NUNAVUT WATER BOARD

TYPE "A" WATER LICENCE NO: 8AC-EUR2331

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Licence No: 8AC-EUR2331

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and *the Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada,* the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

DEPARTMENT OF ENVIRONMENT

(Licensee)

2121 TRANS CANADA HWY, DORVAL, QC H9P 1J3

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of waste for a period subject to restrictions and conditions contained within this Licence renewal:

Licence Number/Type:	**8AC-EUR2331 / TYPE "A"**
Water Management Area:	**NANSEN AND EUREKA SOUNDS WATERSHED (59)**
Location:	**EUREKA HIGH ARCTIC WEATHER STATION (HAWS) QIKIQTANI REGION, NUNAVUT**
Classification:	**8. OTHER UNDERTAKING**
Purpose:	**USE OF WATER AND DEPOSIT OF WASTE**
Quantity of Water use not to exceed:	**2,000 CUBIC METRES PER DAY FROM STATION CREEK FOR FILLING THE NEW WATER RESERVOIR AND 8,775 CUBIC METRES FROM STATION CREEK ANNUALLY THEREAFTER, 800 CUBIC METRES ANNUALLY FROM WEST REMUS CREEK, 425 CUBIC METRES ANNUALLY FROM BLACKTOP CREEK**
Issuance Date:	**DECEMBER 19, 2023**
Expiry of Licence:	**DECEMBER 18, 2031**

This Licence issued (Motion Number: 2023-12-A1-05) and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Lootie Toomasie,
Nunavut Water Board, Chair

APPROVED BY: Daniel Vandal
Minister of Northern Affairs

APPROVAL DATE: _____

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. SCOPE

a. This Type "A" Water Licence No: 8AC-EUR2331 authorizes the Department of Environment (Licensee) to use Water and deposit Waste in support of a Research undertaking, classified as "Other" under Schedule 1 of the Regulations, within the Eureka High Arctic Weather Station (HAWS) Project, located approximately 425 km north-northwest of Grise Fiord within the Qikiqtani Region, Nunavut at the following geographic coordinates :

Project Extents	Latitude	Longitude
HAWS Project Area	80° 0' 10.665" N	85° 54' 57.015" W
	79° 59' 21.095" N	85° 57' 5.209" W
	79° 57' 18.804" N	85° 18' 51.225" W
	79° 56' 29.467" N	85° 21' 1.742" W
Camp Site 1	79° 59' 29.268" N	85° 52' 17.112" W
Camp Site 2	79° 59' 21.851" N	85° 53' 59.853" W

The scope of activities, works, and undertakings authorized in accordance with the terms and conditions of this Licence is as follows:

- Withdrawal of Water from Station Creek, West Remus Creek, and Blacktop Creek to supply the camp and support project activities
- Construction and continued operation of the following facilities:
  - Water Supply Facility;
  - Waste Disposal Facilities;
  - Camp infrastructure including water crossings, power-house, fuel storage facility, landfarms, temporary contaminated soil storage, quarry operation, runway, dust suppression, incineration, electrical-plumbing-carpentry facilities shops, maintenance garage, warehouses, accommodations and other buildings.

b. This Licence is issued subject to conditions contained herein with respect to the use of Waters and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the Act, or other statutes imposing more stringent conditions relating to the quantity, type or manner under

which any such Waste may be deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and

c. Compliance with the terms and conditions of this Licence does not absolve the Licensee from the responsibility for compliance with all applicable legislation, guidelines, and directives.

2. DEFINITIONS

a. The Licensee shall refer to Schedule A for definitions of terms used in this Licence.

3. ENFORCEMENT

a. Failure to comply with this Licence shall be a violation of the Act, subjecting the Licensee to the enforcement measures and the penalties provided for in the Act.

b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the Act.

c. For the purpose of enforcing the terms and conditions of this Licence with respect to the use of Water and deposit or Discharge of Waste in Waters, Inspectors appointed under the Act, hold all powers, privileges, and protections that are conferred upon them by the Act or by other applicable laws.

