwise stated herein, all liquid and solids analysis performed pursuant to this Approval shall be done by a contracted commercial or in-house laboratory as per the ***Accredited Laboratory Policy (PD:PP2001- 01.02)***.
80. The exact location of each sampling point shall remain consistent over the life of the monitoring programs. Using a GPS or similar device, the northing and easting of each sampling location shall be recorded and submitted to the Department.

Monitoring Alteration

81. The Department has the authority to alter the monitoring programs or require additional testing at any time when:
- a. pollutants might be released to the surrounding environment without being detected;
 - b. an adverse environmental effect may occur; or
 - c. it is no longer necessary to maintain the current frequency of sampling and/or the monitoring of parameters.
82. The CNWM may, at any time, request that the monitoring program or requirements of this Approval be altered by:
- a. requesting the change in writing to the Director; and
 - b. providing sufficient justification, as determined by the Director.
83. The CNWM shall bear all expenses incurred in carrying out environmental monitoring required under the terms and conditions of this Approval.
84. Any new and relevant information respecting any adverse effect that results or may result, from any activity to which the Approval relates, and that comes to attention after the issuance of the Approval shall be submitted to the Department in a timely manner.
85. The requirements of this Approval shall remain in effect until altered, in writing, by the Department.

Non-Compliance

86. The Department and/or DGSNL shall be notified immediately of any incidents of non-compliance with this Approval.

Further Assessment

87. The Minister may at any time, with reasonable notice, require the CNWM to conduct or have conducted

environmental studies, site assessments, sampling, testing, or investigations where, based upon reasonable and probable grounds, the Minister is of the opinion that the waste management facility may have had, or has the potential to have, an adverse effect on the environment.

Environmental Emergency Health and Safety Contingency (EHS)

88. The CNWM shall maintain a contingency plan for environmental and health and safety emergencies on file with DGSNL and the Department and provide annual updates. An updated copy of the contingency plan shall be kept on site at all times.
89. For after-hours emergencies and spill reports call: **1-800-563-9089**.
90. All appropriate operations training and health and safety procedures shall be constantly maintained at the site in accordance with applicable legislation and the Department's environmental standards for the waste management facility in question.
91. Incidents that could occur and would require specific response planning include: contingency for unacceptable waste; equipment failure; waste or hazardous materials incidents/ spills; fire; air quality or odour problems, vector infestation. In the event of problems with wildlife encounters (e.g. black bears); the district office of the Department of Justice & Public Safety should be contacted at (709) 729-8377 for encounters east of the Bay D'Espoir Highway. For wildlife encounters west of the Bay D'Espoir Highway, contact (709) 637-4068. These numbers are operated on a 24/7 basis.

Environmental, Aesthetic, Nuisance, and Housekeeping

92. Existing tree screens, outside the firebreak, that may conceal the site from public view are to be maintained.
93. Access roads to the site shall be kept free of waste material and litter shall be controlled at all times.
94. Supervision shall be provided for all reception, placement, managing and, where applicable covering of waste at the facility.
95. There shall be signs placed strategically throughout the site indicating "No Scavenging".
96. The waste material disposal area shall be fenced to contain wind-blown debris and litter accumulations shall be cleared regularly from the fencing and the surrounding area.
97. All vehicles transporting waste and debris to, from, or on-site shall be enclosed, or covered with close fitting tarpaulins to prevent waste and debris from spilling, and that they have tailgates and boxes that are sealed against leakage.
98. A program to manage and control vectors, rodents, birds and wildlife that may scavenge or develop populations associated with the waste management facility shall be developed.

Prohibitions and Restrictions

99. Prohibitions refer to materials that shall not be accepted for disposal at this waste management facility. Materials are banned from disposal when they have characteristics that make them a risk to workers or to

the environment. Materials are banned for disposal when suitable waste diversion services are available which include re-use, recycling, and reduction of the amount of material that goes to landfill. It is the responsibility of site managers and staff to decline acceptance of material when unacceptable material is openly visible and identifiable.

It is not expected that site managers, inspectors or staff would search through MSW where banned material is suspected but not openly visible and identifiable, since this could create potential risks to worker health and safety.

Materials banned for landfill disposal may be handled or stored in designated areas of the facility where protocols for safe handling and storage are defined and approved by the Department in separate Certificate of Approvals (e.g., C&D waste, HHW).

100. Operational restrictions ensure that modern waste management practices are implemented. Similar to disposal bans, they aim to minimize adverse environmental effects, enhance worker health and safety, and implement best practices in modern waste management.

101. **Prohibitions – Disposal Bans:** The following material **shall NOT be accepted** for disposal.

- a. Beverage Containers suitable for reuse and recycling as defined by MMSB programs.
- b. Used tires covered by MMSB 'Used Tire Recycling Program'
- c. Waste Paint as covered by MMSB Programs
- d. Electronic goods covered by a stewardship program shall not be disposed to landfill. This material may be collected on behalf of the organization responsible, or redirected to an approved collection point. Contact information, a list of accepted products and service providers in NL is provided at <http://www.mmsb.nl.ca/recyclingprograms/electronic-waste/>. Electronic waste that is damaged (e.g. broken monitors and cathode ray tubes), or dismantled to potentially expose hazardous constituents, is considered to be hazardous waste.
- e. Bulk liquids of any kind. [With the exception of used oil, which may be accepted where a registered and approved used oil storage tank system is in place.]
- f. Household Hazardous Waste
- g. Biomedical Waste
- h. Specified Risk Material as defined in Waste Management Strategy guidance documents Appendix D (http://www.env.gov.nl.ca/env/env_protection/waste/appendix_d_definitions.pdf). It includes the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord, and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older, and the distal ileum (portion of the small intestine) of cattle of all ages. These cattle tissues, if infected are capable of transmitting bovine spongiform encephalopathy (BSE), or mad cow disease if added to animal feed, pet food or fertilizer.
- i. Refrigeration, air conditioning and fire extinguishing equipment which contain regulated substances, as defined in the *Halocarbon Regulations* Schedules A-E. These materials may be acceptable when protocols are in place, as detailed in the following section.
- j. Fuel Storage Tanks except when protocols are in place for proper handling, storage, and disposal; as detailed in the following section.
- k. Naturally Occurring Radioactive Material (NORMs). NORMS might be found in drilling or excavating materials.
- l. Radioactive material is banned from disposal and is separately regulated by the Canadian Nuclear

