Environment and Climate Change Canada | Environnement et Changement climatique Canada

Water Licence 8AC- EUR2331

2025 Annual Report

Eureka High Arctic Weather Station

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Canada

Author

Report prepared by: Jean-Philippe Cloutier-Dussault
Building Operations Lead
Environment and Climate Change Canada

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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, Environment & Climate Change Canada (ECCC) has owned and managed the overall operations and maintenance of the site under Land Reserve #1021. The total area of the Project is approximately 2.23 hectares. There are presently 13 primary buildings and other facilities at the HAWS, including DND and other partners facilities. The Eureka airstrip is located 1.5 kilometres northeast of the HAWS main site and is the primary way by which the HAWS is accessed year-round.

The Eureka HAWS is an operational upper air and weather monitoring facility. It is also a hub of activity for the Department of National Defence (DND) and Natural Resources Canada (NRCan). Additional sites at Eureka are operated by the Canadian Network for the Detection of Atmospheric Change - Polar Environment Atmospheric Reseach Lab (PEARL), Surface and Atmospheric Flux, Irradiance and Radiation Extension (SAFIRE), and Zero Altitude PEARL Auxiliary Laboratory (OPAL). (Arcadis 2018).

1.1 Purpose of this Document

The purpose of the Water License 8AC-EUR2331 Annual Report is to provide a yearly reference and summary of all works related to the License completed for the Project in 2025. The Standard NWB Reporting Form is included in **Appendix A**. Per the terms and conditions outlined in the Type ‘A’ Water Licence 8AC-EUR2331, this document provides the following:

- A technical summary of activities of the Project undertaken for the respective year;
- A work plan for the following year;
- 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;
- Water quality monitoring results; and
- Revisions to applicable Management Plans.

1.2 Project Overview

ECCC has completed a number of construction and infrastructure upgrade projects to the Eureka HAWS, including the following:

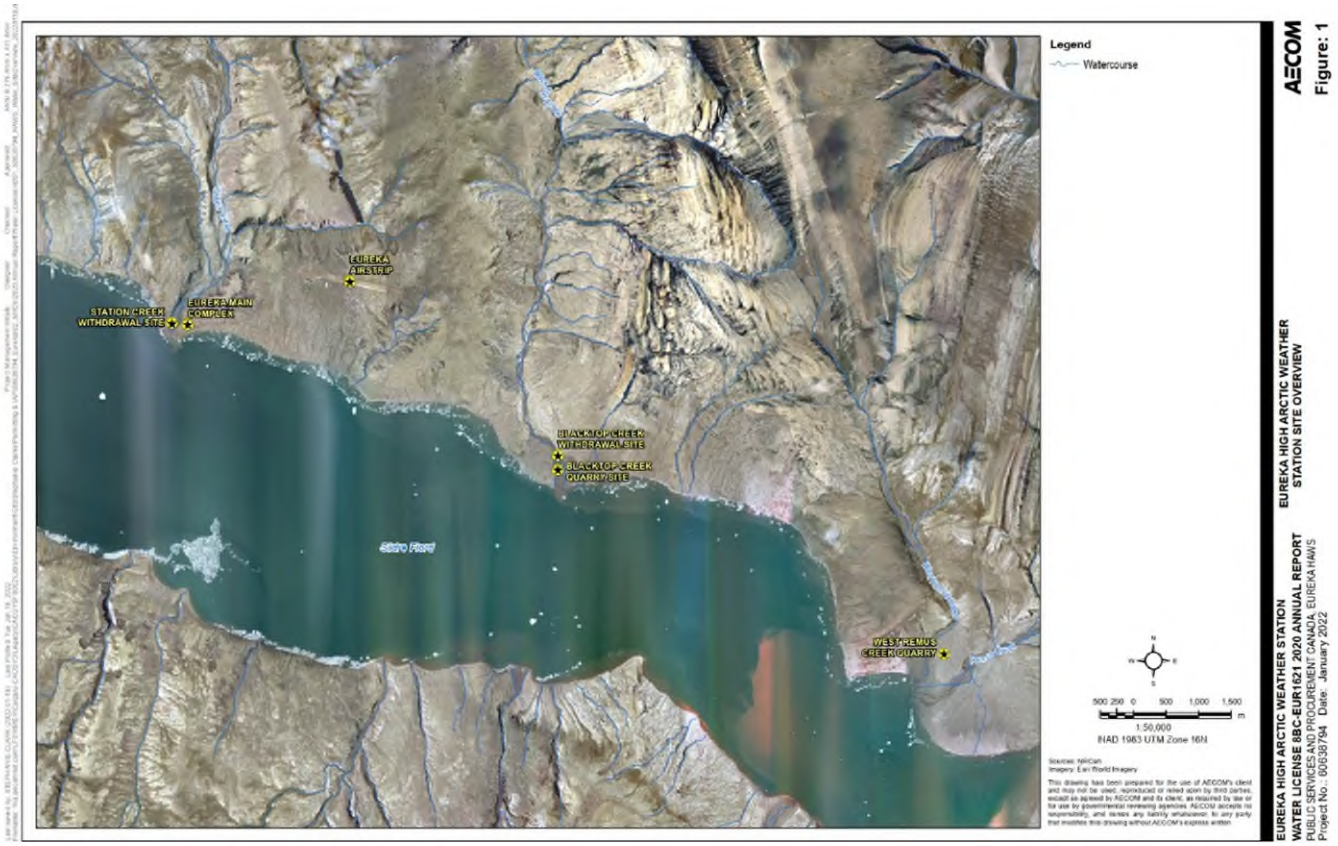
- Construction and commissioning of a new Wastewater Treatment Plant
- Development of Landfarm
- Construction and commissioning of a new freshwater reservoir
- Freshwater Treatment upgrade

The construction and infrastructure upgrade projects to the Eureka HAWS currently being undertaken or planned for include the following:

- Fuel Tank protective cages for ladders and catwalks refurbishment.
- Human Health and Ecological Risk Assessment and Remedial Action Plan

- Long Term Monitoring Plan

Figure 1: Eureka High Arctic Weather Station Site Overview



2. Technical Summary of Activities Undertaken in 2025

The Eureka HAWS maintained operational activities throughout the year at the Eureka Main Complex. A technical summary of all activities undertaken in 2025 is listed below.

- The Contaminated Soil and Landfarm Project is completed and operating. Soils from the existing landfarm and old tank farm areas have been moved into the new landfarm. 2,074.85 m³ of contaminated soil pile plus 1,352.42 m³ of contaminated soil excavation were placed in the new Landfarm, for a total of 3,427.27 m³.
- The construction camp was opened and fleet maintenance commenced on May 25, 2025.
- All necessary equipment maintenance and repairs were completed in readiness for the construction season.
- Water & Sewer Infrastructure Upgrades are commissioned and operating satisfactorily. These include: New Wastewater Treatment Plant, New Reservoirs and piping, New Domestic Water Treatment and conversion of the sewage lagoon into a clarifying pond.

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Fuel resupply was achieved through air delivery, with both Summit Air and Calm Air providing bulk fuel delivery via ATR72 cargo aircraft equipped with a Transport Canada certified bladder system.

- Waste disposal and storage activities completed in 2025 included:
    - Materials from demolished buildings and steel were retrograded on sealift in September 2025. 5 seacans of asbestos materials and 6 seacans of lead paint debris were also retrograded south for proper disposal.
    - Continuing 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.
    - Managing 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 vacuum truck and deposited in the Wastewater Treatment Plant. The total quantity of grey water camp waste was 658,800 litres
        - All non-hazardous combustible kitchen and camp waste was collected and incinerated on-site in compliance with site standards.
        - Non-combustible waste generated in the camp or through construction and maintenance activities was deposited in the on-site landfill under the direction of ECCC.
- Contaminated snow and materials from a sewage overflow in January 2025 were removed.
- Contaminated snow from a diesel spill in April 2025 was removed.
- Contaminated materials from a subcontractor hydraulic fluid leak in May 2025 were removed.
- Contaminated materials from a subcontractor vehicle fluid leak in August 2025 were removed.
- All spills were reported to the emergency spill line or by email in due time.
- In 2025, under the authority of quarry permit 2024QP0002, a total volume of 8,995 cubic meters of aggregate was extracted from the West Remus Creek Quarry.This extraction increased the cumulative volume of quarried material at West Remus Creek to 456,806 cubic meters. According to the permit, this leaves a remaining volume of 42,994 cubic meters available for future extraction. No quarrying activities were conducted at either the Blacktop Quarry or the West of Eureka HAWS, which are governed by permits 2024QP003 and 2024QP001, respectively.

