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Water Licence 8AC- EUR2331

2024 Annual Report

Eureka High Arctic Weather Station

1871 | 2021
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Distribution List

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1. Introduction

The Eureka High Arctic Weather Station (HAWS; the Project; the Site) is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, Nunavut (**Figure 1**). Since 1947, Department of Environment (ECCC) has owned and managed the overall operations and maintenance of the Site under Land Reserve #1021. The total area of the Site is approximately 2.23 hectares. There are presently 15 primary buildings and other facilities at the HAWS. The Eureka runway is located 1.5 kilometres northeast of the HAWS main complex and is the primary way by which the HAWS is accessed year-round.

The Eureka HAWS is an operational weather monitoring facility as well as a hub of activity for the Department of National Defence (DND), the Polar Continental Shelf Project, and the Polar Environment Atmospheric Research Laboratory (PEARL). Additional sites at Eureka are operated by the Canadian Network for the Detection of Atmospheric Change including the PEARL and the Surface and Atmospheric Flux, Irradiance and Radiation Extension and Zero Altitude PEARL Auxiliary Laboratory (Arcadis 2018).

1.1 Purpose of this Document

The purpose of the Annual Report is to provide a yearly reference and summary of all works related to the Type 'A' Water Licence 8AC-EUR2331 completed for the Project in 2024. Per the terms and conditions outlined in the Licence, this document provides the following:

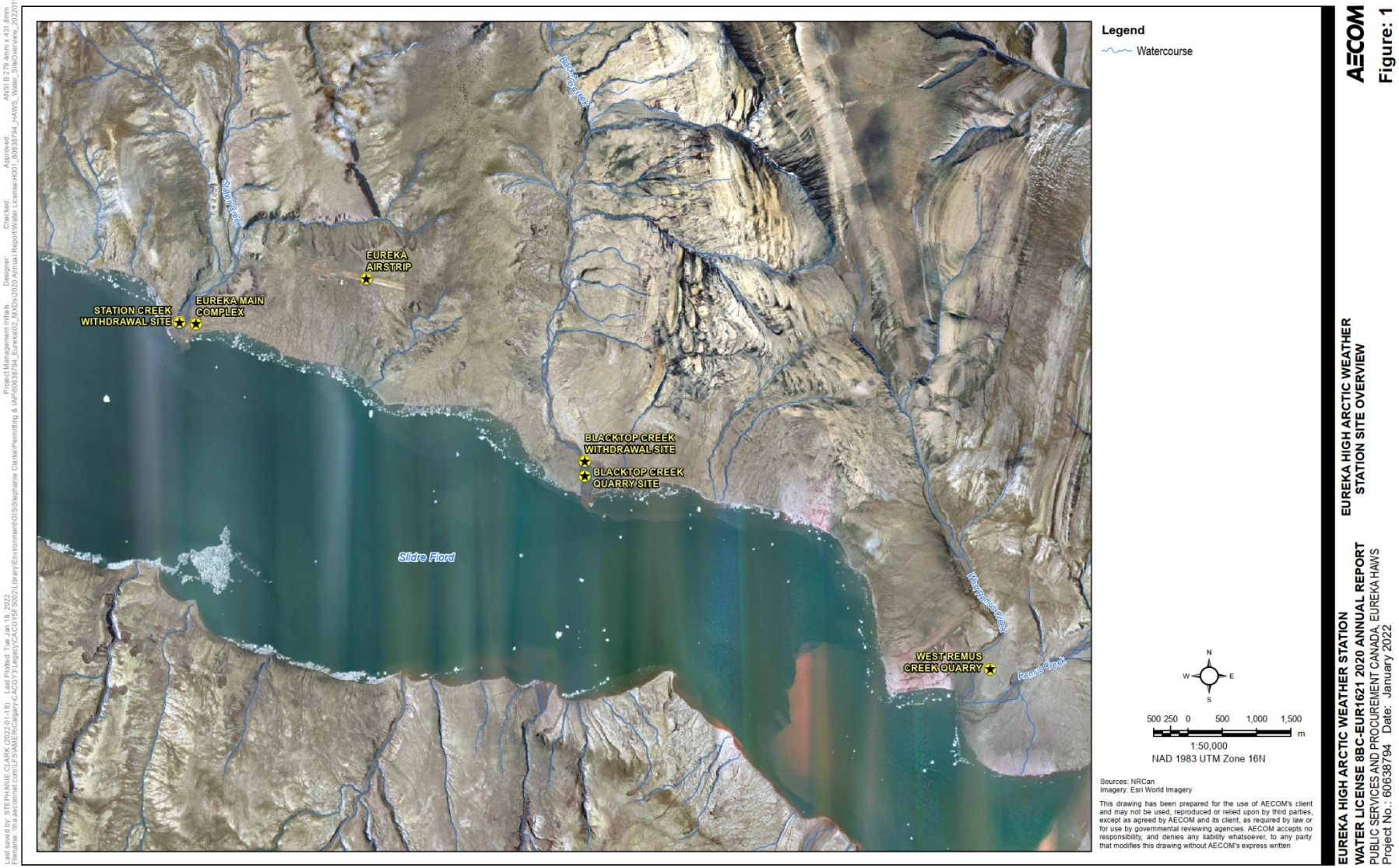
- A technical summary of activities of the Project undertaken for 2024 (**Section 2**);
- A work plan for 2025 (**Section 3**);
- An annual summary of activities related to water use and the deposit of waste on Site including tables and figures that show the locations of where permitted activities were undertaken (**Section 4 and 5**);
- Water quality monitoring results (**Section 6**);
- Water Licence Inspection (**Section 7**);
- Revisions to applicable Management Plans (**Section 8**);
- Progressive reclamation work undertaken (**Section 9**); and,
- Public consultation undertaken (**Section 10)**.

1.2 Project Overview

ECCC is currently undertaking or planning a number of construction and infrastructure upgrade projects at the Eureka HAWS. This includes:

- Water and Wastewater Treatment Infrastructure Upgrades Project
- Construction and Operation of Soil Treatment Facility (Landfarm Facility)
- Water Quality Monitoring Program
- Black Top and West Remus Quarry
- Progressive reclamation; including excavation of the Drainage Pond (includes both North and South)

Figure 1: Eureka High Arctic Weather Station Site Overview



2. Technical Summary of Activities Undertaken in 2024

The Eureka HAWS maintained operational activities throughout the year at the Eureka Main Complex. A technical summary of all activities undertaken in 2024 is listed below.

- The construction camp was opened and fleet maintenance commenced on June 16, 2024.
- All necessary equipment maintenance and repairs were completed in readiness for the construction season.
- The construction activities encompassed:
    - Resuming quarrying and crushing at West Remus Creek Quarry throughout June, July and August under the authority of Quarry Permit 2024QP0002. A total volume of 66,786 cubic meters of aggregate was quarried at the West Remus Creek Quarry in 2024. This leaves 63,257 cubic meters available for future extraction. No quarrying activities were conducted at either the Blacktop Quarry or the West of Eureka HAWS Quarry, which are governed by permits 2024QP0001 and 2024QP0003, respectively.
    - Transporting crushed granular materials to the new water reservoir for continued construction of this facility. In addition, intake pipes and stands were installed, along with some other plumbing components. Construction of the new water reservoir is expected to be completed in 2025.
    - Landfarm construction continued, including construction of the access road, scarification and compaction of subgrade, and placement of geogrid material. Crushed granular materials were also stockpiled in quarries to prepare for continued landfarm construction in summer of 2025.
    - Installation of the new Wastewater Treatment Plant began. Completion is expected for summer of 2025.
    - Existing haul roads were maintained between June and September 2024.
    - Completed runway swale, road to runway maintenance, and repair of culvert in Remus Creek.
    - Received and stored sealift freight for future project work.
- Fuel resupply was achieved through air delivery, with Summit Air providing bulk fuel delivery via AT-72 cargo aircraft equipped with a Transport Canada certified bladder system.
- Waste disposal and storage activities completed in 2024 include:
    - Managed camp waste as follows:
        - Pacto toilets were used throughout the Nuna camp and remote wash car facilities to collect all black water waste, which was then incinerated.
        - The majority of grey water waste from the Nuna camp and remote wash car facilities was collected via a hydrovac truck and deposited in the HAWS wastewater lagoon for treatment before discharge. This included the deposit of 510 m^3 of grey water for 2024 (or approximately 127.5 m^3 each month from June to September).
        - The local septic field (i.e. exfiltration trench), constructed at the Nuna camp in 2022 for the disposal of camp grey water, was operational for part of the summer. In 2024, 365 m^3 of greywater was disposed (or approximately 91.3 m^3 each month from June to September).
        - All non-hazardous combustible waste, such as from camp operations, was collected and incinerated on-Site.
        - Non-hazardous, non-combustible waste generated in the camp, or through construction and maintenance activities, was deposited in the on-Site landfill.
        - No hazardous waste was removed off-site for disposal at an approved facility 2024.