PART B: GENERAL CONDITIONS

1. The Licensee shall file, with the Board for review, no later than the 31st of March of the year following the calendar year being reported, an Annual Report formulated in accordance with the requirements under Schedule B of this Licence.

2. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this Project at least thirty (30) days prior to any such change.

3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part I, Item 3.

4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve

the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.

5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.

6. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.

7. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.

8. Any communication with respect to this Licence shall be made in writing to the attention of:

Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
Fax: (867) 360-6369
Email: licensing@nwb-oen.ca

9. Any notice made to an Inspector shall be made by phone or in writing to the attention of:

Water Resources Officer
CIRNA, Nunavut District, Nunavut Region
918, Nunavut Drive
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4284

10. The Licensee shall submit an electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.

11. The Licensee shall ensure that all documents or correspondence submitted by the Licensee to the NWB are received and acknowledged by the Manager of Licensing.

12. This Licence is assignable as provided for in Section 44 of the Act.

13. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.

14. The Schedules attached to this Licence provide details regarding the requirements associated with specific items in the main body of the Licence and are included in the Schedule to provide greater clarity and as an aid to interpretation for the Licensee. If the Board subsequently determines that an item in any of the Schedules requires revision in order to better reflect the intent and objectives of the Licence, the Board may at its discretion, and upon consulting and providing written notice to the Licensee and interested parties, revise the Schedule accordingly. Unless the Board directs otherwise, such revision may not necessarily be considered as an "Amendment" to the Licence.

15. Unless otherwise stated, references in the Licence to any specific legislation, policy, guideline or other regulatory requirement are deemed to refer to the regulatory requirement as may be amended or as may be expressly replaced by successor legislation, policy, guidelines or other regulatory requirements after the Licence is approved by the Minister.

PART C: CONDITIONS APPLYING TO SECURITY

1. As long as the Licensee remains a Department within the Federal Crown, the Licensee is not required to post reclamation security for the activities, works, and undertakings authorized under this Licence.

PART D: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all Water in amounts and from the sources described in Table 1.

Table 1: Water Use Authorized for all Purposes

Source	Withdrawal Rate	Purpose
Station Creek	2,000 m^3/day for filling the new water reservoir	Domestic camp and other use
Station Creek	8,775 m^3/year	Domestic camp and other use
West Remus Creek	800 m^3/year	Dust suppression
Blacktop Creek	425 m^3/year	Dust suppression

2. A freeboard of 1.0 metre, or as recommended by a qualified Engineer and as approved by the Board, shall be maintained at all dykes and earth-fill structures associated with the Water Supply Facility.

3. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw Water at a rate such that fish do not become impinged on the screen.

4. The Licensee shall not conduct any work below the ordinary High Water Mark of any water body, unless otherwise approved by the Board in writing.

5. The Licensee shall not cause erosion to the banks of any water body and shall provide necessary controls to prevent such erosion.

6. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into Water.

PART E: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for Waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any water body such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the Board in writing.

2. The Licensee shall dispose of and contain all non-combustible solid wastes at the appropriate Solid Waste Disposal Facilities or as otherwise approved by the Board in writing.

3. The Licensee shall dispose of combustible Waste in an incinerator designed for this purpose that meets the requirements of the Canada-Wide Standards for Dioxins and Furans and Canada-Wide Standards for Mercury emissions or other standards as they become available.

4. The Licensee shall backhaul and dispose of all hazardous Waste, Waste oil and non-combustible Waste generated through the course of the operation at a licensed Waste disposal site.

5. The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of Waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding Waters, unless otherwise approved by the Board in writing.

6. The Licensee shall open burn acceptable Waste only in accordance with the *Government of Nunavut's Environmental Guideline for the Burning and Incineration of Solid Waste* (2012 or more recent), providing the details of the types and quantity of Waste to be burned, proposed dates, protocols to be followed, ultimate disposal of residual ash and the person responsible for the activity and other information required under the guideline.

7. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving Waste from HAWS Project prior to any backhauling and disposal of Waste to those communities.

8. The Licensee shall maintain records of all Waste backhauled and records of confirmation of proper disposal of backhauled Waste. These records shall be made available to an Inspector upon request.