- The fleet and camp were winterized for the final departure of the crew on September 20, 2025.
- A new HOGEN building and hydrogen system has been installed. The system is in operation and fully functional.

Figure 2: Eureka HAWS Main Station Area

3. Work Plan for 2026

The construction program summary presented below outlines activities planned for 2026 summer field season (June – September)::

- The site will continue to operate as usual, with routine facility maintenance and runway operations.
- There will be regular maintenance work done on the runway.
- ECCC needs to improve the swales on the far side of the runway
- The Program of Works Project is entering into design for future works. It involves renovation and retrofit activities throughout the buildings on site. 9 buildings were demolished and one was restored and rejuvenated. Retrograde of materials from the demolition is anticipated to be completed within 2 years (sealift dependent).
- The West Remus Creek Quarry will remain open although presently there are no planned operations.
- The Black Top Creek Quarry will remain open although presently there are no planned operations.
- Fuel Storage Tank Inspections will continue, involving manual inspections and minor repairs of fuel storage tanks. Safety cages will be installed on the ladders and catwalks will be improved as well.
- The camp will be demobilized and retrograded south over a 2-year period starting Summer 2026 (sealift dependent).
- As part of a greening initiative, ECCC will operate an electric vehicle in Eureka. An electric charger will be installed in Spring 2026 and the Chevrolet Silverado EV will arrive on sealift.

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 Quantities at Eureka High Arctic Weather Station

Source Description	Quantities (m^3)	Timeframe	Latitude			Longitude		
			Deg (º)	Min (´)	Sec (˝)	Deg (º)	Min (´)	Sec (˝)
For Potable Water								
Eureka Water Reservoir (camp potable water)	502.74	2023	79	59	20	85	56	46
Station Creek Withdrawal Site (Fresh water pumped into the Eureka old Water Reservoir)	2,815.9	July 25-August 16	79	59	21	85	57	4
Station Creek Withdrawal Site (Fresh water pumped into the new Eureka Water Reservoir)	13,023	June 14-June 22	79	59	21	85	57	4
For Construction Use								
Station Creek Withdrawal Site	0	June – September	79	59	21	85	57	4
Blacktop Creek Withdrawal Site	48,6	June – September	79	58	12	85	38	59
West Remus Creek Withdrawal Site	0	June – September	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 West Remus Creek. A vacuum-type water truck was used to take water from the creek and then spray on dry, dusty areas as required. No erosion control was required at the collection site.

Silt fence for erosion control was installed adjacent to the new Creek Pumphouse pad to protect Station Creek along the road or work sites. Conditions are monitored and additional silt fencing is available for use as needed.

5. Waste Disposal

5.1 Location and Methods

Blackwater and greywater from the Station at the Eureka HAWS is now deposited in the Wastewater Treatment Plant (WWTP). Once treated, effluent is deposited in the clarifying pond (formerly called Sewage Lagoon). Solid waste is removed during wastewater treatment process and bagged.

Black water from the contractor camp is collected with Pacto toilets and is then incinerated on site; whereas, greywater is pumped or collected via vacuum truck and deposited in the WWTP.

The contents of the Clarifying Pond are decanted according to regulation using a Monarch Pump Model TT30 Type E. The Clarifying Pond 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 monthlyproduce charter 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 ECCCprovides at least 10 days written notification to CIRNAC, prior to initiating Effluent discharge. Upon receiving CIRNAC acknowledment, the Clarifying Pond is decanted until empty or until a layer of ice is uncovered.

Contaminated soil excavated from the new reservoir footprint and from the runway area was placed in the new Landfarm.

All hazardous waste is transported off-site for disposal at a licenced hazardous waste disposal facility.

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.
- 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.
- Clarifying Pond- holds greywater and blackwater prior to decanting into fjord.
- Existing / in-situ landfarm and new landfarm completed in 2025
- Temporary contaminated soils storage- these store soils from the main apron area of the airport, as well as an area for contaminated soils prior to the construction and operation of the new landfarm

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						
Drum Crushing Site	79	59	36	85	49	6
Non-hazardous Solid Waste Facility	79	59	29	85	46	14

Clarifying Pond	79	59	23	85	50	11
Wastewater Treatment Plant	79	59	19	85	56	11
New Landfarm	79	59	25	85	43	42
Temporary Contaminated Soil Storage - Runway	79	59	30	85	46	21
Airstrip Fuel Tanks	79	59	48	85	50	29
Incinerator	79	59	22	85	56	21