- Fuel storage tank inspections
- The fleet and camp were winterized for the final departure of the crew on September 12, 2024.

Figure 2: Eureka HAWS Main Station Area

Appendix A includes a photolog documenting progress of the 2024 construction season.

3. Work Plan for 2025

The construction program summary presented below outlines activities planned for 2025 summer field season (June – September):

- The Site will continue to operate as usual, with routine facility maintenance and runway operations.
- The Program of Works Project will involve renovation and retrofit activities throughout the buildings on Site. Older buildings may be demolished and disposed of appropriately.
- The West Remus Creek Quarry operations will continue quarrying activities and crushing to provide aggregate material for other projects.
- Progressive reclamation of depleted quarry areas.
- Fuel Storage Tank inspections will continue, involving manual inspections and minor repairs of fuel storage tanks.
- Construction on the landfarm will continue and is expected to be completed in 2025.
- Relocation of contaminated soil from construction areas to the landfarm for treatment.
- Water & Sewer Infrastructure Upgrades will include:
    - Filling of the raw water reservoir utilizing approximately 20,000 cubic metres of water from Station Creek
    - Installation of piping systems for water withdrawal from the raw water reservoir.
    - Complete installation of a foundation pad and raw water supply pumphouse building, including electrical connections.
    - Installation of the modular waste water treatment plant, completion of all connections, and start-up and commissioning of the plant.
    - Continued installation of piping, electrical, and pumping systems related to the raw water reservoir and waste water treatment plant.
    - Desludging and repurposing of the existing sewage lagoon into a new retention basin for treated wastewater.
- The camp will be winterized, and personnel will depart in late September 2025.
- Ongoing equipment maintenance will generate more waste oil products. These materials are collected and stored in double-walled steel tanks for future removal from the site.

4. Water Use

4.1 Location and Methods

The Eureka HAWS obtains its water for domestic purposes from the Eureka HAWS raw water reservoir pumphouse (**Figure 2**). The reservoir water is pumped from Station Creek using a Franklin Electric FLS-400 pump. Pumping occurs shortly after water starts flowing in Station Creek to maximize the amount of fresh runoff into the Eureka Water Reservoir. Station Creek eventually stops flowing until a second flow begins when the permafrost melts. At this time water is pumped again to ensure the Eureka Water Reservoir is full prior to freeze up. Water for construction purposes and dust suppression is withdrawn from Station Creek, Blacktop Creek, and West Remus Creek when necessary.

Location, quantities, and timeframe of withdrawal are presented in **Table 1**. Daily Quantities are included in **Appendix B.**

Table 1: Water Use Locations and Yearly Quantities at Eureka High Arctic Weather Station

Source Description	Quantities (m^3 / year)	Latitude			Longitude		
		Deg (º)	Min (´)	Sec (˝)	Deg (º)	Min (´)	Sec (˝)
Station Creek	5,663.2	79	59	21	85	57	4
Blacktop Creek	237.60	79	58	12	85	38	59
West Remus Creek	0	79	58	23	85	39	43

4.2 Erosion and Sedimentation/Dust Control

Dust control near the airstrip and haul roads was accomplished using water primarily from Blacktop Creek. A Hydrovac truck was used to take water from the creek and then spray on dry, dusty areas as required. No erosion control measures were required at the collection site.

Silt fencing for erosion control was installed adjacent to the Creek Pumphouse pad which protects Station Creek along the road or worksites. Conditions are monitored and additional silt fencing is available for use as needed.

5. Waste Disposal

5.1 Location and Methods

All waste disposal activities are conducted in accordance with the *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* (ECCC, June 2022) and approved by the Nunavut Water Board.

Blackwater and greywater from the Station at the Eureka HAWS is deposited in the Sewage Lagoon. Black water from the contractor camp is collected with Pacto toilets and is then incinerated on site; whereas, some greywater is pumped or collected via Hydrovac truck and deposited in the Sewage Lagoon (**Figure 2**). For remaining greywater, an exfiltration trench system is utilized for treatment and disposal. Ongoing use of the trench is planned for the summer of 2025 and until the Wastewater Treatment Plant is commissioned.

The contents of the Sewage Lagoon are decanted into the Slidre Fiord using a Monarch Pump Model TT30 Type E. The Sewage Lagoon is usually decanted once in summer and again prior to freeze-up in August. Prior to decanting, two sets of water samples are taken, and the timing of collection coincides with the produce delivery to ensure the samples arrive at a laboratory within 24 hours. Once the laboratory results are returned, they are assessed for conformity against the Water licence and ECCC requests authorization from CIRNAC to decant. Following approval from CIRNAC, the Sewage Lagoon is decanted until empty or until a layer of ice is uncovered.

Excavated soils that are contaminated are stored temporarily in lined stockpiles and will be moved to the landfarm for treatment once the landfarm construction is completed in 2025.

All hazardous waste is transported off-site for disposal at a licenced hazardous waste disposal facility, all non-hazardous combustible waste is incinerated, and solid waste, including ash, is disposed of at the Landfill.

Table 2 provides locations of waste storage and disposal sites at Eureka HAWS (**Figures 3 and 4)** which include:

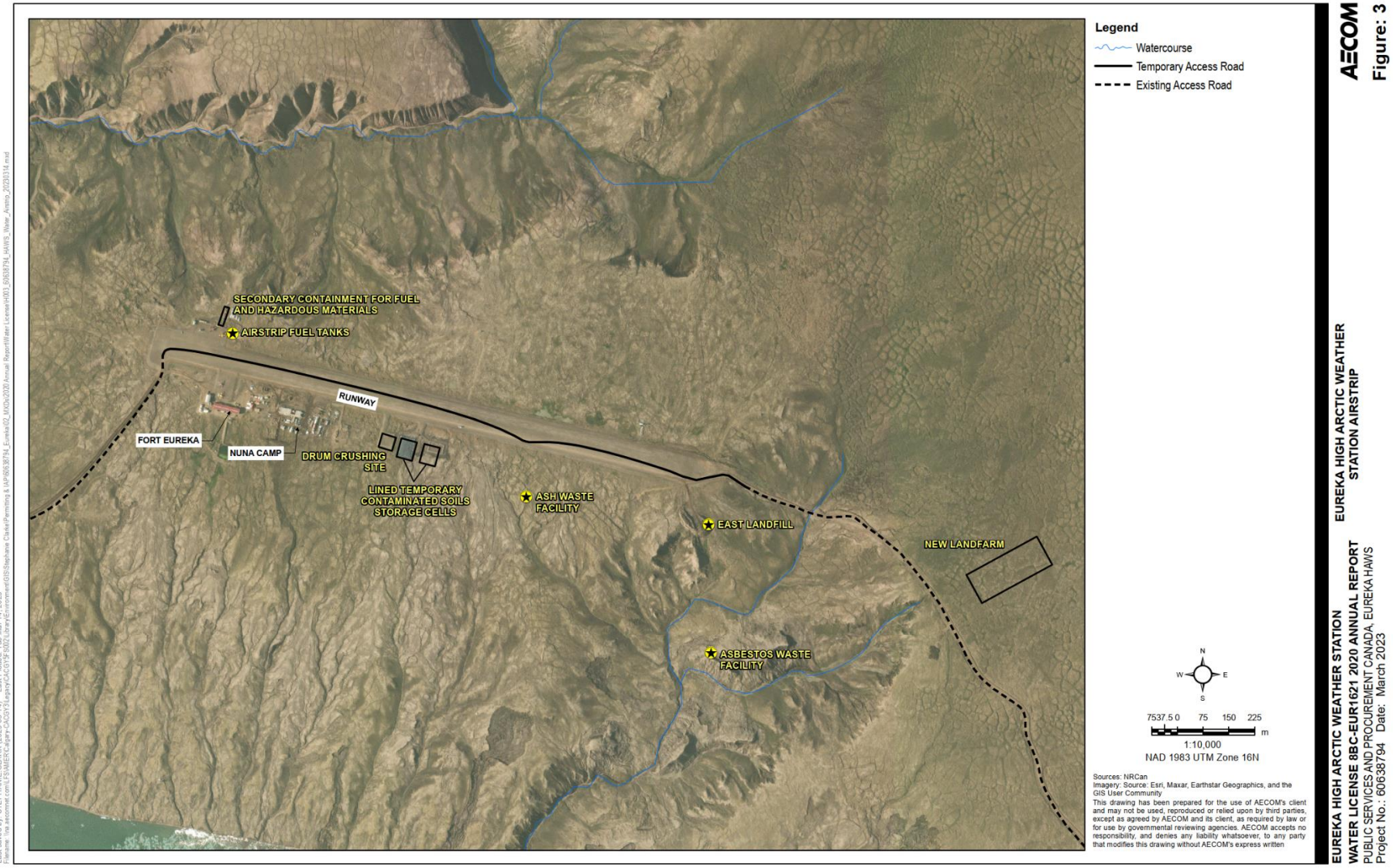
- Fuel Tank Farm - Waste fuel and oil products are stored in barrels and transported/disposed of as hazardous waste.
- Construction Contractor Fuel Storage
- Asbestos Waste Facility - In previous years, asbestos was discovered and transported to the Asbestos Waste Facility for storage.
- Drum Crushing Site - Empty barrels are crushed in a lined area and transported off-site for disposal.
- Landfill (Non-Hazardous Solid Waste Disposal Facility) - Miscellaneous waste that cannot be incinerated, including ash from incinerator, is delivered to the Eureka HAWS Non-Hazardous Solid Waste Facility.
- Sewage Lagoon - holds greywater and blackwater prior to decanting into fjord.
- Existing / in-situ landfarm and new Soil Treatment Facility (Landfarm Facility) - Construction of the Landfarm Facility is to be completed in 2025, – Existing / in-situ landfarm currently contains contaminated soils which will be treated in the new landfarm once constructed.
- Temporary Contaminated Soils Storage Cells - these store soils from the main apron area of the airport, as well as contaminated soils that are awaiting treatment within the new landfarm
- Incinerator - used to burn non-hazardous combustible wastes
- Greywater exfiltration trench - used for treating and disposing greywater from the Construction Camp.