- Safety Commission. Radioactive material is found in household material such as smoke detectors.
- m. Recyclable material destined or suitable for recovery at the Material Recovery Facility.
 - n. Any mixture or combination of the above restricted waste is also restricted or prohibited.

102. Non-compliant material

Details of any non-compliant material brought to any part of the facility and removed at the inspection/holding area shall be recorded including: date of delivery, material type and quantity, origin and owner, name of transporter, transport vehicle identification and contact information. A contingency plan shall be in place to ensure that non-compliant material is refuse and appropriately redirected.

103. Operational Restrictions:

- a. There shall be no incineration or open burning of any kind.
- b. Only waste from the area of service identified in the approval may be received at the facility unless specifically authorized by DGSNL and approved by the CNWM.
- c. All waste transporters and vehicles utilizing the waste management facility must cover or tie down waste in accordance with the *Cargo Securement Regulations (CSR)* under the *Highway Traffic Act*.
 - i. All vehicles entering CNWM facilities shall adhere to the *CSR*.
 - ii. The CNWM shall establish and implement a program to educate waste transporters on the requirements of the *CSR*.
 - iii. The CNWM shall work with the Department to develop a plan for compliance with the *CSR*, which may include such measures as denying access to non-compliant vehicles.
 - iv. The CNWM may be required to report non-compliance with the *CSR* to regional enforcement agencies, subject to the provisions of the plan established under iii).

104. Exceptions to disposal bans where management protocol apply:

- a. All non-program tires shall be accepted for disposal at the Construction and Demolition Landfill. Non program tires include all-terrain (ATV), or off the road (OTR) vehicle tires, tires used on rolling stock equipment used in the agricultural, forestry, industrial/construction and mining industries. These tires are not collected under the Used Tire Recycling Program by the MMSB. If not approved for specific recycling applications, disposal to landfill is acceptable.
- b. An exception may be made for the collection and storage of small quantities of smoke detectors that contain radioactive material. This material can be accepted at household hazardous waste depots only with prior approval from the Department.
- c. Special waste is defined by Appendix D <https://www.gov.nl.ca/ecc/files/env-protection-waste-appendix-d-definitions.pdf> of waste management strategy guidance documents as any waste material that requires special treatment or disposal precautions, due to its nature, quantity, volume, potential to react and/or potential to produce an adverse effect. Examples include, animal carcasses/ mortalities or road kill, asbestos containing material, fish plant waste, commercial or industrial waste streams etc. Special waste shall be accepted only upon prior approval from DGSNL. DGSNL will define the safe handling and disposal guidelines, technical recommendations, and roles of other regulatory agencies which shall be adhered to in all cases.
- d. Asbestos containing material (ACM) containing friable asbestos, accepted for disposal at the facility, shall be directed to the Construction and Demolition Landfill and handled by personnel who are trained and properly equipped with personal protective clothing and respirators. ACM shall be managed in accordance with the guidance document entitled: Asbestos Waste Disposal (GD-PPD-033.1).

http://www.env.gov.nl.ca/env/env_protection/waste/guidancedocs/asbestoswastedisposal.pdf

- e. Acceptance of tires under the Used Tire Recycling Programs for temporary storage is limited to 100 tires per site with the prior approval of the Department. The MMSB provides a collection service and shall be contacted at 1-800-901-6672. Additional information on tire storage can be found on the Departmental website. Storage by MMSB of surplus used tires is regulated under a separate certificate of approval.
- f. Vehicle wrecks and scrap metal shall be directed to recognized metal salvage and recycling operations.
- g. White metal wastes, ensuring compliance under the Halocarbon Regulations, such as freezers, refrigerators and stoves may be appropriately stockpiled in a separate area, pending at least semi-annual transport to a recycling operation. Metals shall be stockpiled in a neat and tidy fashion and not exceed 90% storage capacity. Additional information is found in the appendix of the Environmental Standards for Transfer Stations.
http://www.env.gov.nl.ca/env/env_protection/waste/transfer_stations_july2010.pdf
- h. Equipment containing regulated substances such as halocarbons, can be stored for recycling at a waste disposal site if the regulated substance (s) is (are) recovered by a person approved under the Halocarbon Regulations and shall be labelled "Halocarbon Free".
- i. Fuel storage tanks (commercial or residential) must be drained of product prior to entering the site and shall only be accepted at the metal storage area. The CNWM must submit a plan if draining of any fluids is undertaken and stored on site. If deemed unacceptable for recycling, prior to landfilling, fuel tanks and drums shall have confirmation that they have been purged of product, tank bottom sludge and vapour. The tank must also be cut in half or sufficient openings cut in the tank to prevent the accumulation of vapour and to accommodate visual inspection. If CNWM would like to develop a fuel storage tank management program, the Department shall be contacted to amend or issue an approval.
- j. The Department reserves the right to amend this approval, to ban disposal of waste streams where and when recycling and diversion programs exist as per amendments to the *Waste Management Regulations* and the *Waste Diversion Regulations*. Any recyclable or waste material that is banned from landfill disposal shall be appropriately redirected.
- k. Notwithstanding all of the above where options for waste treatment/ disposal are limited, the Department shall be consulted regarding accommodation of the waste.