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

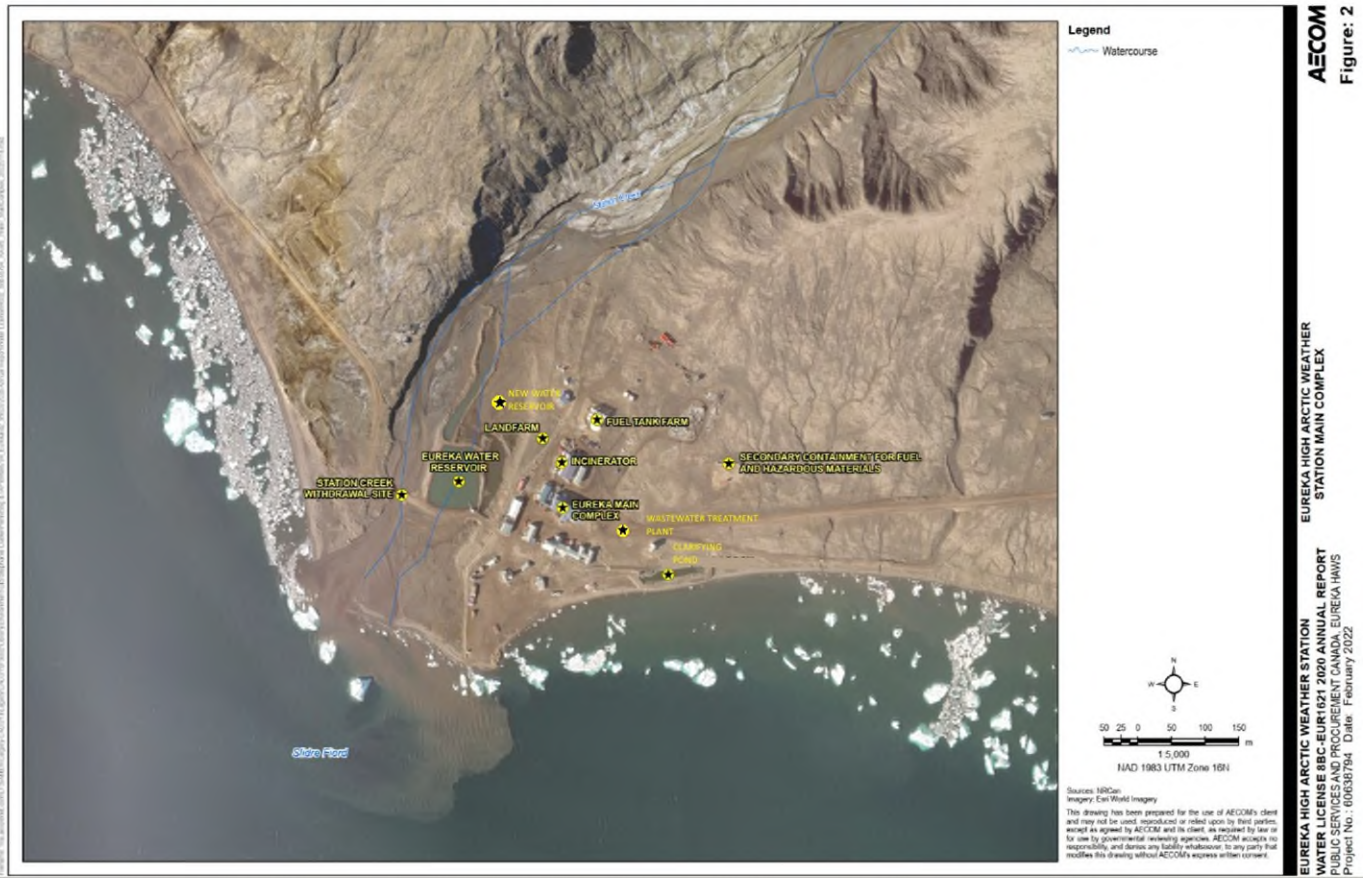
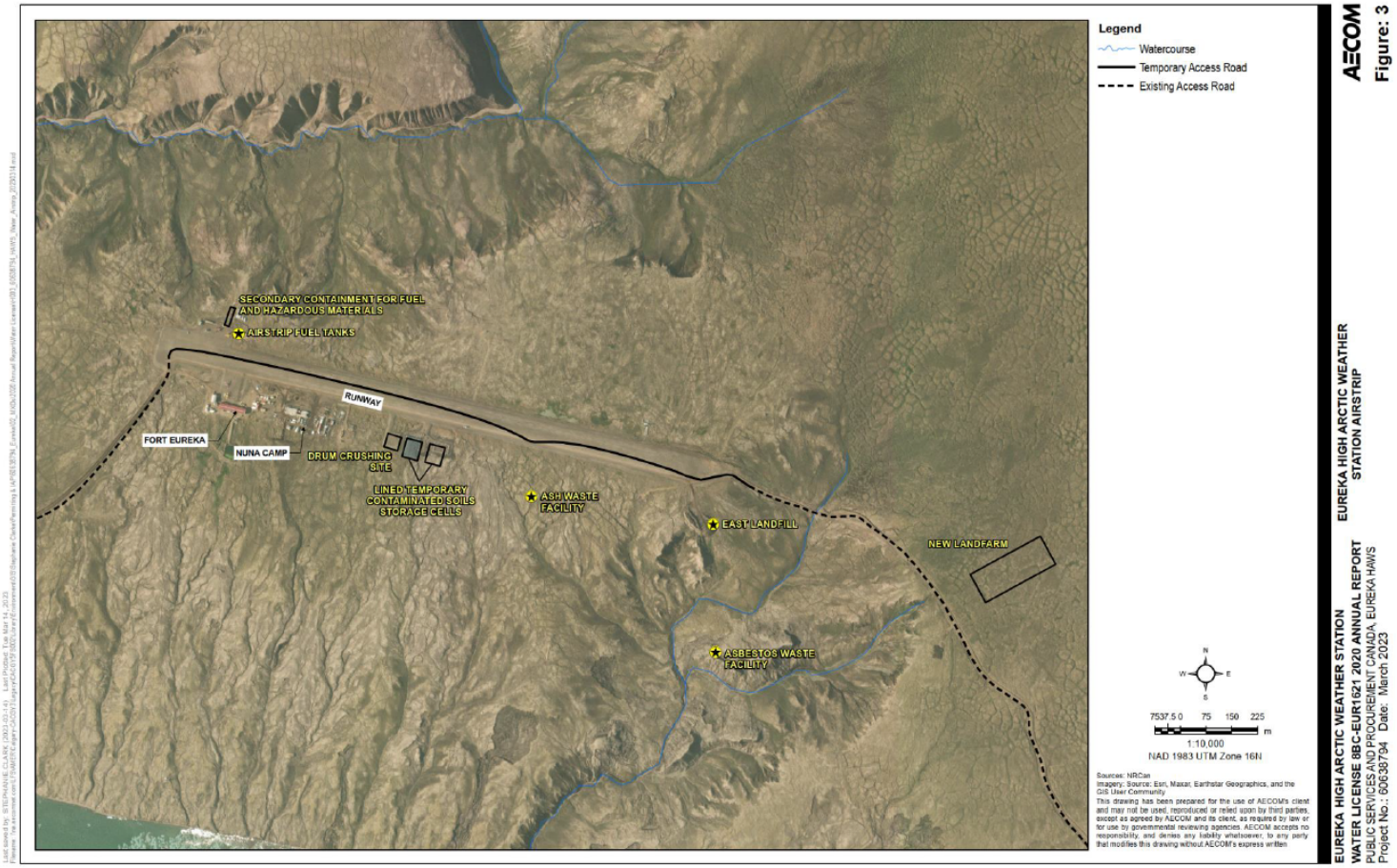


Figure 4: Waste Disposal Facilities for the Eureka High Arctic Weather Station



5.2 Unauthorized Discharge

The Eureka wastewater reservoir had reached almost maximum capacity in late July 2025. It was at risk of overflowing. Wastewater samples were taken at two different occasions. Both lab reports showed high PH non-compliant with the terms of our water license for discharge. Nevertheless, we had no other choice but to discharge in a controlled manner, rather than risking an uncontrolled overflowing. Discharge occurred over a period of 6 days, from July 26 to July 31, 2025. A spill report was filed on August 1, 2025

5.3 Quantities

The following quantities of waste were observed in 2025:

- From July 26 to July 31, 1965.4 m^3 of sewage effluent was decanted into the fjord.
- The site produced 12,150 kg of household waste in 2025. Every month, it produces approximately 1,012 kilograms (kg) of household waste, which are subsequently incinerated, and the ash is sent to the burn pit. The remainder of non-incinerable waste is also transported to this Facility.

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

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1245	855	1190	1020	935	1040	1135	595	1212	818	765	1340

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 waste barrel was retrograded south in 2025 due to insufficient space on the sealift and logistics constraints on the part of NSSI.

- The temporary camp waste quantities were as follows:

Incinerator Waste Disposal

Month	Bags Burnt	Ash Barrels to Landfill	Approx. m3 ash
May	10	1	0.15
June	376	0	0
July	408	0	0
Aug	542	0	0
Sept	322	1	0.15
Total	1648	2	0.3

6. Water Quality Monitoring Results

Routine water quality samples were collected in 2025 as part of the Water Licence Monitoring Program at the following location:

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

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

There were no seeps observed within the quarry during the 2025 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 after treatment collected in July were compared to the maximum concentration of parameters allowed in the Type 'A' Water Licence 8AC-EUR2331 and are presented in **Table 3**. **Appendix C** contains the laboratory data. No exceedances were reported from the water quality samples in relation to the water license. **Table 3** presents a comparison of WWTP influent VS effluent. Treated effluent are compliant with the terms of our license.

Table 3: Wastewater Quality Parameters and Results

Clarifying Pond results from Sampling on July 7, 2025

Parameter	Units	EUR-3	Maximum Concentration Guideline
Biochemical Oxygen Demand	mg/L	83	25
Total Suspended Solids	mg/L	138	25
Fecal Coliforms	CFU/100 mL	1060	200
pH	pH units	9,63	6.0-9.0
Oil and Grease	Visible sheen	No Visible Sheen	No Visible Sheen

*Below the detection limit

Influent

Parameter	Units	Result	Maximum Concentration Guideline
Biochemical Oxygen Demand	mg/L	551	25
Total Suspended Solids	mg/L	265	25
Fecal Coliforms	CFU/100 mL	119000000	200
pH	pH units	7.58	6.0-9.0
Oil and Grease	Visible sheen	No Visible Sheen	No Visible Sheen

*Below the detection limit

Treated Effluent

Parameter	Units	Result	Maximum Concentration Guideline
Biochemical Oxygen Demand	mg/L	10	25
Total Suspended Solids	mg/L	18	25
Fecal Coliforms	CFU/100 mL	85	200
pH	pH units	7.84	6.0-9.0
Oil and Grease	Visible sheen	No Visible Sheen	No Visible Sheen

*Below the detection limit

Results obtained at EUR-3 in July 2025 prior to decant are normal considering the WWTP became fully operational in **September 2025**. Therefore, the pond still contained untreated sewage from 2024 and 2025.