Table 2: Locations for Waste Storage & Disposal Sites at Eureka High Arctic Weather Station

Source Description	Latitude			Longitude		
	Deg (º)	Min (´)	Sec (˝)	Deg (º)	Min (´)	Sec (˝)
Fuel Tank Farm	79	59	24	85	56	10
Construction Contractor Fuel Storage	79	59	38	85	49	27
Asbestos Waste Facility	79	59	17	85	46	10
Drum Crushing Site	79	59	36	85	49	6
Landfill (Non-hazardous Solid Waste Facility)	79	59	29	85	46	14
Sewage Lagoon	79	59	23	85	50	11
New Landfarm	79	59	25	85	43	42
Temporary Contaminated Soil Storage – Adjacent to Runway	79	59	37	85	48	51
Temporary Contaminated Soil Storage – Near Airstrip Fuel Tanks	79	59	50	85	50	26
In situ / Existing Landfarm	79	59	47	85	50	40
Incinerator	79	59	22	85	56	21
Grey Water Exfiltration Trench	79	59	38	85	50	06

Figure 3: Waste and Storage Facilities on the Main Complex of the Eureka High Arctic Weather Station

Figure 4: Waste Disposal Facilities for the Eureka High Arctic Weather Station



5.2 Unauthorized Discharges

There were no unauthorized discharges of waste in 2024.

5.3 Waste Quantities

The following quantities of waste were observed in 2024:

- From July 31 to August 25, 1,535 m^3 of sewage effluent was decanted (during seven events) into the fjord.
- 445.5 m^3 of greywater was deposited into the greywater exfiltration trench in 2024. Monthly quantities are presented in **Table 3**.

Table 3: Monthly Quantities of Greywater Deposited into Exfiltration Trench

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	0	0	56.7	118.8	189	81	0	0	0

- in 2024, the Site produced on average 1,112 kilograms (kg) of household waste each month, for a total of 13,340 kg for the year. It is subsequently incinerated, and the ash is sent to the Non-Hazardous Solid Waste Disposal Facility. The remainder of non-incinerable waste is also transported to this Facility. Monthly Quantities of household waste are presented in
- **Table** 4**.**

Table 4: Monthly Quantities of Solid Household Waste (kg)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,130	905	795	755	905	655	790	880	2,735	1,030	1,365	1,395

- On an average year, 4 barrels of waste, 1 barrel of waste oil filters, 2 barrels of incinerator ash, and 1 barrel of used batteries are generated. Quantities vary from year to year. The waste barrels are then stored in a lined area in the Fuel Tank Farm until they are transported off-site for disposal at a licenced hazardous waste facility. No Hazardous waste was removed from site in 2024.

6. Water Quality Monitoring Results

Routine water quality samples were collected in 2024 as part of the Water License Monitoring Program at the following location:

- EUR 3: Sewage water sample collected at the Sewage Lagoon prior to decanting

Water quality samples were not taken at the other monitoring locations due to the absence of runoff.

There were no seeps observed within the quarry during the 2024 construction season. Ongoing melt water from within the watershed is present from time to time within the quarry and natural drainage paths at various times throughout the season. Thawing of permafrost at the base of the active layer after removal of thawed quarry materials was observed throughout West Remus quarry. Further thawing allowed melt water to naturally subside.

Water quality results for the Sewage Lagoon (EUR-3) in June and July were compared to the maximum concentration of parameters allowed in the Type 'A' Water Licence 8AC-EUR2331 and are presented in **Table 5** and **Table 6**. Two separate samples were sent to the lab for analysis after the first sample was unsuccessful in obtaining data for Fecal Coliforms and Biochemical Oxygen Demand. Because samples were received past hold time; analysis for these parameters was not possible for the first sample. **Appendix C** contains the laboratory results. The results for Biochemical Oxygen Demand for the second sample taken on July 11, 2024 (1,330 mg/L) exceed the Water Licence's Maximum Concentration Guidelines (100 mg/L). All other parameters are within the limits. The new wastewater treatment plant which is expected to be commissioned in 2025 is the solution to the exceedance. The new plant's purpose is to improve water quality of treated sewage effluent.

Table 5: Sewage Lagoon (EUR-3) Water Quality Parameters and Results (Sample from June 27, 2024)

Parameter	Units	EUR-3	Maximum Concentration Guideline (Licence Part #, Item 10)
pH	N/A	7.86	Between 6.0 and 9.0
Oil and Grease	mg/L	No visible Sheen	No Visible Sheen
Fecal Coliform	CFU/100 mL	--	1 x 10^6 CFU/100 mL
Biochemical Oxygen Demand	mg/L	--	100 mg/L
Total Suspended Solids	mg/L	70	120 mg/L

Table 6: Sewage Lagoon (EUR-3) Water Quality Parameters and Results (Sample from July 11, 2024)

Parameter	Units	EUR-3	Maximum Concentration Guideline (Licence Part #, Item 10)
pH	N/A	--	Between 6.0 and 9.0
Oil and Grease	mg/L	--	No Visible Sheen
Fecal Coliform	CFU/100 mL	330,000	1 x 10^6 CFU/100 mL
Biochemical Oxygen Demand	mg/L	1330	100 mg/L
Total Suspended Solids	mg/L	--	120 mg/L

*Below the detection limit

Domestic water sampling was conducted in April and May and included sample collection of raw water in the freshwater lagoon, chlorinated water in the Eureka Main Complex Tank, pumphouse water tank, tap water and reverse osmosis drinking water.

All water quality sampling results are provided in **Appendix C**.

7. Water Licence Inspection

The 2024 CIRNAC inspection report completed November 26, 2024 identified zero (0) non-compliance items related to Water Licence 8AC-EUR2331. The Inspection report is included in **Appendix D**.

8. Revisions to Applicable Management Plans

There were no revisions to approved Management Plans made in 2024.

9. Progressive Reclamation Work Undertaken in 2024

Progressive reclamation has continued in the West Remus quarry. Reclamation of the depleted areas of the quarry is ongoing. Reclamation activities include shaping and sloping of the disturbed areas to create positive drainage and natural looking surface contours, similar to the appearance prior to disturbance. The natural drainage path through the quarry area will be maintained/restored at completion of the Project. Progressive reclamation activity will continue in the West Remus Creek area throughout the 2025 season.

10. Public Consultation

The Hamlet Council of Grise Fiord and the Iviq Hunters and Trappers Organization were both sent a letter in June 2024 to provide project updates and request that they connect with ECCC should they have any questions or comments about the Project. There has been no response from either community at the time of writing.

11. Closure

Should the Nunavut Water Board have any questions or concerns regarding this document, please contact the undersigned.

Sincerely,
Environment and Climate Change Canada

Jean-Philippe Cloutier-Dussault
Property Manager, Assets, Real Property and Security Directorate
Environment and Climate Change Canada / Government of Canada
jean-philippe.cloutier-dussault@ec.gc.ca / Tel. : 514-641-8753

12. References

Arcadis Canada Inc. (Arcadis), 2018:
Environmental Impact Assessment Addendum for the High Arctic Weather Station Project Improvements for: Construction of New Road, Construction of Water Crossing over Black Top Creek, and Development of New Quarry Site. March 2018. Prepared for Public Services and Procurement Canada.