9. The Licensee shall direct Sewage to the Sewage Treatment Facility and Greywater to the Greywater Exfiltration Trench until the commissioning of the Wastewater Treatment Plant or as otherwise approved by the Board in writing. The Licensee shall direct Sewage and Greywater to the Wastewater Treatment Plant upon its commissioning.

10. Effluent discharged from the Sewage Treatment Facility at Monitoring Program Station EUR-3, as referred to in Schedule I, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Biochemical Oxygen Demand BOD_5	100 mg/L
Total Suspended Solids	120 mg/L
Fecal Coliforms	1×10^6 CFU/100 mL
pH	between 6.0 and 9.0
Oil and grease	No visible sheen

11. Effluent discharged from the Wastewater Treatment Plant at Monitoring Program Station EUR-3, as referred to in Schedule I, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Biochemical Oxygen Demand BOD_5	25 mg/L
Total Suspended Solids	25 mg/L
Fecal Coliforms	200 CFU/100 mL
pH	between 6.0 and 9.0

Oil and grease	No visible sheen
Total Phosphorus	10 mg/L
Unionized Ammonia	1.25 mg/L as N

12. Effluent discharged from the Fuel Storage and Transfer Area, Landfarm Facility and Temporary Contaminated Soil Storage at Monitoring Program Stations EUR-10, EUR-4 and EUR-6, respectively, as referred to in Schedule I, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Benzene	370 (µg/L)
Toluene	2 (µg/L)
Ethylbenzene	90 (µg/L)
Lead	1(µg/L)
Phenols	20 (µg /L)
pH	Between 6.0 and 9.0
Oil and Grease	15 (mg/L) and no visible sheen

13. If Effluent does not meet the Effluent quality limits, as referred to in Part E, Items 10, 11 and 12, it shall be considered hazardous waste and disposed of off-site at an approved facility.

14. A freeboard of 1.0 metre, or as recommended by a qualified Engineer and as approved by the Board in writing, shall be maintained at all dams, dykes and earth-fill structures associated with the Waste Disposal Facilities.

15. The Licensee shall provide at least ten (10) days written notification to an Inspector, prior to initiating any Effluent discharge from the Sewage Treatment Facility, Wastewater Retention Pond, Fuel Storage and Transfer Area, Landfarm Facility, and Temporary Contaminated Soil Storage.

16. The Licensee shall maintain the Waste Disposal Facilities to the satisfaction of the Inspector and operate in such a manner as to prevent structural failure.

17. The Licensee shall, prior to the removal of any treated soil for future use, confirm with the Government of Nunavut, Environmental Protection Service that the soils have been treated to meet all required treatment objectives.

18. The Licensee shall not mix or blend soils for the expressed purpose of attaining the specific

limits of the relevant quality criteria.

19. The Licensee shall, within six (6) months of Licence approval, submit a remedial options analysis and remedial action plan for Board approval for the Temporary Contaminated Soil Storage.

PART F: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall implement the *Revised Quarry Operations Plan West Remus Creek, Eureka, Nunavut Nuna East Ltd*. dated May 2021 that was previously approved by the Board.

2. The Licensee shall, at least sixty (60) days prior to commissioning the Wastewater Treatment Plant, submit to the Board for review updated *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* dated June 2021 that was previously approved by the Board.

3. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.

4. All surface runoff and/or discharge from drainage management systems, during the construction of any facilities and infrastructure associated with this Project, including from quarry development at Monitoring Program Station EUR-5, as referred to in Schedule I, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Total Suspended Solids	50 mg/L
pH	Between 6.0 and 9.5
Oil and Grease	15 mg/L and no visible sheen

5. The Licensee shall only use aggregate for construction of infrastructure or facilities under this Licence that is demonstrated to be not potentially acid generating, non-metal leaching and free of contaminants by, carrying out appropriate analyses and retaining the results and reports for reference for submission on request by the NWB or an Inspector, or have the results submitted with the Annual Report.