Domestic water sampling was conducted in August 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 License Inspection

There was no inspection performed in 2025.

Ongoing work site inspections throughout the work season include inspections of all fuel tanks for leakage/damage. Areas of concern noted during these daily inspections are documented through the reporting system as either a Spill or Equipment Damage event.

8. Revisions to Applicable Management Plans

A revised Remedial Action Plan was submitted on March 31, 2023 as part of the application package to request for an Amendment related to construction of the new Soil Treatment Facility/landfarm. This revised version supersedes the original 2021 submission.

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9. Progressive Reclamation Work Undertaken in 2025

Reclamation of the depleted areas of East Remus quarry was completed in August 2025. Reclamation activities included 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 was maintained/restored at completion of the Project.

10. Public Consultation

The nearest communities in Grise Fiord, Nunavut, were notified to the HAWS construction activities by email in March and April 2025. The Hamlet Council of Grise Fiord and the Iviq Hunters and Trappers Organization were both contacted regarding this Project.

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

CloutierDussault, JeanPhilippe
Signature numérique de CloutierDussault, JeanPhilippe
Date : 2026.04.13 09:59:46 -04'00'

Jean-Philippe Cloutier-Dussault
Building Operations Coordinator, Workplace Solutions Division
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.

CCME (Canadian Council for Ministers of the Environment), 2001:
Canadian Water Quality Guidelines for the Protections of Aquatic Life. CCME Water Quality Index 1.0 Technical Report. 13pp.

Health Canada, 2020:
Guidelines for Canadian Drinking Water Quality—Summary Table. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Appendix A

Daily Quantities of Water Withdrawn

2025 EUREKA WATER LICENCE PUMPING DATA

FRESH WATER CAPTURE:

Fresh water pumped from station creek runoff into new reservoir using two honda 4 inch trash pumps.

Pump:	Honda	4"	Trash pump
Flow Rate:		181	Gal/Min

DATE	Pump #	START 24 hr clock	STOP 24 hr clock	TIME RUN (HH:MM:SS)	Gauge before	Gauge after	Water Pumped (cubic meters)	Water Pumped (imp. gal.)
June 14th, 2025.	1	8:30	17:07	8:37:56			425,00	93 486,93
June 14th, 2025.	2	8:31	17:08	8:37:56			425,00	93 486,93
June 15th, 2025.	1	6:20	19:11	12:51:25			633,00	139 240,53
June 15th, 2025.	2	6:21	19:12	12:51:25			633,00	139 240,53
June 16th, 2025.	1	6:18	18:42	12:24:36			611,00	134 401,21
June 16th, 2025.	2	6:19	18:43	12:24:36			611,00	134 401,21
June 17th, 2025.	1	6:35	23:31	16:56:22			834,00	183 454,35
June 17th, 2025.	2	6:36	23:33	16:57:35			835,00	183 674,32
June 18th, 2025.	1	6:22	2:18	19:56:44			982,00	216 009,80
June 18th, 2025.	2	6:23	2:20	19:57:57			983,00	216 229,77
June 19th, 2025.	1	6:26	2:12	19:46:59			974,00	214 250,05
June 19th, 2025.	2	6:27	2:13	19:46:59			974,00	214 250,05
June 20th, 2025.	1	6:15	2:06	19:51:51			978,00	215 129,92
June 20th, 2025.	2	6:16	2:07	19:51:51			978,00	215 129,92
June 21st, 2025.	1	6:17	2:27	20:10:08			993,00	218 429,46
June 21st, 2025.	2	6:18	2:28	20:10:08			993,00	218 429,46
June 22nd, 2025.	1	6:25	8:02	1:37:30			80,00	17 597,54
June 22nd, 2025.	2	6:26	8:04	1:38:43			81,00	17 817,51
	Total Hours Operated:			264:30:41	Total Volume Pumped:		13023,00	2865060

Total water captured		Measured	Calculated (from previous sheet)	Total captured
Cubic Metre		13023,00		13023,00
Litres		13007372,40	0,00	13007372,40
Gallons		2865060,00		2865060,00

Appendix B

Water Quality Sampling Data

Canadian Association for Laboratory Accreditation Inc.

CALA

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.

Government of Northwest Territories
Gouvernement des Territoires du Nord-Ouest

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

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

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

Taiga Batch No.: 250908

- FINAL REPORT -

Prepared For: Environment Canada

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

Attn: Renee Cossitt **Facsimile:**

Final report has been reviewed and approved by:

Bradley Koswan
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.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.
- All data provided by the customer will be represented by the blue colour used in this statement.

ReportDate: Monday, July 28, 2025
Print Date: *Monday, July 28, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 250908

- CERTIFICATE OF ANALYSIS -

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

Client Project: Sewage Lagoon Acct# 0002039055
Sample Type: Sewage Lagoon
Received Date: 08-Jul-25
Sampling Date: 07-Jul-25
Sampling Time: 15:30
Location: Eureka, Nunavut
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Cations by ICP-MS						
Calcium	71.8	0.1	mg/L	10-Jul-25	TEL035	
Hardness	402	0.7	mg/L	10-Jul-25	TEL035	
Magnesium	54.3	0.1	mg/L	10-Jul-25	TEL035	
Potassium	22.7	0.1	mg/L	10-Jul-25	TEL035	
Sodium	356	0.1	mg/L	10-Jul-25	TEL035	
Inorganics - Nutrients						
Ammonia as Nitrogen	5.07	0.02	mg/L	09-Jul-25	TEL068	210
Biochemical Oxygen Demand	83	2	mg/L	08-Jul-25	TEL019	246
Organic Carbon, Total	55.2	0.5	mg/L	24-Jul-25	TEL033	
Phosphorous, Total	3.18	0.004	mg/L	16-Jul-25	TEL069	210
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	139	0.4	mg/L	08-Jul-25	TEL060	
Conductivity, Specific (@25C)	2460	0.4	µS/cm	08-Jul-25	TEL059	
pH	9.63		pH units	08-Jul-25	TEL058	
Solids, Total Suspended	138	3	mg/L	15-Jul-25	TEL008	
Major Ions						

ReportDate: Monday, July 28, 2025
Print Date: *Monday, July 28, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 250908

- CERTIFICATE OF ANALYSIS -

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

Chloride	593	7.7	mg/L	11-Jul-25	TEL055	210
Nitrate as Nitrogen	0.04	0.01	mg/L	11-Jul-25	TEL055	
Nitrate+Nitrite as Nitrogen	0.04	0.01	mg/L	11-Jul-25	TEL055	
Sulphate	220	11	mg/L	11-Jul-25	TEL055	210
Microbiology						
Coliforms, Fecal	1060	10	CFU/100mL	08-Jul-25	TEL017	210
Organics						
Oil and Grease, visible	Non-visible			15-Jul-25	Visual Exam	
Subcontracted Organics						
Phenols, Total	< 0.0020	0.002	mg/L	11-Jul-25	AB ENV.06537	207
Trace Metals, Total						
Aluminum	326	0.6	µg/L	16-Jul-25	TEL035	
Antimony	0.3	0.1	µg/L	16-Jul-25	TEL035	
Arsenic	2.3	0.2	µg/L	16-Jul-25	TEL035	
Barium	16.0	0.1	µg/L	16-Jul-25	TEL035	
Beryllium	< 0.1	0.1	µg/L	16-Jul-25	TEL035	
Cadmium	< 0.04	0.04	µg/L	16-Jul-25	TEL035	
Cesium	< 0.1	0.1	µg/L	16-Jul-25	TEL035	
Chromium	1.6	0.1	µg/L	16-Jul-25	TEL035	
Cobalt	1.6	0.1	µg/L	16-Jul-25	TEL035	
Copper	24.6	0.2	µg/L	16-Jul-25	TEL035	
Iron	1220	5	µg/L	16-Jul-25	TEL035	
Lead	0.7	0.1	µg/L	16-Jul-25	TEL035	
Lithium	18.1	0.2	µg/L	16-Jul-25	TEL035	
Manganese	136	0.1	µg/L	16-Jul-25	TEL035	
Molybdenum	1.9	0.1	µg/L	16-Jul-25	TEL035	