Site Security and Signage

- 105. Unauthorized access to the waste management site shall be controlled. Measures may include fencing (wire mesh with a maximum opening of 20 cm), and shall include a secure gate or barrier at the site entrance (minimum opening of 8.5 m) with appropriate, highly visible signage to inform the public of acceptable waste materials, hours of operation, telephone number for contact and containing a "No Scavenging" stipulation.
- 106. An operator shall be kept on duty when and if the site is open to the public. The gate must be locked shut when the operator is not in attendance.
- 107. Areas shall be allocated and signs posted designating separate areas for the transfer, temporary storage and recycling or disposal of construction debris, white goods, municipal solid waste, and other approved waste as applicable.
- 108. A firebreak may be required around the perimeter of the site, please check with the authority having

jurisdiction.

Noise

109. The CNWM shall manage noise levels at the facility so as to comply with recommended guidelines under the *Occupational Health and Safety Act*.
110. Complaints about noise from nearby area residents (off-site) shall be responded and details recorded.
111. If complaints regarding noise from facility operations on or off the site are received, monitoring of sound levels may be required by the Department, and mitigation measures may be required.

Air Emissions

112. Any kind of incineration or open burning is strictly prohibited. The CNWM shall comply with the *Air Pollution Control Regulations, 2022* at all times.
113. Schedule A of these regulations provides the standard for ambient air quality, particulate matter and airborne contaminants.
114. Dust generation shall be minimized on site.
115. Odour control measures shall be incorporated into the facility.
116. Numerical or quantitative limits on odour may be established at the discretion of the Department if odour impacts beyond the property boundaries are deemed to be excessive.
117. Standard procedures to address odour complaints associated with the facility shall be established as part of the Operations Manual and would include:
 - a. Immediately investigate the cause of the complaint and undertake immediate and appropriate action, if necessary, to correct the problem.
 - b. Record all odour complaints and document the date, time, name, address and telephone number of the individual lodging the complaint. The record shall also state any cause of the odour and the action taken to correct the problem.
 - c. Record wind direction, wind speed, temperature, humidity and other atmospheric conditions at the time of the occurrence which resulted in a complaint.
 - d. Records of odour complaints shall be made available to the Department upon request.
118. A plan to reduce or cease odour generation shall be submitted at the request of the Department.

Hazardous Materials Incident/Spill Prevention

119. A separate approval, and facility-specific Environmental Health and Safety Contingency Plan, is required for the operation of a Permanent Household Hazardous Waste Depot. The Department's Environmental Standard for Permanent Household Hazardous Waste Depots shall apply.
120. All holding tanks for used oil shall be approved by DGSNL as per the *Used Oil and Used Glycol Control Regulations*.

Reporting

121. Monthly reports containing the environmental compliance monitoring and sampling information required in this Approval shall be received by the Department in digital format within 30 calendar days of

the reporting month. All related laboratory reports shall be submitted with the monthly report in Extensible Markup Language (XML) format and Adobe Portable Document Format (PDF). Digital report submissions shall be uploaded through the EDMS web portal.

122. Each monthly report shall include a summary of all environmental monitoring components and shall include an explanation for the omission of any requisite data. The monthly summary reports shall be in Microsoft Word or Adobe PDF and shall be uploaded through the EDMS web portal with the data submissions.

123. The annual report shall be submitted to the Department by February 28th, each year summarizing facility activities of the previous year. The information to be submitted is described in the Department's Environmental Standards and includes as follows and where applicable.

- a. quantity, type, source (origin) and carrier of waste received;
- b. quantity and type of materials recycled;
- c. quantity of residual material received at or transferred to the regional landfill
- d. quantity and type of waste dangerous goods removed and the final disposal site;
- e. records of any waste diversion;
- f. a summary of the water quality monitoring results for the sedimentation pond, surface water, and groundwater monitoring program, if applicable. Data must be tabulated in spreadsheet format and include a comparison to relevant guidelines;
- g. updated drawings showing the monitoring well locations, latest contours and groundwater flow direction;
- h. an assessment, where applicable, of the environmental effects monitoring program by a qualified consultant;
- i. a summary of any upsets or spills at the facility;
- j. any changes in procedure or operations;
- k. any changes or updates with respect to staffing and training;
- l. a summary of all education programs implemented or initiated; and
- m. any other information deemed necessary by the Department.

124. The annual report shall also include:

- a. A discussion and evaluation of incidents, complaints, actions, results, residual impact and path forward.
- b. Disposal Records for: special waste including the origin and description for; bulk liquids; biosolids, fish/animal processing waste, Asbestos Contaminated Waste; potentially hazardous waste and International Waste.
- c. Environmental monitoring records including:
 - i) Dates and results of all sampling conducted at the facility; and confirmation of calibration of field equipment used at the facility, before and after each sampling event, or as considered reasonable by the department, the CNWM and the equipment manufacturer.
 - ii) An evaluation and discussion of surface water and groundwater monitoring results as they may be affected by hydrogeology, landfill leachate and/or surface water runoff from the site, and potential/ resultant impacts, and mitigation of impacts.
 - iii) An evaluation of environmental monitoring results, comparing results from the previous and current calendar years and historical records, and making recommendations for future monitoring, groundwater well installation or other work at the facility.

- iv) All analyses, review and reports shall be completed by a professional engineer or geoscientist (qualified professional).

125. Any operational difficulties with potential environmental implications must be immediately reported to DGSNL. The nature of the operational difficulty as well as the mitigation measures shall be included in the yearly report.