Nunavut Water Board (NWB), 2024
Water license No. 8AC-EUR2331

Appendix A

2024 Photo Log

Construction Progress Photo Log

Photo: Compacting south-west berm.

Photo: Dozer pushing material for 250mm lift on north-west berm.

Daily Construction Progress Photo Log

Photo: Excavator trimming down high area in north-east corner.

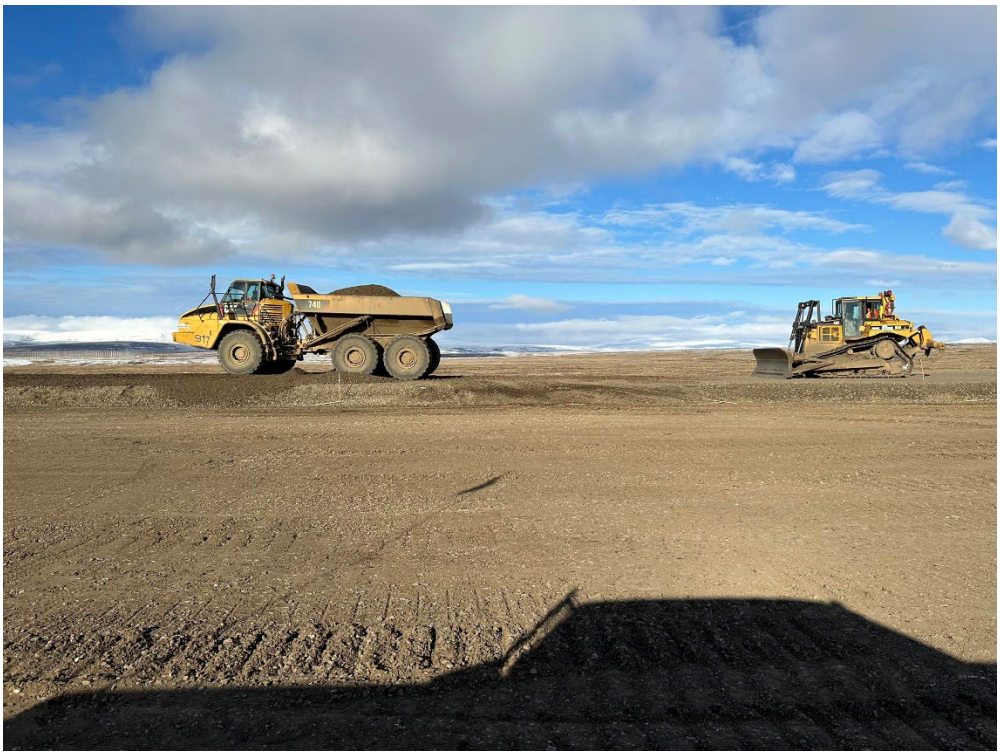
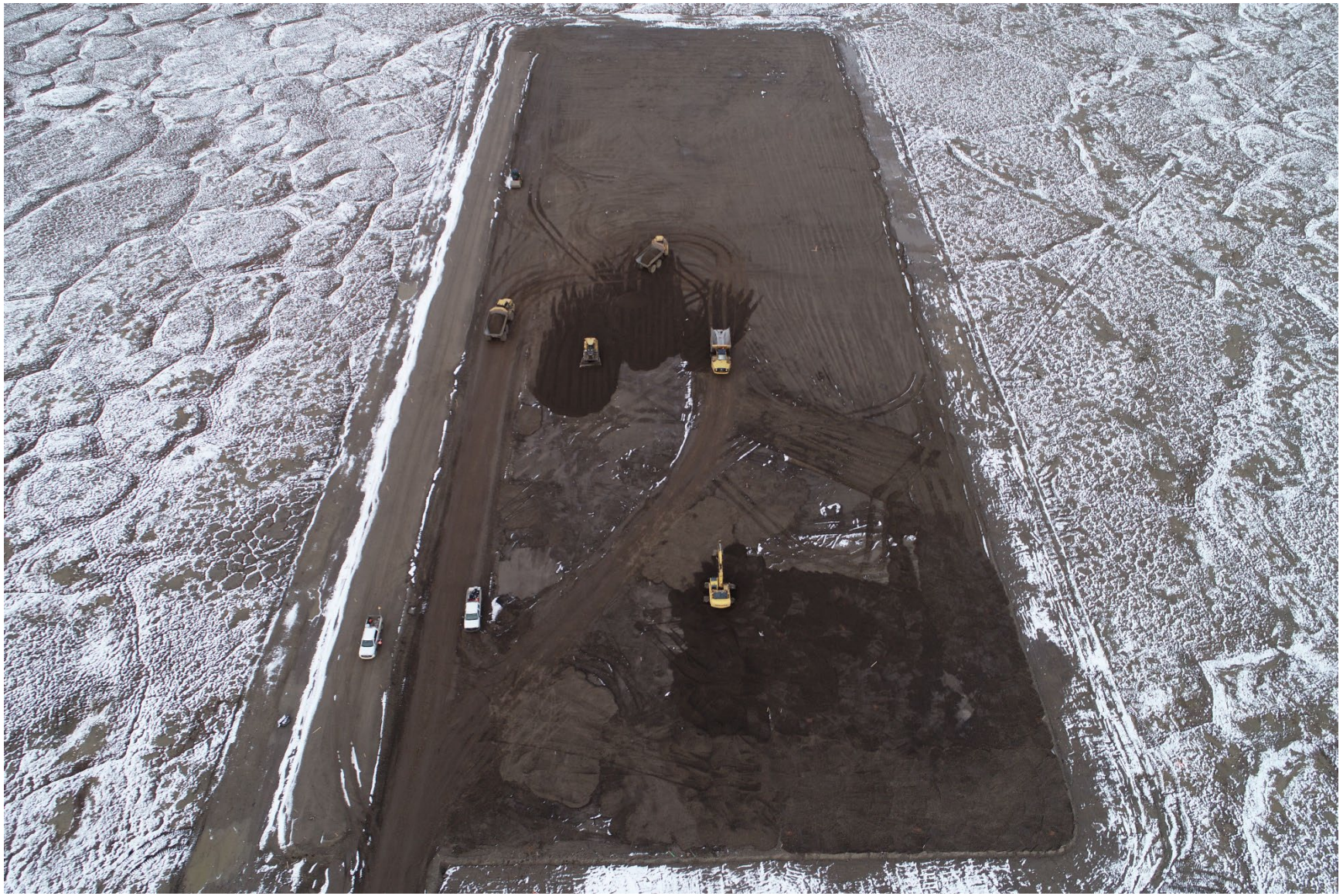


Photo: Hauling in material for 250mm lift on north-west berm.

Daily Construction Progress Photo Log

Photo: Compaction test on south-west berm.

Photo: Failed compaction test on south half of STF.



Aerial view of Landfarm Facility construction progress from end of 2024 construction season

Appendix B

Daily Quantities of Water Withdrawn

2024 Eureka Water Licence Annual Report - Daily Water Volumes Withdrawn from Station Creek, West Remus Creek, and Blacktop Creek

DATE	West Remus Creek (Cubic Metres)	Blacktop Creek (Cubic Metres)	Station Creek (Cubic Metres)
May 30, 2024			43.20
June 6, 2024			10.80
June 8, 2024			10.80
June 11, 2024			10.80
June 13, 2024			10.80
June 15, 2024			10.80
June 24, 2024			2219.00
July 4, 2024			710.00
July 10, 2024			452.00
July 12, 2024			21.60
July 14, 2024			10.80
July 16, 2024			10.80
July 18, 2025			10.80
July 20, 2024			66.97
July 21, 2024			357.93
July 22, 2024			10.80
July 24, 2024			10.80
July 25, 2024		64.80	
July 26, 2024		43.20	10.80
July 27, 2024		75.60	99.20
July 28, 2024		43.20	10.80
July 30, 2024			10.80
August 1, 2024			10.80
August 2, 2024			556.00
August 3, 2024			10.80
August 5, 2024			62.90
August 6, 2024			175.30
August 7, 2024			10.80
August 9, 2024			10.80
August 11, 2024			10.80
August 13, 2024			154.00
August 15, 2024			10.80
August 17, 2024			10.80
August 19, 2024			10.80
August 20, 2024			152.60
August 22, 2024			10.80
August 23, 2024			10.80
August 24, 2024			163.50
August 26, 2024			10.80
August 27, 2024			88.80
August 28, 2024			10.80
August 30, 2024			16.20
September 1, 2024		10.80	10.80
September 3, 2024			16.20
September 5, 2024			16.20
September 7, 2024			10.80
September 9, 2024			
September 10, 2024			
Total	**-**	**237.60**	**5,663.20**

Appendix C

Water Quality Sampling Data

Canadian Association for Laboratory Accreditation Inc.