ReportDate: Monday, July 28, 2025
Print Date: *Monday, July 28, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 250908

- CERTIFICATE OF ANALYSIS -

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

Nickel	5.3	0.1	µg/L	16-Jul-25	TEL035
Rubidium	11.0	0.1	µg/L	16-Jul-25	TEL035
Selenium	1.5	0.3	µg/L	16-Jul-25	TEL035
Silver	< 0.1	0.1	µg/L	16-Jul-25	TEL035
Strontium	364	0.1	µg/L	16-Jul-25	TEL035
Thallium	< 0.1	0.1	µg/L	16-Jul-25	TEL035
Titanium	7.1	0.1	µg/L	16-Jul-25	TEL035
Uranium	0.5	0.1	µg/L	16-Jul-25	TEL035
Vanadium	2.0	0.1	µg/L	16-Jul-25	TEL035
Zinc	21.6	0.4	µg/L	16-Jul-25	TEL035

ReportDate: Monday, July 28, 2025
Print Date: *Monday, July 28, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 250908

- CERTIFICATE OF ANALYSIS -

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

- DATA QUALIFERS -

Data Qualifier Descriptions:

207	*Detection limit adjusted due to sample matrix effects*
210	*Detection limit adjusted for required dilution.*
246	*pH adjusted before analysis*

*** 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: Monday, July 28, 2025
Print Date: *Monday, July 28, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

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

Taiga Batch No.:
251021

- FINAL REPORT -

Prepared For: Environment Canada

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

Attn: Renee Cossitt **Facsimile:**

Final report has been reviewed and approved by:

Bradley Koswan
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
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- All data provided by the customer will be represented by the blue colour used in this statement.

ReportDate: Thursday, August 7, 2025
Print Date: *Thursday, August 7, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251021

- CERTIFICATE OF ANALYSIS -

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

Client Project: Sewage Lagoon
Sample Type: Sewage Lagoon
Received Date: 21-Jul-25
Sampling Date: 20-Jul-25
Sampling Time: 14:30
Location: Eureka, Nunavut
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Cations by ICP-MS						
Calcium	69.3	0.1	mg/L	22-Jul-25	TEL035	
Hardness	393	0.7	mg/L	22-Jul-25	TEL035	
Magnesium	53.7	0.1	mg/L	22-Jul-25	TEL035	
Potassium	20.5	0.1	mg/L	22-Jul-25	TEL035	
Sodium	356	0.1	mg/L	22-Jul-25	TEL035	
Inorganics - Nutrients						
Ammonia as Nitrogen	2.91	0.055	mg/L	21-Jul-25	TEL068	210
Biochemical Oxygen Demand	75	2	mg/L	21-Jul-25	TEL019	246
Organic Carbon, Total	70.8	0.5	mg/L	27-Jul-25	TEL033	
Phosphorous, Total	3.54	0.042	mg/L	26-Jul-25	TEL069	210
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	138	0.4	mg/L	21-Jul-25	TEL060	
Conductivity, Specific (@25C)	2440	0.4	µS/cm	21-Jul-25	TEL059	
pH	9.64		pH units	21-Jul-25	TEL058	
Solids, Total Suspended	160	3	mg/L	25-Jul-25	TEL008	
Major Ions						

ReportDate: Thursday, August 7, 2025
Print Date: *Thursday, August 7, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251021

- CERTIFICATE OF ANALYSIS -

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

Chloride	595	7.7	mg/L	22-Jul-25	TEL055	210
Nitrate as Nitrogen	0.03	0.01	mg/L	22-Jul-25	TEL055	
Nitrate+Nitrite as Nitrogen	1.26	0.01	mg/L	22-Jul-25	TEL055	
Sulphate	211	11	mg/L	22-Jul-25	TEL055	210
Organics						
Oil and Grease, visible	Non-visible			23-Jul-25	Visual Exam	
Subcontracted Organics						
Phenols, Total	0.0019	0.001	mg/L	24-Jul-25	AB ENV.06537	
Trace Metals, Total						
Aluminum	492	0.6	µg/L	24-Jul-25	TEL035	
Antimony	0.3	0.1	µg/L	24-Jul-25	TEL035	
Arsenic	2.8	0.2	µg/L	24-Jul-25	TEL035	
Barium	17.7	0.1	µg/L	24-Jul-25	TEL035	
Beryllium	< 0.1	0.1	µg/L	24-Jul-25	TEL035	
Cadmium	0.05	0.04	µg/L	24-Jul-25	TEL035	
Cesium	0.1	0.1	µg/L	24-Jul-25	TEL035	
Chromium	1.5	0.1	µg/L	24-Jul-25	TEL035	
Cobalt	1.8	0.1	µg/L	24-Jul-25	TEL035	
Copper	27.1	0.2	µg/L	24-Jul-25	TEL035	
Iron	1760	5	µg/L	24-Jul-25	TEL035	
Lead	1.0	0.1	µg/L	24-Jul-25	TEL035	
Lithium	17.0	0.2	µg/L	24-Jul-25	TEL035	
Manganese	177	0.1	µg/L	24-Jul-25	TEL035	
Molybdenum	1.8	0.1	µg/L	24-Jul-25	TEL035	
Nickel	6.0	0.1	µg/L	24-Jul-25	TEL035	
Rubidium	11.7	0.1	µg/L	24-Jul-25	TEL035	

ReportDate: Thursday, August 7, 2025
Print Date: *Thursday, August 7, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251021

- CERTIFICATE OF ANALYSIS -

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

Selenium	1.2	0.3	µg/L	24-Jul-25	TEL035
Silver	< 0.1	0.1	µg/L	24-Jul-25	TEL035
Strontium	358	0.1	µg/L	24-Jul-25	TEL035
Thallium	< 0.1	0.1	µg/L	24-Jul-25	TEL035
Titanium	11.3	0.1	µg/L	24-Jul-25	TEL035
Uranium	0.5	0.1	µg/L	24-Jul-25	TEL035
Vanadium	2.5	0.1	µg/L	24-Jul-25	TEL035
Zinc	24.6	0.4	µg/L	24-Jul-25	TEL035

ReportDate: Thursday, August 7, 2025
Print Date: *Thursday, August 7, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251021

- CERTIFICATE OF ANALYSIS -

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

- DATA QUALIFERS -

Data Qualifier Descriptions:

210 *Detection limit adjusted for required dilution.*

246 *pH adjusted before analysis*

*** 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: Thursday, August 7, 2025

Print Date: *Thursday, August 7, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

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

Taiga Batch No.: 251187

- FINAL REPORT -

Prepared For: Environment Canada

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

Attn: Renee Cossitt **Facsimile:**

Final report has been reviewed and approved by:

Bradley Koswan
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
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- All data provided by the customer will be represented by the blue colour used in this statement.