126. All incidents of:

- Contingency Plan implementation;
- non-conformance of any condition within this approval;
- spillage or leakage of a regulated substance;
- leachate or wastewater discharge suspected to have exceeded criteria limits
- verbal/written complaints of an environmental nature from the public, any response, mitigation or corrective action e.g. due to air quality, odour or noise.
- any incidence of vandalism or illegal dumping at or near the site.

shall be immediately reported, within one working day, to a person, message manager or facsimile machine at DGSNL by phoning or faxing.

Central Region – DGSNL (Gander)

P.O. Box 2222

A1V 2N9

Telephone (709) 256-1420

Facsimile: (709) 256-1438

127. A written incident report including a detailed description of the incident, summary of contributing factors and an action plan to prevent future incidents of a similar nature, shall be submitted to the respective Regional Director of DGSNL. The action plan shall include a description of actions already taken and future actions to be implemented, and shall be submitted within thirty days of the date of the initial incident.

Certificate of Completion

128. Seven days after completion of any new facility, a signed and stamped letter from a Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL) registered engineering company shall be submitted to the Department verifying that the facility was constructed as per the engineering as-built plans and specifications. The Department shall also be notified at least two weeks in advance of commissioning of each facility and before the Regional Facility is open to the public to allow for inspections to be arranged.

Decommissioning

129. An approved alternative disposal or transfer location must be identified prior to closure and decommissioning.

130. A detailed decommissioning plan must be submitted to the Department six months prior to the planned date of final site closure. Details must address site security, the removal of remaining material and on-site infrastructure, and financial arrangements for any future environmental monitoring requirements, and outline potential future uses for the site.

Expiration

131. This approval expires on January 31, 2028.

132. Should the CNWM wish to continue to operate beyond this expiry date, a written request shall be submitted to the Department for the renewal of this approval. Such request shall be made at least three months prior to expiration.

c.c. Robert Locke, Director
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Attachment: Appendix A – C & D debris- management of specific waste streams

Appendix A
Construction and Demolition (C&D) Debris – management of specific waste streams

1. Bulky household items including mattresses and chesterfields are permitted but those that might retain a lot of water shall be separated from other C & D waste, particularly drywall/gypsum. This will reduce the possibility of hydrogen sulfide formation due to water transfer.
2. Rigid plastic pipes and buoys are permitted but should be segregated from other C & D waste to reduce risk of burning in the event of a fire.
3. Mixed waste from housing demolition may only be disposed to the C & D landfill if a hazardous waste risk assessment has been completed and any hazardous materials such as asbestos containing materials, fluorescent lighting ballasts and paint with high levels of lead, have been removed in advance.
4. With the exception of treated wood from residential sources, commercial generators of treated wood are required to conduct testing per the guidance document "Treated Wood Waste Disposal" GD-PPD-075.1 at the link below. If there are no exceedances for the specified criteria in the guideline the treated wood may be disposed of. If there are exceedances further consultation is required with the Department. Appropriate reuse of treated wood is recommended where possible. All creosote treated wood must be disposed of into the lined landfill. [env-protection-waste-guidancedocs-gd-ppd-075.1treated-wood-waste-disposal-.pdf \(gov.nl.ca\)](#)
5. Any sharp objects like nails, small pieces of metal, glass, plastics, litter and other wind-blown debris shall be collected daily and controlled at the site to maintain a safe environment.
6. Metals shall be redirected to licensed metal salvagers where facilities exist.
7. Other "contaminants of concern" may include mercury (Hg) vapours associated with fluorescent light fixtures and PCBs in older lighting ballasts. Normally these items would be identified as hazardous materials and removed prior to a demolition, but if identified in waste streams, they must be removed to a hazardous materials storage area for appropriate recycling and/or disposal.
8. Reusable and recyclable material such as: uncoated wood, wallboard, asphalt shingles, metal, cupboards, carpets, countertops and other homogenous waste streams may be stockpiled in separate locations to facilitate reuse and recycling where options exist.
9. Acceptable recycling options for wood include: mulching/chipping of organic material for landscape purposes, or bulking agents for compost, or for fuel.
10. Asphalt shingles may be chipped and used as a road amendment at the site, and/or processed into asphalt grit and asphalt flake where the recycling option exists.

11. Treated wood from residential sources shall be disposed at the MSW engineered lined landfill. Commercial generators are required to conduct testing as per the GD-PPD-075.1 Treated Wood Waste Disposal, August 2013. [env-protection-waste-guidancedocs-gd-ppd-075.1-treated-wood-waste-disposal.pdf \(gov.nl.ca\)](https://www.gov.nl.ca/ecc/files/env-protection-waste-guidancedocs-gd-ppd-075.1-treated-wood-waste-disposal.pdf)
12. Wallboard may be added in limited quantities to compost.
13. All non-program tires shall be accepted for disposal at the C & D landfill. Non-program tires include all-terrain (ATV), or off-the-road (OTR) vehicle; tires used on rolling stock equipment used in agriculture, forestry, industrial/ construction and mining industries. These tires are not collected under the Used Tire Recycling Program by the Multi-Material Stewardship Board (MMSB). If not approved for specific recycling applications, disposal to landfill is acceptable. [env-protection-waste-guidancedocs-g-doc-41.3-otr-tires.pdf \(gov.nl.ca\)](https://www.gov.nl.ca/ecc/files/env-protection-waste-guidancedocs-g-doc-41.3-otr-tires.pdf)
14. Any asbestos containing material (ACM) shall be appropriately handled by trained staff and disposed according to GD-PPD-033.1 Asbestos Waste Disposal, amended October, 6, 2016. <https://www.gov.nl.ca/ecc/files/env-protection-waste-guidancedocs-gd-ppd-033.-1-asbestos-waste-disposal-amended-2016.pdf>
15. There is an exemption to allow landfill disposal of leaded paint debris from residential sources. For commercial or industrial sources, where a hazardous materials assessment has been completed prior to the demolition of structures, the departmental policy on sampling, analysis and subsequent disposal of lead based paint and painted debris shall be followed. Any questions can be referred to the regional DGSNL or to the Department.
16. The Department reserves the right to update disposal bans for waste streams when and where recycling and diversion programs exist. Any recyclable or waste material that is banned from landfill disposal shall be appropriately redirected. <https://www.gov.nl.ca/ecc/files/GD-PPD-022.4-Landfill-Bans-Special-Wastes-and-Diversion-Programs-1.pdf>
17. Notwithstanding all of the above, where options for waste treatment/recycling/disposal are limited, the Department shall be consulted regarding management of the waste.