Certificate of Accreditation

Taiga Environmental Laboratory
Government of Northwest Territories (GNWT)
4601 - 52nd Avenue
P.O. Box 1320
Yellowknife, Northwest Territories

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

Accreditation No.: 1002635
Issued On: 10/25/2023
Accreditation Date: 1/3/2005
Expiry Date: 4/25/2026

President and CEO

This certificate is the property of the Canadian Association for Laboratory Accreditation Inc. and must be returned on request; reproduction must follow policy in place at date of issue.
For the specific tests to which this accreditation applies, please refer to the laboratory's scope of accreditation at www.cala.ca.

Don Lavallee
Station Program Manager – Eureka Weather Station
Upper Air Operations
Atmospheric Monitoring & Data Services Division
Meteorological Service of Canada
Environment & Climate Change Canada
Eureka, Nunavut X0A 0G0

Re: Water License 8AC-EUR2331
Eureka High Arctic Weather Station

Submitted: July 15, 2024
Reviewed: July 19, 2024

Thank you for the submission of the Quality Assurance and Quality Control Plan prepared by Environmental and Climate Change Canada. As per the Nunavut Water Board requirements in granting a license, the Eureka High Arctic Weather Station QA/QC plan has been reviewed and found to be complete. Approval of the proposal is hereby granted.

If you have any questions or require further information, please do not hesitate to contact me at (867) 767-9235 x53154 or via email at Glen_Hudy@gov.nt.ca.

Sincerely,

Glen Hudy
Quality Control Officer
Analyst under the Northwest Territories Waters Act

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

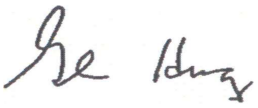
- FINAL REPORT -

Prepared For: Environment Canada

Address: 123 Main Street
Suite 150
Winnipeg,MB
R3C 4W2

Attn: **Don Lavallee** **Facsimile:**

Final report has been reviewed and approved by:



Glen Hudy
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Results are based on the specific tests at the time of analysis, does not represent the conditions during sampling and relates only to the items tested.

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Eur-3 **Taiga Sample ID:** 001

Client Project: Sewage Lagoon Sampling
Sample Type: Sewage Lagoon
Received Date: 04-Jul-24
Sampling Date: 27-Jun-24
Sampling Time: 16:30
Location: Eureka, Nunavut
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Cations by ICP-MS						
Calcium	115	0.1	mg/L	10-Jul-24	TEL035	
Hardness	515	0.7	mg/L	10-Jul-24	TEL035	
Magnesium	55.1	0.1	mg/L	10-Jul-24	TEL035	
Potassium	20.1	0.1	mg/L	10-Jul-24	TEL035	
Sodium	531	0.1	mg/L	10-Jul-24	TEL035	
Inorganics - Nutrients						
Ammonia as Nitrogen	25.5	0.105	mg/L	08-Jul-24	TEL068	210
Biochemical Oxygen Demand		2	mg/L		TEL019	105
Organic Carbon, Total	111	0.5	mg/L	17-Jul-24	TEL033	
Phosphorous, Total	5.05	0.008	mg/L	10-Jul-24	TEL069	210
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	262	0.4	mg/L	04-Jul-24	TEL060	
Conductivity, Specific (@25C)	3780	0.4	µS/cm	04-Jul-24	TEL059	
pH	7.86		pH units	04-Jul-24	TEL058	
Solids, Total Suspended	70	3	mg/L	12-Jul-24	TEL008	

ReportDate: July 25, 2024
Print Date: ***July 25, 2024***

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Eur-3 **Taiga Sample ID:** 001

Major Ions							
Chloride	803	18.2	mg/L	10-Jul-24	TEL055	210	233
Nitrate as Nitrogen	0.30	0.01	mg/L	10-Jul-24	TEL055		233
Nitrate+Nitrite as Nitrogen	0.30	0.01	mg/L	10-Jul-24	TEL055		233
Sulphate	343	26	mg/L	10-Jul-24	TEL055	210	233
Microbiology							
Coliforms, Fecal		1	CFU/100mL		TEL017		105
Organics							
Oil and Grease, visible	Non-visible			04-Jul-24	Visual Exam		
Subcontracted Organics							
Phenols, Total	0.0661	0.001	mg/L	11-Jul-24	AB ENV.06537		
Trace Metals, Total							
Aluminum	109	6	µg/L	11-Jul-24	TEL035	210	
Antimony	< 1.0	1	µg/L	11-Jul-24	TEL035	210	
Arsenic	2.0	2	µg/L	11-Jul-24	TEL035	210	
Barium	17.3	1	µg/L	11-Jul-24	TEL035	210	
Beryllium	< 1.0	1	µg/L	11-Jul-24	TEL035	210	
Cadmium	< 0.40	0.4	µg/L	11-Jul-24	TEL035	210	
Cesium	< 1.0	1	µg/L	11-Jul-24	TEL035	210	
Chromium	< 1.0	1	µg/L	11-Jul-24	TEL035	210	
Cobalt	1.0	1	µg/L	11-Jul-24	TEL035	210	
Copper	42.0	2	µg/L	11-Jul-24	TEL035	210	
Iron	1360	50	µg/L	11-Jul-24	TEL035	210	
Lead	< 1.0	1	µg/L	11-Jul-24	TEL035	210	
Lithium	26.5	2	µg/L	11-Jul-24	TEL035	210	

ReportDate: July 25, 2024
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Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Eur-3 **Taiga Sample ID:** 001

Manganese	166	1	µg/L	11-Jul-24	TEL035	210
Molybdenum	< 1.0	1	µg/L	11-Jul-24	TEL035	210
Nickel	6.5	1	µg/L	11-Jul-24	TEL035	210
Rubidium	14.4	1	µg/L	11-Jul-24	TEL035	210
Selenium	< 3.0	3	µg/L	11-Jul-24	TEL035	210
Silver	< 1.0	1	µg/L	11-Jul-24	TEL035	210
Strontium	478	1	µg/L	11-Jul-24	TEL035	210
Thallium	< 1.0	1	µg/L	11-Jul-24	TEL035	210
Titanium	5.2	1	µg/L	11-Jul-24	TEL035	210
Uranium	< 1.0	1	µg/L	11-Jul-24	TEL035	210
Vanadium	< 1.0	1	µg/L	11-Jul-24	TEL035	210
Zinc	42.7	4	µg/L	11-Jul-24	TEL035	210

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Print Date: *July 25, 2024*

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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: DIST 1 **Taiga Sample ID:** 002

Client Project: Distilled Water
Sample Type: Distilled H2O
Received Date: 04-Jul-24
Sampling Date: 27-Jun-24
Sampling Time: 15:45
Location: Eureka, Nunavut
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Cations by ICP-MS						
Calcium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Hardness	< 0.7	0.7	mg/L	10-Jul-24	TEL035	
Magnesium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Potassium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Sodium	0.4	0.1	mg/L	10-Jul-24	TEL035	
Inorganics - Nutrients						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	08-Jul-24	TEL068	
Biochemical Oxygen Demand		2	mg/L		TEL019	105
Organic Carbon, Total	1.2	0.5	mg/L	17-Jul-24	TEL033	
Phosphorous, Total	0.003	0.002	mg/L	10-Jul-24	TEL069	
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	1.3	0.4	mg/L	04-Jul-24	TEL060	
pH	6.49		pH units	04-Jul-24	TEL058	
Solids, Total Suspended	< 3	3	mg/L	12-Jul-24	TEL008	
Turbidity	0.07	0.05	NTU	05-Jul-24	TEL006	
Major Ions						

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

Taiga Environmental Laboratory
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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: DIST 1 **Taiga Sample ID:** 002

Chloride	< 0.7	0.7	mg/L	10-Jul-24	TEL055	233
Nitrate as Nitrogen	0.02	0.01	mg/L	10-Jul-24	TEL055	233
Nitrate+Nitrite as Nitrogen	0.02	0.01	mg/L	10-Jul-24	TEL055	233
Sulphate	< 1	1	mg/L	10-Jul-24	TEL055	233
Microbiology						
Coliforms, Fecal		1	CFU/100mL		TEL017	105
Coliforms, Total		1	MPN/100ml		TEL053	105
Escherichia coli		1	MPN/100ml		TEL053	105
Subcontracted Organics						
Phenols, Total	< 0.0010	0.001	mg/L	11-Jul-24	AB ENV.06537	
Trace Metals, Total						
Aluminum	0.7	0.6	µg/L	11-Jul-24	TEL035	
Antimony	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Arsenic	< 0.2	0.2	µg/L	11-Jul-24	TEL035	
Barium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Beryllium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Cadmium	< 0.04	0.04	µg/L	11-Jul-24	TEL035	
Cesium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Chromium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Cobalt	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Copper	4.0	0.2	µg/L	11-Jul-24	TEL035	
Iron	< 5	5	ug/L	11-Jul-24	TEL035	
Lead	0.7	0.1	µg/L	11-Jul-24	TEL035	
Lithium	< 0.2	0.2	µg/L	11-Jul-24	TEL035	
Manganese	< 0.1	0.1	µg/L	11-Jul-24	TEL035	