ReportDate: Friday, August 22, 2025
Print Date: *Friday, August 22, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251187

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EU-Filtered **Taiga Sample ID:** 001

Client Project: Domestic Water
Sample Type: Fresh Water - Post Filtration
Received Date: 13-Aug-25
Sampling Date: 12-Aug-25
Sampling Time: 15:50
Location: Eureka, NU
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Cations by ICP-MS						
Calcium	34.6	0.1	mg/L	15-Aug-25	TEL035	
Hardness	154	0.7	mg/L	15-Aug-25	TEL035	
Magnesium	16.5	0.1	mg/L	15-Aug-25	TEL035	
Sodium	37.4	0.1	mg/L	15-Aug-25	TEL035	
Inorganics - Nutrients						
Organic Carbon, Total	< 0.5	0.5	mg/L	22-Aug-25	TEL033	
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	38.4	0.4	mg/L	13-Aug-25	TEL060	
Conductivity, Specific (@25C)	520	0.4	µS/cm	13-Aug-25	TEL059	
pH	6.33		pH units	13-Aug-25	TEL058	
Solids, Total Suspended	< 3	3	mg/L	18-Aug-25	TEL008	
Turbidity	0.08	0.05	NTU	14-Aug-25	TEL006	
Microbiology						
Coliforms, Total	< 1.0	1	MPN/100ml	13-Aug-25	TEL053	
Escherichia coli	< 1.0	1	MPN/100ml	13-Aug-25	TEL053	
Organics						

ReportDate: Friday, August 22, 2025
Print Date: *Friday, August 22, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251187

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EU-Filtered **Taiga Sample ID: 001**

Bromodichloromethane	< 1.0	1	ug/L	19-Aug-25	TEL074
Bromoform	< 1.0	1	ug/L	19-Aug-25	TEL074
Chloroform	< 1.0	1	ug/L	19-Aug-25	TEL074
Dibromochloromethane	< 1.0	1	ug/L	19-Aug-25	TEL074
Trihalomethanes, Total (calc.)	1.7	1	ug/L	19-Aug-25	TEL074
Trace Metals, Total					
Aluminum	8.1	0.6	µg/L	15-Aug-25	TEL035
Antimony	3.6	0.1	µg/L	15-Aug-25	TEL035
Arsenic	0.5	0.2	µg/L	15-Aug-25	TEL035
Barium	19.6	0.1	µg/L	15-Aug-25	TEL035
Beryllium	< 0.1	0.1	µg/L	15-Aug-25	TEL035
Cadmium	< 0.04	0.04	µg/L	15-Aug-25	TEL035
Cesium	< 0.1	0.1	µg/L	15-Aug-25	TEL035
Chromium	< 0.1	0.1	µg/L	15-Aug-25	TEL035
Cobalt	0.8	0.1	µg/L	15-Aug-25	TEL035
Copper	0.3	0.2	µg/L	15-Aug-25	TEL035
Iron	< 5	5	ug/L	15-Aug-25	TEL035
Lead	< 0.1	0.1	µg/L	15-Aug-25	TEL035
Lithium	15.9	0.2	µg/L	15-Aug-25	TEL035
Manganese	92.3	0.1	µg/L	15-Aug-25	TEL035
Molybdenum	1.4	0.1	µg/L	15-Aug-25	TEL035
Nickel	1.9	0.1	µg/L	15-Aug-25	TEL035
Rubidium	0.9	0.1	µg/L	15-Aug-25	TEL035
Selenium	5.6	0.3	µg/L	15-Aug-25	TEL035
Silver	< 0.1	0.1	µg/L	15-Aug-25	TEL035
Strontium	135	0.1	µg/L	15-Aug-25	TEL035

ReportDate: Friday, August 22, 2025
Print Date: *Friday, August 22, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251187

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EU-Filtered **Taiga Sample ID: 001**

Thallium	< 0.1	0.1	µg/L	15-Aug-25	TEL035
Titanium	0.3	0.1	µg/L	15-Aug-25	TEL035
Uranium	< 0.1	0.1	µg/L	15-Aug-25	TEL035
Vanadium	0.6	0.1	µg/L	15-Aug-25	TEL035
Zinc	3.4	0.4	µg/L	15-Aug-25	TEL035

ReportDate: Friday, August 22, 2025
Print Date: *Friday, August 22, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.:
251187

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EU-Filtered **Taiga Sample ID: 001**

*** 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: Friday, August 22, 2025
Print Date: *Friday, August 22, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

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

Taiga Batch No.: 251258

- FINAL REPORT -

Prepared For: Environment Canada

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

Attn: Renee Cossitt **Facsimile:**

Final report has been reviewed and approved by:

Bradley Koswan
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.
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  - USEPA
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ReportDate: Monday, September 8, 2025
Print Date: *Monday, September 8, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251258

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EU-BULK **Taiga Sample ID:** 001

Client Project: Domestic Water
Sample Type: Power House Tank
Received Date: 21-Aug-25
Sampling Date: 18-Aug-25
Sampling Time: 16:50
Location: Eureka, Nunavut
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Cations by ICP-MS						
Calcium	30.4	0.1	mg/L	28-Aug-25	TEL035	
Hardness	136	0.7	mg/L	28-Aug-25	TEL035	
Magnesium	14.6	0.1	mg/L	28-Aug-25	TEL035	
Sodium	26.3	0.1	mg/L	28-Aug-25	TEL035	
Inorganics - Nutrients						
Organic Carbon, Total	< 0.5	0.5	mg/L	29-Aug-25	TEL033	
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	17.5	0.4	mg/L	21-Aug-25	TEL060	
Conductivity, Specific (@25C)	412	0.4	µS/cm	21-Aug-25	TEL059	
pH	6.22		pH units	21-Aug-25	TEL058	
Solids, Total Suspended	< 3	3	mg/L	26-Aug-25	TEL008	
Turbidity	4.58	0.05	NTU	22-Aug-25	TEL006	
Organics						
Bromodichloromethane	1.4	1	ug/L	30-Aug-25	TEL074	
Bromoform	< 1.0	1	ug/L	30-Aug-25	TEL074	
Chloroform	1.1	1	ug/L	30-Aug-25	TEL074	

ReportDate: Monday, September 8, 2025
Print Date: *Monday, September 8, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251258

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EU-BULK **Taiga Sample ID: 001**

Dibromochloromethane	2.1	1	ug/L	30-Aug-25	TEL074
Trihalomethanes, Total (calc.)	5.5	1	ug/L	30-Aug-25	TEL074
Trace Metals, Total					
Aluminum	245	0.6	µg/L	29-Aug-25	TEL035
Antimony	0.2	0.1	µg/L	29-Aug-25	TEL035
Arsenic	0.2	0.2	µg/L	29-Aug-25	TEL035
Barium	6.7	0.1	µg/L	29-Aug-25	TEL035
Beryllium	< 0.1	0.1	µg/L	29-Aug-25	TEL035
Cadmium	< 0.04	0.04	µg/L	29-Aug-25	TEL035
Cesium	< 0.1	0.1	µg/L	29-Aug-25	TEL035
Chromium	0.2	0.1	µg/L	29-Aug-25	TEL035
Cobalt	0.6	0.1	µg/L	29-Aug-25	TEL035
Copper	9.7	0.2	µg/L	29-Aug-25	TEL035
Iron	482	5	µg/L	29-Aug-25	TEL035
Lead	1.2	0.1	µg/L	29-Aug-25	TEL035
Lithium	13.8	0.2	µg/L	29-Aug-25	TEL035
Manganese	79.9	0.1	µg/L	29-Aug-25	TEL035
Molybdenum	0.7	0.1	µg/L	29-Aug-25	TEL035
Nickel	1.9	0.1	µg/L	29-Aug-25	TEL035
Rubidium	1.2	0.1	µg/L	29-Aug-25	TEL035
Selenium	3.5	0.3	µg/L	29-Aug-25	TEL035
Silver	< 0.1	0.1	µg/L	29-Aug-25	TEL035
Strontium	97.6	0.1	µg/L	29-Aug-25	TEL035
Thallium	< 0.1	0.1	µg/L	29-Aug-25	TEL035
Titanium	4.7	0.1	µg/L	29-Aug-25	TEL035
Uranium	< 0.1	0.1	µg/L	29-Aug-25	TEL035

ReportDate: Monday, September 8, 2025
Print Date: *Monday, September 8, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251258

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EU-BULK **Taiga Sample ID:** 001

Vanadium	0.4	0.1	µg/L	29-Aug-25	TEL035
Zinc	27.9	0.4	µg/L	29-Aug-25	TEL035

ReportDate: Monday, September 8, 2025
Print Date: *Monday, September 8, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.:
251258

- CERTIFICATE OF ANALYSIS -

Client Sample ID: EU-BULK **Taiga Sample ID: 001**

*** 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: Monday, September 8, 2025
Print Date: *Monday, September 8, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

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

Taiga Batch No.: 251511

- FINAL REPORT -

Prepared For: Nuna East Ltd

Address: 14, 6194 - 50 Street
Edmonton,AB
T6B 2N7

Attn: Sara Irvine **Facsimile:**

Final report has been reviewed and approved by:

Bradley Koswan
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;
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  - 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.
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- All data provided by the customer will be represented by the blue colour used in this statement.