eNGLOBE

CENTRAL REGIONAL SERVICE BOARD

Financial Statements

Year Ended December 31, 2025

CENTRAL REGIONAL SERVICE BOARD

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Year Ended December 31, 2025

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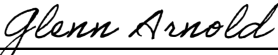
MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL REPORTING

The financial statements of Central Regional Service Board have been prepared in accordance with Canadian public sector accounting standards (PSAS). When alternative accounting methods exist, management has chosen those it deems most appropriate in the circumstances. These statements include certain amounts based on management's estimates and judgments. Management has determined such amounts based on a reasonable basis in order to ensure that the financial statements are presented fairly in all material respects.

The integrity and reliability of Central Regional Service Board's reporting systems are achieved through the use of formal policies and procedures, the careful selection of employees and an appropriate division of responsibilities. These systems are designed to provide reasonable assurance that the financial information is reliable and accurate.

The Board of Directors is responsible for ensuring that management fulfills its responsibility for financial reporting and is ultimately responsible for reviewing and approving the financial statements. The Board carries out this responsibility principally through its Finance Committee. The Finance Committee is appointed by the Board and meets periodically with management and the directors' auditors to review significant accounting, reporting and internal control matters. Following its review of the financial statements and discussions with the auditors, the Finance Committee reports to the Board of Directors prior to its approval of the financial statements. The Committee also considers, for review by the Board and approval by the directors, the engagement or re-appointment of the external auditors.

The financial statements have been audited on behalf of the directors by Jordan Penney, CPA Professional Corporation, in accordance with Canadian public sector accounting standards (PSAS).


Mr. Glenn Arnold, Interim Chairperson


Ms. Pamela Preston, CAO

Norris Arm, NL
May 29, 2026

INDEPENDENT AUDITOR'S REPORT

To the Directors of Central Regional Service Board

Opinion

I have audited the financial statements of Central Regional Service Board (the organization), which comprise the statement of financial position as at December 31, 2025, and the statements of operations and accumulated surplus, changes in net financial assets and cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In my opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the organization as at December 31, 2025, and the results of its operations and cash flows for the year then ended in accordance with Canadian public sector accounting standards (PSAS).

Basis for Opinion

I conducted my audit in accordance with Canadian generally accepted auditing standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the organization in accordance with ethical requirements that are relevant to my audit of the financial statements in Canada, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Other Information

Management is responsible for the other information. The other information comprises the information (Schedule 3 - Statement of Operations by Program), other than the financial statements and my auditor's report thereon.

My opinion on the financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact. I have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with PSAS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the organization's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the organization or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the organization's financial reporting process.

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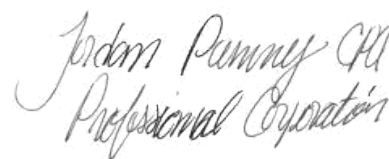
Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the organization's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the organization's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the organization to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.



Clarenville, Newfoundland and Labrador
May 29, 2026

Chartered Professional Accountant
Jordan Penney, CPA Professional Corporation

CENTRAL REGIONAL SERVICE BOARD**Statement of Financial Position****December 31, 2025**

	2025	2024
FINANCIAL ASSETS		
Cash (Notes 2, 3)	\$ 3,732,128	\$ 1,517,009
Restricted cash (Notes 2, 4)	385,097	-
Accounts receivable (Note 5)	1,382,098	1,775,548
Long term investments (Note 6)	3,722,178	4,716,005
	9,221,501	8,008,562
LIABILITIES		
Accounts payable and accrued liabilities (Note 7)	753,448	1,406,731
Current portion of long term debt (Note 9)	150,000	150,000
Short term debt (Note 8)	1,027,040	524,421
Deferred income (Note 13)	282,579	-
Long term debt (Note 9)	1,337,500	1,487,500
Landfill closure and post closure care (Note 10)	2,823,602	2,557,155
Deferred capital reserve (Note 11)	165,722	157,464
	6,539,891	6,283,271
NET FINANCIAL ASSETS	2,681,610	1,725,291
NON-FINANCIAL ASSETS		
Tangible capital assets (Schedule 1)	39,576,132	39,468,293
ACCUMULATED SURPLUS	\$ 42,257,742	\$ 41,193,584

ON BEHALF OF THE BOARD

Glenn Arnold Chairperson

Pam Preston CAO

CENTRAL REGIONAL SERVICE BOARD
Statement of Operations and Accumulated Surplus
Year Ended December 31, 2025