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

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Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: DIST 1 **Taiga Sample ID:** 002

Molybdenum	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Nickel	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Rubidium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Selenium	< 0.3	0.3	µg/L	11-Jul-24	TEL035
Silver	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Strontium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Thallium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Titanium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Uranium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Vanadium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Zinc	12.7	0.4	µg/L	11-Jul-24	TEL035

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TB **Taiga Sample ID:** 003

Client Project:
Sample Type: Water
Received Date: 04-Jul-24
Sampling Date: 27-Jun-24
Sampling Time: 15:45
Location: Eureka, Nunavut
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Cations by ICP-MS						
Calcium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Hardness	< 0.7	0.7	mg/L	10-Jul-24	TEL035	
Magnesium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Potassium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Sodium	0.3	0.1	mg/L	10-Jul-24	TEL035	
Inorganics - Nutrients						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	08-Jul-24	TEL068	
Biochemical Oxygen Demand		2	mg/L		TEL019	105
Organic Carbon, Total	< 0.5	0.5	mg/L	17-Jul-24	TEL033	
Phosphorous, Total	< 0.002	0.002	mg/L	10-Jul-24	TEL069	
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	1.0	0.4	mg/L	04-Jul-24	TEL060	
pH	5.75		pH units	04-Jul-24	TEL058	
Solids, Total Suspended	< 3	3	mg/L	12-Jul-24	TEL008	
Turbidity	0.13	0.05	NTU	05-Jul-24	TEL006	
Major Ions						

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

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Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TB **Taiga Sample ID:** 003

Chloride	< 0.7	0.7	mg/L	10-Jul-24	TEL055	233
Nitrate as Nitrogen	< 0.01	0.01	mg/L	10-Jul-24	TEL055	233
Nitrate+Nitrite as Nitrogen	< 0.01	0.01	mg/L	10-Jul-24	TEL055	233
Sulphate	< 1	1	mg/L	10-Jul-24	TEL055	233
Microbiology						
Coliforms, Fecal		1	CFU/100mL		TEL017	105
Coliforms, Total		1	MPN/100ml		TEL053	105
Escherichia coli		1	MPN/100ml		TEL053	105
Subcontracted Organics						
Phenols, Total	< 0.0010	0.001	mg/L	11-Jul-24	AB ENV.06537	
Trace Metals, Total						
Aluminum	0.7	0.6	µg/L	11-Jul-24	TEL035	
Antimony	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Arsenic	< 0.2	0.2	µg/L	11-Jul-24	TEL035	
Barium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Beryllium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Cadmium	< 0.04	0.04	µg/L	11-Jul-24	TEL035	
Cesium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Chromium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Cobalt	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Copper	4.1	0.2	µg/L	11-Jul-24	TEL035	
Iron	< 5	5	ug/L	11-Jul-24	TEL035	
Lead	0.8	0.1	µg/L	11-Jul-24	TEL035	
Lithium	< 0.2	0.2	µg/L	11-Jul-24	TEL035	
Manganese	< 0.1	0.1	µg/L	11-Jul-24	TEL035	

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TB **Taiga Sample ID:** 003

Molybdenum	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Nickel	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Rubidium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Selenium	< 0.3	0.3	µg/L	11-Jul-24	TEL035
Silver	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Strontium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Thallium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Titanium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Uranium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Vanadium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Zinc	12.5	0.4	µg/L	11-Jul-24	TEL035

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: FB **Taiga Sample ID:** 004

Client Project:
Sample Type: Water
Received Date: 04-Jul-24
Sampling Date: 27-Jun-24
Sampling Time: 15:45
Location: Eureka, Nunavut
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Cations by ICP-MS						
Calcium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Hardness	< 0.7	0.7	mg/L	10-Jul-24	TEL035	
Magnesium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Potassium	< 0.1	0.1	mg/L	10-Jul-24	TEL035	
Sodium	0.3	0.1	mg/L	10-Jul-24	TEL035	
Inorganics - Nutrients						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	08-Jul-24	TEL068	
Biochemical Oxygen Demand		2	mg/L		TEL019	105
Organic Carbon, Total	< 0.5	0.5	mg/L	17-Jul-24	TEL033	
Phosphorous, Total	0.004	0.002	mg/L	10-Jul-24	TEL069	
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	0.7	0.4	mg/L	04-Jul-24	TEL060	
pH	5.74		pH units	04-Jul-24	TEL058	
Solids, Total Suspended	< 3	3	mg/L	12-Jul-24	TEL008	
Turbidity	0.06	0.05	NTU	05-Jul-24	TEL006	
Major Ions						

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

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Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: FB **Taiga Sample ID:** 004

Chloride	< 0.7	0.7	mg/L	10-Jul-24	TEL055	233
Nitrate as Nitrogen	< 0.01	0.01	mg/L	10-Jul-24	TEL055	233
Nitrate+Nitrite as Nitrogen	< 0.01	0.01	mg/L	10-Jul-24	TEL055	233
Sulphate	< 1	1	mg/L	10-Jul-24	TEL055	233
Microbiology						
Coliforms, Fecal		1	CFU/100mL		TEL017	105
Coliforms, Total		1	MPN/100ml		TEL053	105
Escherichia coli		1	MPN/100ml		TEL053	105
Subcontracted Organics						
Phenols, Total	< 0.0010	0.001	mg/L	11-Jul-24	AB ENV.06537	
Trace Metals, Total						
Aluminum	0.6	0.6	µg/L	11-Jul-24	TEL035	
Antimony	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Arsenic	< 0.2	0.2	µg/L	11-Jul-24	TEL035	
Barium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Beryllium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Cadmium	< 0.04	0.04	µg/L	11-Jul-24	TEL035	
Cesium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Chromium	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Cobalt	< 0.1	0.1	µg/L	11-Jul-24	TEL035	
Copper	3.4	0.2	µg/L	11-Jul-24	TEL035	
Iron	< 5	5	ug/L	11-Jul-24	TEL035	
Lead	0.6	0.1	µg/L	11-Jul-24	TEL035	
Lithium	< 0.2	0.2	µg/L	11-Jul-24	TEL035	
Manganese	< 0.1	0.1	µg/L	11-Jul-24	TEL035	

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: FB **Taiga Sample ID:** 004

Molybdenum	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Nickel	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Rubidium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Selenium	< 0.3	0.3	µg/L	11-Jul-24	TEL035
Silver	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Strontium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Thallium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Titanium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Uranium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Vanadium	< 0.1	0.1	µg/L	11-Jul-24	TEL035
Zinc	10.4	0.4	µg/L	11-Jul-24	TEL035

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240918

- CERTIFICATE OF ANALYSIS -

Client Sample ID: FB **Taiga Sample ID:** 004

- DATA QUALIFERS -

Data Qualifier Descriptions:

105 *Samples received past hold time; analysis not possible.*

210 *Detection limit adjusted for required dilution.*

233 *Equipment failure; sample analyzed past hold time.*

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

ReportDate: July 25, 2024
Print Date: *July 25, 2024*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240990

- FINAL REPORT -

Prepared For: Environment Canada

Address: 123 Main Street
Suite 150
Winnipeg,MB
R3C 4W2

Attn: **Don Lavallee** **Facsimile:**

Final report has been reviewed and approved by:

Glen Hudy
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Results are based on the specific tests at the time of analysis, does not represent the conditions during sampling and relates only to the items tested.