ReportDate: Monday, October 6, 2025
Print Date: *Monday, October 6, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251511

- CERTIFICATE OF ANALYSIS -

Client Sample ID: COMP-INF-25SEP **Taiga Sample ID:** 001

Client Project: Eureka Water and Sewer
Sample Type: Influent
Received Date: 26-Sep-25
Sampling Date: 25-Sep-25
Sampling Time: 12:00
Location: Eureka, NU
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Nutrients						
Ammonia as Nitrogen	113	0.42	mg/L	29-Sep-25	TEL068	210
Biochemical Oxygen Demand	551	2	mg/L	26-Sep-25	TEL019	
Chemical Oxygen Demand	1060	50	mg/L	29-Sep-25	TEL016	210
Phosphorous, Total	12.9	0.022	mg/L	03-Oct-25	TEL069	210
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	390	0.4	mg/L	26-Sep-25	TEL060	
pH	7.58		pH units	26-Sep-25	TEL058	
Solids, Total Suspended	265	3	mg/L	01-Oct-25	TEL008	
Microbiology						
Coliforms, Fecal	119000000	1000000	CFU/100mL	26-Sep-25	TEL017	210
Coliforms, Total	1120000000	1000000	MPN/100mL	26-Sep-25	TEL053	210
Subcontracted Nutrients						
Kjeldahl Nitrogen, Total	118	0.05	mg/L	02-Oct-25	APHA4500-NORG (T	

ReportDate: Monday, October 6, 2025
Print Date: *Monday, October 6, 2025*

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Taiga Batch No.: 251511

- CERTIFICATE OF ANALYSIS -

Client Sample ID: COMP-EFF-25SEP **Taiga Sample ID:** 002

Client Project: Eureka Water and Sewer
Sample Type: Treated Effluent
Received Date: 26-Sep-25
Sampling Date: 25-Sep-25
Sampling Time: 12:00
Location: Eureka, NU
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Nutrients						
Ammonia as Nitrogen	8.48	0.005	mg/L	29-Sep-25	TEL068	
Biochemical Oxygen Demand	10	2	mg/L	26-Sep-25	TEL019	
Chemical Oxygen Demand	101	5	mg/L	29-Sep-25	TEL016	
Phosphorous, Total	5.65	0.008	mg/L	03-Oct-25	TEL069	210
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	330	0.4	mg/L	26-Sep-25	TEL060	
pH	7.84		pH units	26-Sep-25	TEL058	
Solids, Total Suspended	18	3	mg/L	01-Oct-25	TEL008	
Microbiology						
Coliforms, Fecal	85	1	CFU/100mL	26-Sep-25	TEL017	
Coliforms, Total	1730	10	MPN/100mL	26-Sep-25	TEL053	210

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Taiga Batch No.:
251511

- CERTIFICATE OF ANALYSIS -

Client Sample ID: COMP-EFF-25SEP **Taiga Sample ID: 002**

- 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: Monday, October 6, 2025
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Appendix C