	Budget (Schedule 2) 2025	2025	2024
REVENUES			
Collections fees	\$ 1,946,600	\$ 2,145,946	\$ 1,791,475
Disposal fees (Note 14)	6,965,180	8,010,708	6,778,444
Grants	1,606,542	1,606,542	860,026
Interest income	164,659	164,659	120,332
Other (Note 15)	78,520	249,312	230,943
Transfer from reserves	174,096	-	-
	10,935,597	12,177,167	9,781,220
EXPENSES			
Advertising and promotion	36,000	33,512	25,755
Amortization of tangible capital assets	2,719,167	2,719,167	2,860,517
Bad debts	-	(13,219)	(94,895)
Contractor expense	39,000	44,115	35,774
Environmental landfill expenses	-	55,453	67,468
Fuel and related transportation services	940,000	760,466	816,404
Household hazardous waste handling	96,000	126,176	92,784
Insurance	210,750	188,911	175,102
Interest and bank charges	15,000	30,792	20,136
Interest on long term debt	120,003	120,003	114,605
Landfill closure & post-closure care (Note 10)	266,447	266,447	262,261
Material recovery facility	1,100,000	1,112,498	1,003,849
Memberships	5,000	18,297	4,772
Office	36,000	42,854	33,594
Professional fees	160,000	180,409	244,943
Repairs and maintenance	1,445,767	1,766,841	1,623,349
Salaries and wages	3,456,863	3,398,905	3,182,128
Telephone	83,000	92,212	70,482
Travel	36,600	32,177	41,489
Utilities	170,000	136,993	139,430
	10,935,597	11,113,009	10,719,947
ANNUAL SURPLUS (DEFICIT)	-	1,064,158	(938,727)
ACCUMULATED SURPLUS - BEGINNING OF YEAR - AS PREVIOUSLY REPORTED	41,193,584	41,193,584	42,132,311
ACCUMULATED SURPLUS - END OF YEAR	\$ 41,193,584	\$ 42,257,742	\$ 41,193,584

The accompanying notes are an integral part of these financial statements

CENTRAL REGIONAL SERVICE BOARD
Statement of Changes in Net Financial Assets
Year Ended December 31, 2025

	Budget (Schedule 2) 2025	2025	2024
ANNUAL SURPLUS (DEFICIT)	\$ -	\$ 1,064,158	\$ (938,727)
Amortization of tangible capital assets	2,719,167	2,719,167	2,860,517
Purchase of tangible capital assets	-	(2,827,006)	(2,478,882)
	2,719,167	(107,839)	381,635
INCREASE (DECREASE) IN NET FINANCIAL ASSETS	2,719,167	956,319	(557,092)
NET FINANCIAL ASSETS - BEGINNING OF YEAR	1,725,291	1,725,291	2,282,383
NET FINANCIAL ASSETS - END OF YEAR	\$ 4,444,458	\$ 2,681,610	\$ 1,725,291

The accompanying notes are an integral part of these financial statements

CENTRAL REGIONAL SERVICE BOARD**Statement of Cash Flows****Year Ended December 31, 2025**

	2025	2024
OPERATING ACTIVITIES		
Annual Surplus (deficit)	\$ 1,064,158	\$ (938,727)
Item not affecting cash:		
Amortization of tangible capital assets	2,719,167	2,860,517
	3,783,325	1,921,790
Changes in non-cash working capital:		
Accounts receivable	393,450	(291,128)
Accounts payable	(653,281)	546,296
Landfill closure and post closure care	266,447	262,261
	6,616	517,429
Cash flow from operating activities	3,789,941	2,439,219
CAPITAL ACTIVITY		
Purchase of tangible capital assets	(2,827,006)	(2,478,882)
Purchase of long term investments	(421,296)	(873,561)
Proceeds from sale of long term investments	1,415,121	1,159,218
Cash flow used by capital activity	(1,833,181)	(2,193,225)
FINANCING ACTIVITIES		
Deferred capital reserve	8,258	(41,459)
Deferred income	282,579	-
Proceeds from callable debt financing	515,188	524,421
Repayment of callable debt	(12,569)	-
Repayment of long term debt	(150,000)	(162,500)
Cash flow from financing activities	643,456	320,462
INCREASE IN CASH FLOW	2,600,216	566,456
Cash - beginning of year	1,517,009	950,552
CASH - END OF YEAR	\$ 4,117,226	\$ 1,517,009
CASH CONSISTS OF:		
Cash - operating bank account	\$ 1,069,954	\$ 892,689
Cash - savings bank account	1,503,768	336,918
Short term investments	1,158,406	287,402
Restricted cash	385,097	-
	\$ 4,117,226	\$ 1,517,009

The accompanying notes are an integral part of these financial statements

CENTRAL REGIONAL SERVICE BOARD

Notes to Financial Statements

Year Ended December 31, 2025

1. Nature of operations

The Central Regional Service Board was created under the authority of the Regional Service Board Act on February 26, 2008. The Board operates under the name Central Newfoundland Regional Waste Management Authority, and is responsible for the maintenance and operation of solid waste disposal sites and solid waste management facilities within the central region of Newfoundland.

The Board is exempt from income tax under the Income Tax Act of Canada and is designated a municipality under the Excise Tax Act of Canada.

2. Summary of significant accounting policies

Basis of presentation

The financial statements were prepared in accordance with Canadian public sector accounting standards as recommended by the Public Sector Accounting Board (PSAB) of the Chartered Professional Accountants of Canada and reflect the following significant accounting policies:

Basis of accounting

The financial statements are prepared using the accrual basis of accounting. The accrual basis of accounting records revenue as it is earned and measurable. Expenses are recognized as they are incurred and measurable based upon the receipt of goods and services or the creation of an obligation to pay.

Cash and cash equivalents

Cash includes cash and cash equivalents. Cash equivalents are guaranteed investment certificates and are valued at cost plus accrued interest. The carrying amounts approximate fair value because they have maturities at the date of purchase of less than ninety days. Restricted cash pertains to money restricted for specific purposes that is not available for every day use.

Non-financial assets

Non-financial assets are not available to discharge existing liabilities and are held for use in the provision of services. They have useful lives extending beyond the current year and are not intended for sale in the ordinary course of operations. The change in non-financial assets during the year, together with the excess of revenues over expenses, provides the change in net financial assets for the year.