ReportDate: July 23, 2024
Print Date: *July 23, 2024*

Taiga Environmental Laboratory
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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240990

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EUR-3 **Taiga Sample ID:** 001

Client Project: Sewage Lagoon Sampling
Sample Type: Sewage Lagoon
Received Date: 12-Jul-24
Sampling Date: 11-Jul-24
Sampling Time: 18:30
Location: Eureka, Nunavut
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Nutrients						
Biochemical Oxygen Demand	1330	2	mg/L	12-Jul-24	TEL019	
Microbiology						
Coliforms, Fecal	330000	10000	CFU/100mL	12-Jul-24	TEL017	210

ReportDate: July 23, 2024
Print Date: *July 23, 2024*

Taiga Environmental Laboratory
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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 240990

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EUR-3 **Taiga Sample ID:** 001

- DATA QUALIFERS -

Data Qualifier Descriptions:

210 *Detection limit adjusted for required dilution.*

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

ReportDate: July 23, 2024
Print Date: *July 23, 2024*

Appendix D

Water Licence Inspection Report

Water Licence Inspection Report

☒Original
☐Follow-Up Report

Authorization	Representative
Environment and Climate Change Canada	Jean-Philippe Cloutier-Dussault
Authorization No. / Expiry	**Representative's Title**
8AC-EUR2331	Property Manager
Activities Inspected	
☒ **Camp, Commercial** ☐ **Drilling** ☐ **Mining** ☐ **Construction** ☐ **Reclamation** ☐ **Fuel Storage** ☐ **Roads/Hauling** ☐ **Winter Hauling** ☐ **Camp, Private** ☐ **Other**	

Section 1 Comments

On July 18, 2024 I, Sean Naullaq, along with Joseph Monteith, Inspectors with Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) completed an inspection of the site named above for the purpose of verifying compliance with the terms and conditions of which this water license was issued upon. The inspectors were accompanied by Don Lavallee (Environment and Climate Change Canada).

The following list of items were inspected for compliance with the issued water license:

- Water source
- Water treatment facility
- Sewage treatment facility
- Solid waste facility

The Eureka High Arctic Weather Station includes two different Water Licenses. One is for Environment and Climate Change Canada (ECCC) which is for the weather station itself, and one license belonging to the Department of National Defense (DND) which includes the runway and the reclamation of the old stations. To clarify, License 8AC-EUR2331 is for ECCC, and License 8BC-ERK2131 is for DND.

Section 2 Non-Compliance with Acts or License

Section 3 Action Required

Licensee or Representative	Inspector's Name
Jean-Philippe Cloutier-Dussault	Sean Naullaq
Signature	**Signature**
	SN
Date	**Date**
	November 26, 2024

Office Use Only: Follow-up report to be issued by Inspector ☐ Yes ☒ No

PHOTO LOG			
Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
Thursday, July 18, 2024	8AC-EUR2331	Samsung S23	Sean Naullaq

Photo No. 1

Photo

Description:

Documents including the water license, land use permit, and spill contingency plans were observed in the managers office.

Photo No. 2

Photo | Click or tap here to enter text.

Description:

Photo of water supply for the Eureka High Arctic Weather Station. Water level was unusually low during this inspection.

Photo No. 3	
Photo	Click or tap here to enter text.

Description:

Raw water is pumped from Station Creek via hose and water pump and is transferred to the water reservoir.

Photo No. 4	
Photo	

Description:

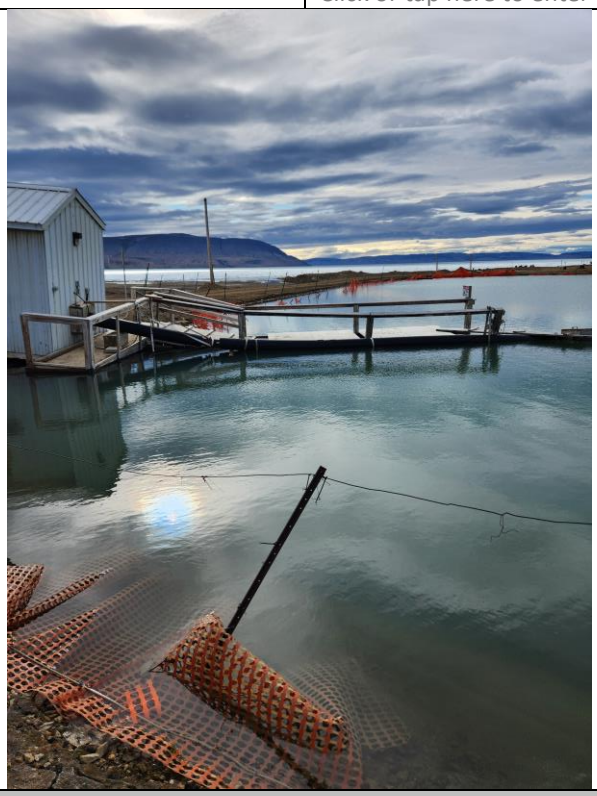
Photo of the current operational water reservoir.

Photo No. 5	
Photo	

Description:

Another photo of the water reservoir. A new reservoir is being constructed to replace the older reservoir.

Photo No. 6	
Photo	Click or tap here to enter text.



Description:

Photo of water reservoir with pumphouse.

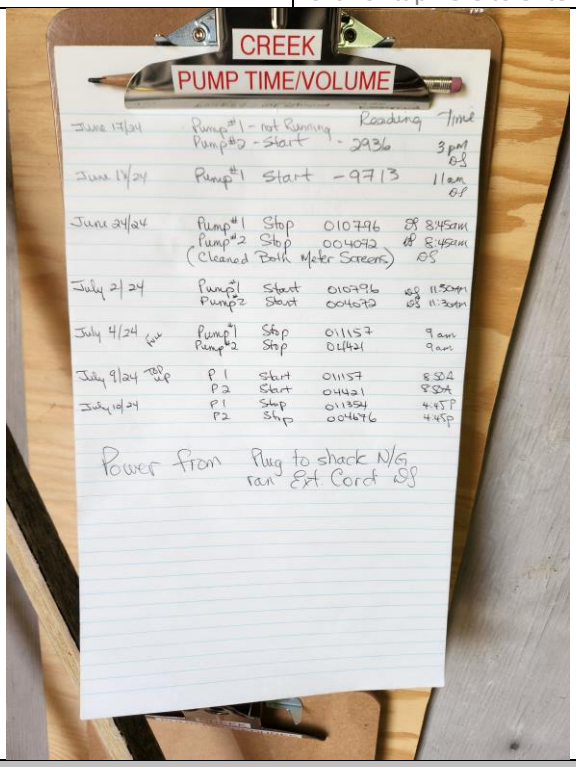
Photo No. 7	
Photo	Click or tap here to enter text.

Description:
A new water reservoir was being constructed during the inspection.

Photo No. 8	
Photo	

Description:
Photo of new water intake location within the new reservoir.

Photo No. 9	
Photo	Click or tap here to enter text.

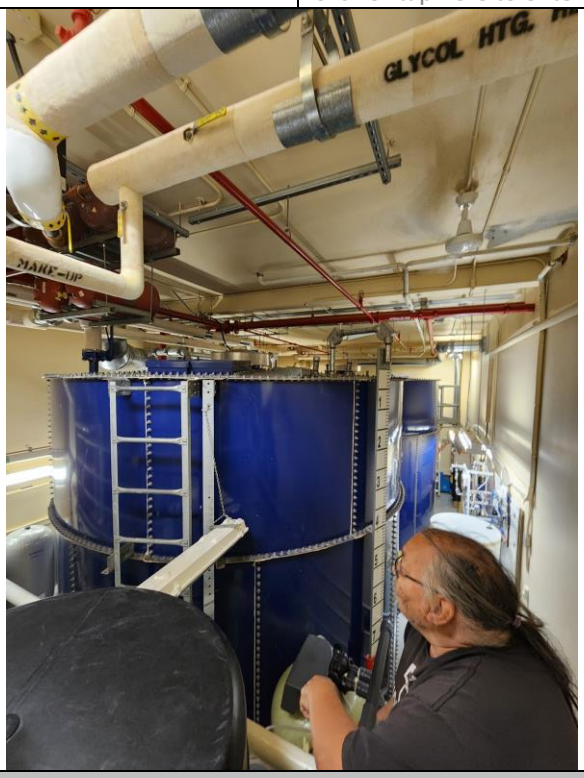


Description:
Photo of water usage logs from Station Creek.

Photo No. 10	
Photo	Click or tap here to enter text.

Description:
This pipe is used to transfer water from the reservoir to the main storage tanks within the complex.

Photo No. 11	
Photo	Click or tap here to enter text.



Description:

Water is stored within these blue tanks prior to being treated for consumption. These tanks hold approximately 10,680 gallons each.

Photo No. 12	
Photo	Click or tap here to enter text.