6. The Licensee shall construct all winter lake and stream crossings, including ice bridges, entirely of Water, ice or snow. The Licensee shall minimize disturbance by locating ice bridges in an area that requires the minimum approach grading and the shortest crossing route. Stream crossings shall be removed or the ice notched prior to spring break-up.

7. The Licensee shall not conduct any land-based activity within thirty-one (31) metres of the ordinary High Water Mark of any water body, unless otherwise approved by the Board.

8. Stream crossing shall be a minimum of five hundred (500) meters from spawning areas.

9. The Licensee shall locate stream crossings to minimize approach grades. Approaches shall be stabilized during construction and upon completion of the undertakings, to control runoff, erosion and subsequent siltation to any water body.

10. The Licensee shall limit any in-stream activity to low water periods. In-stream activity is prohibited during fish migration.

11. The Licensee shall not cut any stream bank or remove any material from below the ordinary High Water Mark of any water body.

12. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed a distance of at least thirty-one (31) metres from the ordinary High Water Mark in such a fashion that they do not enter the Water.

13. The Licensee shall not mobilize heavy equipment or vehicles for trenching or other activities unless the ground surface is capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall be suspended if rutting occurs.

14. The Licensee shall, during periods of flow and following a major precipitation event, conduct water quality testing on a monthly basis, of any significant water seeps in contact with the roads, earthworks and any flows originating from quarries for criteria listed under Part F, Item 4.

15. The Licensee shall maintain a minimum of thirty-one (31) metres undisturbed buffer zone between the periphery of quarry sites and the ordinary High Water Mark of any water body, unless otherwise approved by the Board in writing.

16. The Licensee shall not excavate and/or remove material from the quarry beyond a depth of one (1) metre above the ordinary High Water Mark or above the groundwater table, to prevent the potential contamination of groundwater.

17. A Geotechnical inspection of all engineered facilities related to the management of Water and Waste shall be carried out upon request of an Inspector. The qualified Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing each of the qualified Engineer's recommendations.

18. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.

19. The Licensee shall, at least sixty (60) days prior to construction or in a timeframe otherwise approved by the Board in writing, submit to the Board for review final design and for-construction drawings, stamped and signed by an Engineer, for all infrastructure and/or facilities designed to contain, withhold, divert or retain Water and/or Waste, as authorized under the Licence.

20. The Licensee shall, submit to the Board for review, within ninety (90) days of completion of infrastructure authorized under this Licence, to contain, withhold, divert or retain Water or Wastes; a construction summary report prepared by an Engineer that includes, among other relevant information, as-built drawings, documentation of field decisions that deviated from original plans, and any data used to support these decisions.

PART G: CONDITIONS APPLYING TO MODIFICATIONS AND CONSTRUCTION

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facility and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:

    a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
    b. such Modifications do not place the Licensee in contravention of the Licence or the Act;
    c. such Modifications do not constitute "significant modifications" that require conformity assessment by the Nunavut Planning Commission and/or impact assessment by the Nunavut Impact Review Board before consideration by the NWB;
    d. within sixty (60) days following notification of the proposed Modifications, the

Licensee, Nunavut Planning Commission, Nunavut Impact Review Board, designated Inuit organization or responsible regulatory authority has not indicated that any conformity determination, impact assessment, compensation negotiations or other consideration of the Modification that must be completed before the NWB can consider the Modification will take longer than 45 days; and

e. the Board has not rejected the proposed Modifications.

2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met can be carried out only with written approval from the Board.

3. Notifications for Modifications shall contain:

   a. Description of the facilities and/or works to be constructed or remediated;
   b. The proposed location of the structure(s);
   c. Identification of any potential impacts to the Receiving Environment;
   d. A description of any monitoring required, including sampling locations, parameters measured and frequencies of sampling;
   e. Schedule for construction or remediation;
   f. Drawings of engineered structures stamped by a Professional Engineer; and
   g. Proposed sediment and erosion control measures.

4. The Licensee shall, within ninety (90) days from completion of Modification or construction of facilities and/or infrastructure associated with this Undertaking, submit to the Board a Construction Summary Report prepared by a qualified Engineer that includes, among other relevant information, as-built drawings, documentation of field decisions that deviated from original plans, and any information used to support these decisions.