Revenue recognition policy

Service revenue is recognized when delivery has occurred or services have been rendered, persuasive evidence of an agreement exists, the price is fixed or determinable, and collectability is reasonably assured.

Government transfers are recognized as revenue in the period in which events giving rise to the transfer occur, providing the transfers are authorized, the amount can be reasonably estimated, any eligibility criteria have been met and there are no stipulations that give rise to a possible obligation.

(continues)

CENTRAL REGIONAL SERVICE BOARD

Notes to Financial Statements

Year Ended December 31, 2025

2. Summary of significant accounting policies *(continued)*

Landfill closure and post-closure care

Landfill closure and post-closure care costs are recognized annually as the landfill site's capacity is used, with usage being measured on a metric ton basis. The estimated total expenditure represents the sum of the estimated cash flows associated with closure and post-closure care activities, discounted at a rate equal to the estimated average long-term borrowing rate available to the Board.

Tangible capital assets

Tangible capital assets are recorded at cost which includes all amounts that are directly attributable to the acquisition, construction, development or betterment of the asset. Assets under construction are not amortized until the asset is put into use and one-half of the annual amortization is charged in the year of acquisition and in the year of disposal. The cost, less residual value, of the tangible capital assets is amortized on a straight-line basis over their estimated useful lives as follows:

Land	Indefinite	straight-line method
Land improvements	10 to 50 years	straight-line method
Buildings	25 to 40 years	straight-line method
Machinery and equipment	5 to 10 years	straight-line method
Computer hardware and software	4 years	straight-line method
Furniture and fixtures	5 years	straight-line method
Road surface	5 to 20 years	straight-line method
Road grade	30 years	straight-line method

Tangible capital assets acquired during the year but not placed into use are not amortized until they are placed into use.

Financial instruments policy

Financial instruments are recorded at fair value when acquired or issued. In subsequent periods, financial instruments are reported at cost or amortized cost less impairment, if applicable. Financial assets are tested for impairment when changes in circumstances indicate the asset could be impaired.

Use of estimates

The preparation of financial statements in conformity with Canadian generally accepted accounting principles for the public sector requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from these estimates.

CENTRAL REGIONAL SERVICE BOARD**Notes to Financial Statements****Year Ended December 31, 2025****3. Cash**

Cash consists of:

	2025	2024
Cash - operating bank account	\$ 1,069,954	\$ 892,689
Cash - savings bank account	1,503,768	336,918
Short term investments	1,158,406	287,402
	\$ 3,732,128	\$ 1,517,009

4. Restricted cash

	2025	2024
Restricted cash is comprised of the following		
WRWM savings account	\$ 102,518	\$ -
Deferred water specialist funding	51,239	-
Deferred Canada Community Building Fund grant	231,340	-
	\$ 385,097	\$ -

5. Accounts receivable

	2025	2024
Trade accounts receivable	\$ 1,118,047	\$ 1,392,156
Capital grants receivable	191,101	314,866
Harmonized sales tax	140,719	149,514
	1,449,867	1,856,536
Less: Allowance for doubtful accounts	(67,769)	(80,988)
	\$ 1,382,098	\$ 1,775,548

CENTRAL REGIONAL SERVICE BOARD

Notes to Financial Statements

Year Ended December 31, 2025

6. Long term investments

Long term investments consist of guaranteed investment certificates with a maturity date of greater than a year. Long term investments are internally restricted for the following purposes.

	2025	2024
Capital projects	\$ 414,550	\$ 397,651
Capital reserve - Landfill equipment	352,780	998,649
Capital reserve - Collection equipment	664,676	712,159
Capital reserve - Landfill construction	957,360	1,006,892
Capital reserve - Landfill close and post closure	644,935	1,187,444
Capital reserve - MRF	403,864	413,210
Gander landfill closeout investment	284,013	-
	\$ 3,722,178	\$ 4,716,005

Capital projects investment relates to funds advanced by the Department of Municipal Affairs for capital projects for the completion of facilities and other capital projects.

Capital reserves relate to replacement of equipment, collection trucks and landfill cell construction and capping. The board reserved \$903,050 in 2025 for its capital reserves. During the year, \$941,006 was drawn down from the equipment reserve, \$41,535 from the landfill construction reserve, \$10,080 from the cell capping reserve, \$294,982 from the collection truck reserve and \$25,000 from the MRF reserve.

7. Accounts payable and accrued liabilities

	2025	2024
Accounts payable	\$ 632,900	\$ 869,508
Accruals	120,548	537,223
	\$ 753,448	\$ 1,406,731

8. Short term debt

The Board has a capital line of credit of which \$1,027,040 was used as at December 31, 2025, (\$524,421 used December 31, 2024). Advances on the credit line are to fund the construction of the new maintenance garage and wash bay. Once the construction is complete it will be converted to a bank term loan with set interest and repayment terms.

9. Long term debt

	2025	2024
Bank of Montreal loan bearing interest at 4.77% per annum, repayable in monthly principal payments of \$12,500 plus interest. The loan matures on November 30, 2035 and is secured by a government guarantee by the Province of Newfoundland and Labrador.	\$ 1,487,500	\$ 1,637,500
Amounts payable within one year	(150,000)	(150,000)
		(continues)

CENTRAL REGIONAL SERVICE BOARD**Notes to Financial Statements****Year Ended December 31, 2025****9. Long term debt (continued)**

	2025	2024
	\$ 1,337,500	\$ 1,487,500

Principal repayment terms are approximately:

2026	\$ 150,000
2027	150,000
2028	150,000
2029	150,000
2030	150,000
Thereafter	587,500
	<u>\$ 1,337,500</u>

10. Landfill closure and post-closure care

The Board operates one solid waste landfill site. Phase 1 of the landfill site began accepting solid waste in 2012. The agreement with the Province of Newfoundland and Labrador for the operations of the landfill sites require that the Board take responsibility for certain obligations regard closure and post-closure care of each site.