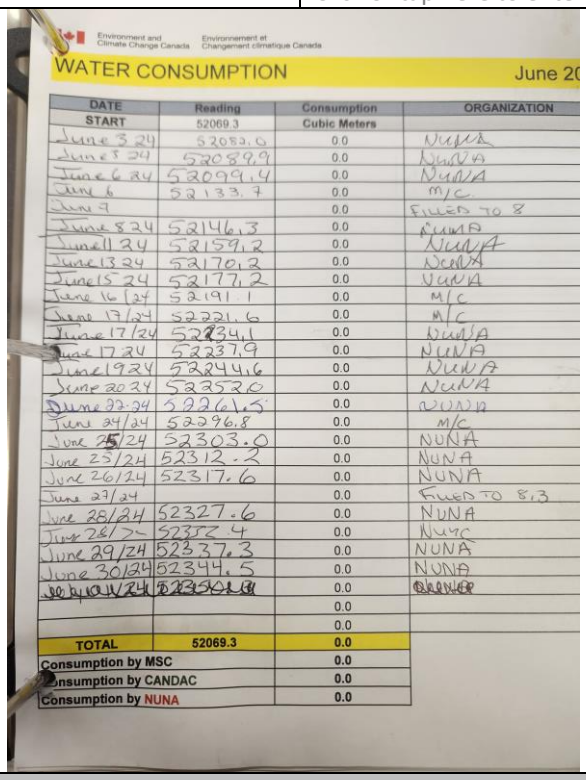
Description:

Water filtration system with different levels of microns.

Photo No. 13	
Photo	Click or tap here to enter text.

Description:
Water is fed through UV light treatment prior to being consumed.

Photo No. 14	
Photo	Click or tap here to enter text.



WATER CONSUMPTION June 20

DATE START	Reading 52069.3	Consumption Cubic Meters	ORGANIZATION
June 3 24	52089.0	0.0	NUNA
June 5 24	52089.9	0.0	NUNA
June 6 24	52099.4	0.0	NUNA
June 6	52133.7	0.0	M/C
June 9		0.0	FILLED TO 8
June 8 24	52146.3	0.0	NUNA
June 11 24	52159.2	0.0	NUNA
June 13 24	52170.2	0.0	NUNA
June 15 24	52177.2	0.0	NUNA
June 16 24	52191.1	0.0	M/C
June 17/24	52221.6	0.0	M/C
June 17/24	52234.1	0.0	NUNA
June 17 24	52237.9	0.0	NUNA
June 19 24	52244.6	0.0	NUNA
June 20 24	52252.0	0.0	NUNA
June 22 24	52261.5	0.0	NUNA
June 24/24	52296.8	0.0	M/C
June 25/24	52303.0	0.0	NUNA
June 25/24	52312.2	0.0	NUNA
June 26/24	52317.6	0.0	NUNA
June 27/24		0.0	FILLED TO 8.3
June 28/24	52327.6	0.0	NUNA
June 28/24	52332.4	0.0	NUNA
June 29/24	52337.3	0.0	NUNA
June 30/24	52344.5	0.0	NUNA
[illegible]	[illegible]	0.0	[illegible]
		0.0	
		0.0	
TOTAL	52069.3	0.0	
Consumption by MSC		0.0	
Consumption by CANDAC		0.0	
Consumption by NUNA		0.0	

Description:
Water consumption records inside the complex.

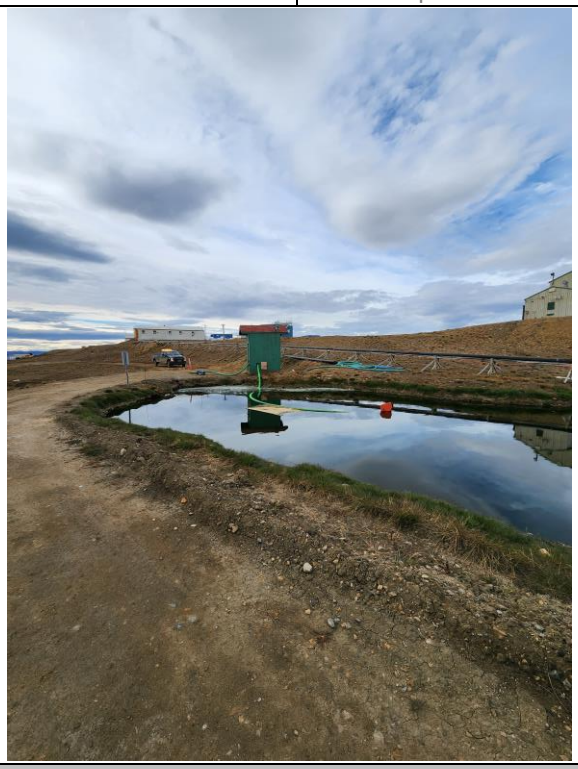
Photo No. 15	
Photo	Click or tap here to enter text.

Description:
General view of sewage lagoon with montioring location signs present.

Photo No. 16	
Photo	Click or tap here to enter text.

Description:
Sewage is pumped from the lagoon, under the road and into the receiving environment.

Photo No. 17	
Photo	Click or tap here to enter text.



Description:

Another view of sewage lagoon facing the pumphouse.

Photo No. 18	
Photo	Click or tap here to enter text.

Description:

This photo shows where the hose comes from under the road and leads to the ocean. Note that the discharge location is less than 31 meters from the high water mark.

Photo No. 19	
Photo	Click or tap here to enter text.

Description:

Close up photo of sewage discharge location. Note that the discharge location is less than 31 meters from the high water mark.

Photo No. 20	
Photo	Click or tap here to enter text.

Description:

Burn box located at the landfill site. Any waste such as cardboard and woods are burned here and the rest of the waste is buried in the landfill or sent out depending on the contents of the waste.

Photo No. 21	
Photo	Click or tap here to enter text.

Description:

This sign was put up to ensure waste is not scattered throughout the site.

Photo No. 22	
Photo	Click or tap here to enter text.

Description:

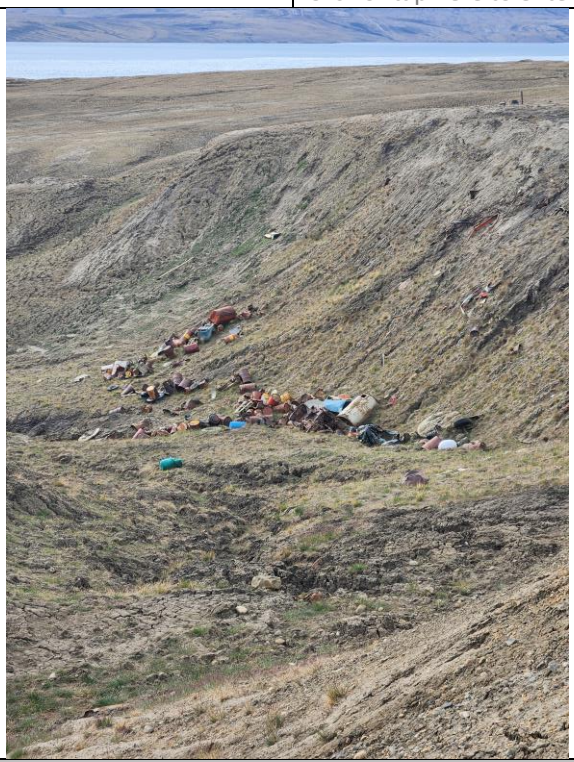
Photo of general area of landfill with monitoring station signs installed.

Photo No. 23	
Photo	Click or tap here to enter text.

Description:

Monitoring station with different signs. Eureka has two different water licenses, therefore this sign shows monitoring station locations for each of the licenses.

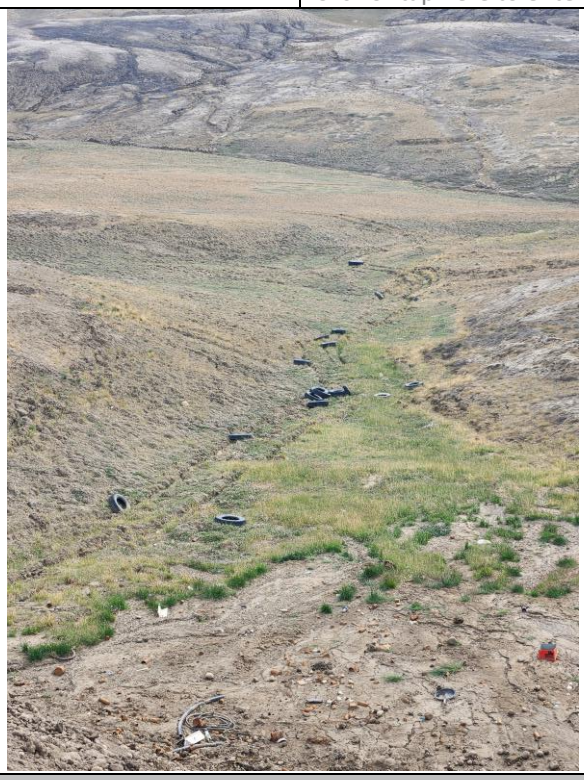
Photo No. 24	
Photo	Click or tap here to enter text.



Description:

Some historical waste was observed at the older part of the landfill.

Photo No. 25	
Photo	Click or tap here to enter text.



Description:

Tires were observed down the hill from the landfill.