Temporary Camp Waste and Water Tracking

Camp Waste - 2025			CAMP WATER USE - 2025 -					Dust Suppression - Haul Rds				RWR Filling		SUMMMARY	
DATE	# of Incinerated Bags	# of Ash Bins to Landfill	Approx. Tank volume 90% of rated 12,000 L capacity.	Fresh Water Intake - Weather Station		Grey Water Discharge - Grey Water Field (Nuna Camp)		Draw Point - Black Top Creek (EUR-8)		Draw Point - West Remus Creek (EUR-7)		Draw Point - Station Creek (EUR-1)		Daily Total - All Sources	
			Date	Load Count	Approx. Vol. (L)	Load Count	Approx. Vol. (L)	Load Count	Approx. Vol. (L)	Load Count	Approx. Vol. (L)	Load Count	Approx. Vol. (L)	Load Count	Approx. Vol. (m3)
25-May	0	0	25-May	3	32,400	0	0		0		0		0		0
26-May	0	1	26-May	0	0	0	0		0		0		0		0
27-May	6	0	27-May	0	0	0	0		0		0		0		0
28-May	6	0	28-May	0	0	0	0		0		0		0		0
29-May	6	0	29-May	1	10,800	1	10,800		0		0		0		0
30-May	6	0	30-May	0	0	0	0		0		0		0		0
31-May	6	0	31-May	1	10,800	1	10,800		0		0		0		0
1-Jun	6	0	1-Jun	0	0	0	0		0		0		0		0
2-Jun	6	0	2-Jun	1	10,800	1	10,800		0		0		0		0
3-Jun	11	0	3-Jun	0	0	0	0		0		0		0		0
4-Jun	11	0	4-Jun	0	0	1	10,800		0		0		0		0
5-Jun	11	0	5-Jun	0	0	0	0		0		0		0		0
6-Jun	11	0	6-Jun	1	10,800	1	10,800		0		0		0		0
7-Jun	11	0	7-Jun	0	0	0	0		0		0		0		0
8-Jun	11	0	8-Jun	1	10,800	1	10,800		0		0		0		0
9-Jun	11	0	9-Jun	0	0	0	0		0		0		0		0
10-Jun	11	0	10-Jun	1	10,800	1	10,800		0		0		0		0
11-Jun	19	0	11-Jun	0	0	0	0		0		0		0		0
12-Jun	19	0	12-Jun	1	10,800	1	10,800		0		0		0		0
13-Jun	21	0	13-Jun	0	0	0	0		0		0		0		0
14-Jun	12	0	14-Jun	1	10,800	1	10,800		0		0		0		0
15-Jun	12	0	15-Jun	0	0	0	0		0		0		0		0
16-Jun	10	0	16-Jun	1	10,800	1	10,800		0		0		0		0
17-Jun	11	0	17-Jun	0	0	1	10,800		0		0		0		0
18-Jun	10	0	18-Jun	1	10,800	1	10,800		0		0		0		0
19-Jun	21	0	19-Jun	0	0	1	10,800		0		0		0		0
20-Jun	19	0	20-Jun	1	10,800	1	10,800		0		0		0		0
21-Jun	10	0	21-Jun	0	0	1	10,800		0		0		0		0
22-Jun	11	0	22-Jun	0	0	1	10,800		0		0		0		0
23-Jun	10	0	23-Jun	2	21,600	1	10,800		0		0		0		0
24-Jun	11	0	24-Jun	0	0	1	10,800		0		0		0		0
25-Jun	17	0	25-Jun	0	0	1	10,800		0		0		0		0
26-Jun	11	0	26-Jun	2	21,600	1	10,800		0		0		0		0
27-Jun	10	0	27-Jun	0	0	1	10,800		0		0		0		0
28-Jun	11	0	28-Jun	0	0	0	0		0		0		0		0
29-Jun	12	0	29-Jun	2	21,600	1	10,800		0		0		0		0
30-Jun	19	0	30-Jun	1	10,800	0	0		0		0		0		0
1-Jul	11	0	1-Jul	1	10,800	1	10,800		0		0		0		0
2-Jul	10	0	2-Jul	0	0	1	10,800	2	21,600		0		0		22
3-Jul	10	0	3-Jul	2	21,600	1	10,800		0		0		0		0
4-Jul	11	0	4-Jul	0	0	1	10,800		0		0		0		0
5-Jul	11	0	5-Jul	0	0	1	10,800		0		0		0		0
6-Jul	11	0	6-Jul	1	10,800	1	10,800		0		0		0		0
7-Jul	20	0	7-Jul	0	0	1	10,800	1	10,800		0		0		11
8-Jul	10	0	8-Jul	1.5	16,200	1	10,800		0		0		0		0
9-Jul	9	0	9-Jul	0	0	0	0		0		0		0		0
10-Jul	12	0	10-Jul	1	10,800	1	10,800		0		0		0		0
10-Jul	12	0	10-Jul	1	10,800	1	10,800		0		0		0		0
11-Jul	10	0	11-Jul	0	0	0	0		0		0		0		0
12-Jul	10	0	12-Jul	1	10,800	1	10,800		0		0		0		0
13-Jul	11	0	13-Jul	0	0	0	0		0		0		0		0
14-Jul	11	0	14-Jul	1	10,800	1	10,800		0		0		0		0
15-Jul	11	0	15-Jul	0	0	0	0		0		0		0		0
16-Jul	10	0	16-Jul	1	10,800	1	10,800		0		0		0		0
17-Jul	11	0	17-Jul	0	0	0	0		0		0		0		0
18-Jul	12	0	18-Jul	1	10,800	1	10,800		0		0		0		0
19-Jul	10	0	19-Jul	0	0	0	0		0		0		0		0
20-Jul	12	0	20-Jul	0	0	0	0		0		0		0		0
21-Jul	11	0	21-Jul	1	10,800	1	10,800		0		0		0		0
22-Jul	11	0	22-Jul	0	0	1	10,800		0		0		0		0
23-Jul	19	0	23-Jul	1	10,800	1	10,800		0		0		0		0
24-Jul	20	0	24-Jul	0	0	0	0		0		0		0		0
25-Jul	19	0	25-Jul	1	10,800	1	10,800		0		0		0		0
26-Jul	16	0	26-Jul	1	10,800	1	10,800		0		0		0		0
27-Jul	17	0	27-Jul	1	10,800	1	10,800		0		0		0		0
28-Jul	16	0	28-Jul	0	0	0	0		0		0		0		0
29-Jul	19	0	29-Jul	0	0	1	10,800		0		0		0		0
30-Jul	20	0	30-Jul	2	21,600	1	10,800		0		0		0		0
31-Jul	17	0	31-Jul	1	10,800	0	0	1.5	16,200		0		0		16
1-Aug	19	0	1-Aug	1	10,800	1	10,800		0		0		0		0
2-Aug	10	0	2-Aug	1	10,800	1	10,800		0		0		0		0
3-Aug	11	0	3-Aug	0	0	0	0		0		0		0		0
4-Aug	12	0	4-Aug	1.5	16,200	1	10,800		0		0		0		0
5-Aug	17	0	5-Aug	0	0	0	0		0		0		0		0
6-Aug	18	0	6-Aug	1	10,800	1	10,800		0		0		0		0
7-Aug	16	0	7-Aug	0	0	0	0		0		0		0		0
8-Aug	17	0	8-Aug	1	10,800	1	10,800		0		0		0		0
9-Aug	18	0	9-Aug	1.5	16,200	1	10,800		0		0		0		0
0-Aug	19	0	10-Aug	0	0	0	0		0		0		0		0
1-Aug	20	0	11-Aug	0	0	0	0		0		0		0		0
2-Aug	22	0	12-Aug	1	10,800	1	10,800		0		0		0		0
3-Aug	18	0	13-Aug	0	0	0	0		0		0		0		0
4-Aug	19	0	14-Aug	0	0	0	0		0		0		0		0
5-Aug	16	0	15-Aug	1	10,800	1	10,800		0		0		0		0
6-Aug	18	0	16-Aug	0	0	0	0		0		0		0		0
7-Aug	21	0	17-Aug	1	10,800	1	10,800		0		0		0		0
8-Aug	20	0	18-Aug	0	0	0	0		0		0		0		0
9-Aug	23	0	19-Aug	0	0	0	0		0		0		0		0
0-Aug	21	0	20-Aug	1	10,800	1	10,800		0		0		0		0
1-Aug	19	0	21-Aug	0	0	0	0		0		0		0		0
2-Aug	18	0	22-Aug	1	10,800	1	10,800		0		0		0		0
3-Aug	17	0	23-Aug	1	10,800	1	10,800		0		0		0		0
4-Aug	15	0	24-Aug	0	0	0	0		0		0		0		0
5-Aug	18	0	25-Aug	0	0	0	0		0		0		0		0
6-Aug	18	0	26-Aug	1	10,800	1	10,800		0		0		0		0
7-Aug	16	0	27-Aug	0	0	0	0		0		0		0		0
8-Aug	17	0	28-Aug	0	0	0	0		0		0		0		0
9-Aug	12	0	29-Aug	1	10,800	1	10,800		0		0		0		0
0-Aug	18	0	30-Aug	0	0	0	0		0		0		0		0
1-Aug	19	0	31-Aug	0	0	0	0		0		0		0		0
1-Sep	13	0	1-Sep	0	0	0	0		0		0		0		0

2-Sep	15	0	2-Sep	1	10,800	1	10,800		0		0		0		0
3-Sep	14	0	3-Sep	0	0	0	0		0		0		0		0
4-Sep	12	0	4-Sep	1	10,800	0	0		0		0		0		0
5-Sep	12	0	5-Sep	0	0	0	0		0		0		0		0
6-Sep	19	0	6-Sep	1	10,800	1	10,800		0		0		0		0
7-Sep	25	0	7-Sep	0	0	0	0		0		0		0		0
8-Sep	23	0	8-Sep	0	0	0	0		0		0		0		0
9-Sep	10	0	9-Sep	0	0	0	0		0		0		0		0
10-Sep	4	0	10-Sep	0	0	0	0		0		0		0		0
11-Sep	20	0	11-Sep	0	0	0	0		0		0		0		0
12-Sep	34	0	12-Sep	0	0	0	0		0		0		0		0
13-Sep	12	0	13-Sep	1	10,800	1	10,800		0		0		0		0
14-Sep	24	0	14-Sep	0	0	0	0		0		0		0		0
15-Sep	23	0	15-Sep	0	0	0	0		0		0		0		0
16-Sep	19	0	16-Sep	0	0	0	0		0		0		0		0
17-Sep	21	0	17-Sep	0	0	0	0		0		0		0		0
18-Sep	6	0	18-Sep	0	0	0	0		0		0		0		0
19-Sep	7	0	19-Sep	0	0	0	0		0		0		0		0
20-Sep	9	1	20-Sep	0	0	1	10,800		0		0		0		0
			TOTAL	58.5	631,800	61	658,800	4.5	48600	0	0	0	0	0	48.6

Camp Water Usage 2025

Month	Litres Used	Man-Days
May	54000	95
June	172800	1241
July	199800	1282
Aug	162000	841
Sept	43200	199
Total Camp Mandays		3658
Total Fresh Water		631800
Average litres/person-day		172.7

Camp Grey Water Discharge 2025

Month	Litres Discharged	Man-Days
May	21600	95
June	216000	1241
July	226800	1282
Aug	151200	841
Sept	43200	199
Total Camp Mandays		3658
Total Grey Water		658800
Average litres/person-day		180.1

Dust Suppression

Month	Litres Used	Draw Point
May	0	
June	0	
July	48,600	EUR-8
Aug	0	
Sept	0	
Total Litres	48,600	

Incinerator Waste Disposal

Month	Bags Burnt	Ash Barrels to Landfill	Approx. m3 ash
May	10	1	0.15
June	376	0	0
July	408	0	0
Aug	542	0	0
Sept	322	1	0.15
Total	1648	2	0.3

RWR Filling

Month	Volume (L)	Draw Point
May	0	
June	13,007,372	EUR-1
July	0	
Aug	0	
Sept	0	
Total	13,007,372	