Closure activities include all activities related to closing the landfill site. Through a proactive closure plan, many closure costs will be incurred on an on-going basis and will be included in the yearly fiscal operating budget. Taking this into consideration, it is assumed that closure costs incurred at the actual closure date will be reduced significantly.

Post-closure activities include all activities related to monitoring the site once it can no longer accept waste. These costs are expected to last for an indeterminate time period, but at a minimum, would exceed 15 years.

As of December 31, 2025, cash reserves of \$1,230,960 (2024 - \$1,187,444) were set aside for closure and post-closure activities. The Board recognizes a future liability for closure and post-closure care costs. The liability is based on the best available information at the reporting date, which include estimated total capacity of the landfill, estimated capacity used and expected future cash outflows as outlined in the Board's proactive closure plan. The amount estimated and accrued at December 31, 2025 for the current year closure and post-closure liability is \$266,447 (2024 - \$262,261). The total amount accrued for future liability for closure and post-closure care costs is \$2,823,602 (2024 - \$2,557,155).

11. Deferred capital reserve

Deferred capital reserve relates to funds received from the Western Regional Service Board as a reserve for equipment replacement.

12. Financial instruments

The Board, as part of its operations, carries a number of financial instruments. It is management's opinion the Board is not exposed to significant interest, currency or credit risk arising from these financial instruments, except as otherwise disclosed. Unless otherwise noted, the fair value of these financial instruments approximates their carrying values.

CENTRAL REGIONAL SERVICE BOARD

Notes to Financial Statements

Year Ended December 31, 2025

13. Deferred income

Funding of \$80,000 was received from the Government of Newfoundland and Labrador for the Regional Water and Wastewater Operator program for the period of July 2025 - June 2026. As of December 31, 2025, expenditures for this project totaled \$28,761, the remaining portion of \$51,239 has been deferred and is recognized as restricted cash.

Additionally, Canada Community Building Fund grant funding has been received in advance in the amount of \$231,340, to be spent on approved projects in subsequent periods.

14. Disposal fees

	2025	2024
Disposal	\$ 7,503,494	\$ 6,269,281
Sale of recyclable materials	507,214	509,163
	\$ 8,010,708	\$ 6,778,444

15. Other revenue

	2025	2024
Regional outreach coordinator funding	\$ 90,000	\$ -
WRWM capital reserve funding	71,832	122,130
Other	58,719	1,813
Water specialist grant	28,761	107,000
	\$ 249,312	\$ 230,943

16. Comparative figures

Some of the comparative figures have been reclassified to conform to the current year's presentation.

CENTRAL REGIONAL SERVICE BOARD

Schedule of Tangible Capital Assets

(Schedule 1)

Year Ended December 31, 2025

	General Capital Assets						Totals	
	Land and Improvements	Buildings	Vehicles and Heavy Equipment	Roads and Parking Areas	Furniture and Fixtures	Computers and Data Management	2025	2024
Cost								
Opening cost	\$ 21,916,963	\$ 29,255,393	\$ 23,848,163	\$ 11,840,763	\$ 161,017	\$ 777,834	\$ 87,800,133	\$ 85,321,251
Additions during the year	-	1,270,181	1,352,453	-	-	204,371	2,827,006	2,478,882
Closing costs	21,916,963	30,525,574	25,200,616	11,840,763	161,017	982,205	90,627,139	87,800,133
Accumulated Amortization								
Opening accum'd amortization	3,003,824	13,669,702	18,895,684	11,840,763	151,202	770,663	48,331,841	45,471,324
Amortization	472,944	1,214,160	1,001,466	-	2,181	28,415	2,719,167	2,860,517
Closing accum'd amortization	3,476,768	14,883,862	19,897,150	11,840,763	153,383	799,078	51,051,008	48,331,841
Net Book Value of TCA	\$ 18,440,195	\$ 15,641,712	\$ 5,303,466	\$ -	\$ 7,634	\$ 183,127	\$ 39,576,132	\$ 39,468,293

The accompanying notes are an integral part of these financial statements

CENTRAL REGIONAL SERVICE BOARD**Reconciliation of the Financial Budget to PSAB Budget****(Schedule 2)****Year Ended December 31, 2025**

	Budget	PSAB Changes	PSAB Budget
Revenue			
Collections	\$ 1,946,600	\$ -	\$ 1,946,600
Disposal	6,965,180	-	6,965,180
Grants	-	1,606,542	1,606,542
Interest	-	164,659	164,659
Other	78,520	-	78,520
Transfer to reserves	-	174,096	174,096
	8,990,300	1,945,297	10,935,597
Expenses			
Advertising and promotion	36,000	-	36,000
Amortization	-	2,719,167	2,719,167
Contractor expense	39,000	-	39,000
Environment landfill expenses	-	-	-
Fuel and related transportation services	940,000	-	940,000
Household hazardous waste handling	96,000	-	96,000
Insurance	210,750	-	210,750
Interest and bank charges	15,000	-	15,000
Interest on long term debt	-	120,003	120,003
Landfill closure and post closure	-	266,447	266,447
Material recycling facility	1,100,000	-	1,100,000
Memberships	5,000	-	5,000
Office	36,000	-	36,000
Professional fees	160,000	-	160,000
Repairs and maintenance	1,445,767	-	1,445,767
Salaries and wages	3,456,863	-	3,456,863
Telephone	83,000	-	83,000
Utilities	170,000	-	170,000
Travel	36,600	-	36,600
Capital reserves	760,320	(760,320)	-
Loan repayment	400,000	(400,000)	-
	8,990,300	1,945,297	10,935,597
Revised budget	\$ -	\$ -	\$ -

The accompanying notes are an integral part of these financial statements