5. The Licensee shall implement measures to ensure that all materials used in the construction of the facilities or infrastructure associated with the Undertaking are free of contaminants, to the extent that they do not cause harmful or significant effects to Water.

6. The Licensee shall, if contamination of surface and/or groundwater is encountered during construction and excavation, notify the Inspector immediately and implement the Emergency Plan, referred to in Part H, Item 1.

PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall implement the *Emergency Plan for Petroleum and Allied Petroleum Products* dated April 2021 that was previously approved by the Board.

2. The Licensee shall prevent any chemicals, petroleum products or Waste associated with the Project from entering Water. All Sumps and fuel caches shall be located at a distance of at least thirty-one (31) metres from the ordinary High Water Mark of any adjacent water body and inspected on a regular basis.

3. The Licensee shall conduct any equipment maintenance and servicing in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other Waste and contain potential spills.

4. If during the term of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:

   a. Employ the approved Spill Contingency Plan (Emergency Plan as per Part H, Item 1);
   b. Report the spill immediately to the NWT/NU 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
   c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.

5. The Licensee shall, in addition to Part H, Item 4, regardless of the quantity of releases of harmful substances, report to the NWT/NU 24-Hour Spill Line, if the release is near or into a water body.

PART I: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall monitor the Water Supply Facility and Waste Disposal Facilities authorized under this Licence in accordance with requirements included under Schedule I.

2. The Licensee shall determine, in consultation with the Inspector, the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with operations and maintenance operations are deposited and have been deposited. Locations shall be reported in the Annual Report.

3. The Licensee shall measure and record in cubic metres, the daily, monthly and annual quantities of water pumped from Station Creek during the annual recharge of the Eureka water reservoir at Monitoring Program Station EUR-1, from West Remus Creek during dust suppression at Monitoring Program Station EUR-7, and from Blacktop Creek during dust

suppression at Monitoring Program Station EUR-8, respectively, as referred to in Schedule I.

4. The Licensee shall measure and record in cubic metres the monthly quantities of water utilized for operations, for all purposes.

5. The Licensee shall measure and record in cubic metres the monthly quantities of Effluent discharge from the Sewage Treatment Facility (Wastewater Treatment Plant or Wastewater Retention Pond upon completion of Wastewater Treatment Plant), Wastewater Treatment Plant at Monitoring Program Stations EUR-3 and EUR-9, respectively, as referred to in Schedule I.

6. The Licensee shall analyze samples prior to the Effluent discharge and monthly thereafter from the Sewage Treatment Facility (Wastewater Treatment Plant or Wastewater Retention Pond upon completion of Wastewater Treatment Plant) Wastewater Treatment Plant at Monitoring Program Stations EUR-3 and EUR-9, as referred to in Schedule I, for the purpose of demonstrating compliance with the parameters listed under Part E Item 10, and Part E Item 18.

7. The Licensee shall analyze samples collected monthly during periods of observed flow or seepage and annual discharges at Monitoring Program Stations EUR-2, EUR-3, EUR-4, EUR-6, EUR-9 and EUR-10. Samples shall be analyzed for the parameters in accordance with Schedule I.

8. The Licensee shall measure and record the volume of all soil, from all locations entering the Landfarm Facility and Temporary Contaminated Storage at Monitoring Program Stations EUR-4 and EUR-6, respectively, as referred to in Schedule I,.

9. The Licensee shall assess and record the concentration of petroleum hydrocarbon contaminated soil entering the Landfarm Facility and Temporary Contaminated Storage at Monitoring Program Stations EUR-4 and EUR-6, respectively, as referred to in Schedule I, from all sources, as per the CCME Canada-Wide Standard for Petroleum Hydrocarbons in (PHC) in Soil.

10. The Licensee shall analyze samples, prior to the Effluent discharge from the Fuel Storage and Transfer Area, Landfarm Facility and Temporary Contaminated Storage at Monitoring Program Stations EUR-10, EUR-4 and EUR-6, respectively, as referred to in Schedule I, for the purpose of demonstrating compliance with the parameters and limits listed under Part E, Item 12.

11. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.

12. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.

13. Licensee shall, within ninety (90) days of approval of this Licence, submit to the Board for review a revised Quality Assurance / Quality Control (QA/QC) Plan that includes comments / recommendations raised during the 2023 licensing process.

14. The Licensee shall annually review the QA/QC Plan submitted under Part I, Item 9 and modify it as required by changes in operations and technology. Revised Plan shall be submitted to the NWB for review, with an approval letter from an accredited lab confirming adherence to standards set in Part I, Items 10 and 11.

15. Modifications to the Monitoring Program may be made only upon written approval from the Board. Requests for changes to the Monitoring Program should be forwarded to the NWB in writing, and shall include justification and appropriate evidence to support the change.

16. The Licensee shall include all of the data and information required by the Monitoring Program under Schedule I, within the Annual Report required under Part B, Item 1 of the Licence or as otherwise requested by an Inspector and/or the Board.

17. Additional Monitoring may be requested by the Board and/or the Inspector.

18. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board in writing and do not necessarily constitute an Amendment to the Licence as defined in the Act.

PART J: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION

1. The Licensee shall implement the *Interim Abandonment & Restoration Plan* dated June 2021 that was previously approved by the Board.

2. The Licensee shall submit to the Board for approval in writing, at least six (6) months prior to commencing the decommissioning of a facility, a Final Closure and Reclamation Plan prepared by an Engineer in accordance with the "Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (1990)," and industry's best

practices. The Plan shall include, in addition to the content of the Interim Plan, the following:

a. A description of contaminated soils identified at the site through a completed Phase III Environmental Assessment and the procedures to mitigate the contamination;
b. A summary of existing data for background levels of metals in the area, and identification of needs for verification of data;
c. A description of restoration activities outlined in the Interim Abandonment and Restoration Plan:
d. An implementation schedule for the completion of restoration; and
e. A detailed monitoring program.

3. The Licensee shall complete the restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board in writing.

4. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.

5. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.

6. All disturbed areas shall be contoured and stabilized upon completion of work and restored to a pre-disturbed state.

SCHEDULES

Schedule A: Definitions

In this Licence No: 8AC-EUR2331:

"**Act**" means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act;*

"**Addendum**" means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report;

"**Amendment**" means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

"**Annually**" means, in the context of monitoring frequency, one sampling event occurring every 365 days with a minimum of 200 days between sampling events;

"**Applicant**" means the Licensee;

"**Appurtenant Undertaking**" means an undertaking in relation to which a use of Water or a deposit of Waste is permitted by a licence issued by the Board;

"**Board**" means the Nunavut Water Board established under the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act;*

"**Effluent**" means treated or untreated liquid Waste material that is discharged into the environment from a structure such as a settling pond, landfarm or a treatment plant;

"**Engineer**" means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

"Final Discharge Point" in respect of an Effluent means an identifiable discharge point of a facility beyond which the operator of the facility no longer exercises control over the quality of the Effluent;

"**Fuel Storage and Transfer Area**" means the bulk fuel storage and the area around the connection point between a delivery truck, railcar, or vessel and bulk fuel as described in the *Emergency Plan for Storage Tank Systems of Petroleum and Allied Petroleum Products at Eureka High Arctic Weather Station (HAWS)* dated April 2021 and submitted with the application dated June 18, 2021;

"**Grab Sample**" means an undiluted quantity of material collected at a particular time and place that may be representative of the total substance being sampled at the time and place it was collected;

"**Greywater**" means the component of Effluent produced from domestic use (i.e. washing, bathing, food preparation and laundering), excluding Sewage;

"**Greywater**" means all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet Wastes;

"**Greywater Exfiltration Trench**" means the system composed of a perforated pipe and aggregate with the purpose of Greywater treatment as described in the application dated February 18, 2022;

"**Hazardous Waste**" means materials or contaminants categorized as dangerous goods under the *Transportation of Dangerous Good Act* (1992), no longer used for their original purpose and intended for recycling, treatment, disposal or storage at appropriate facilities;

"**High Water Mark**" means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);

"**Inspector**" means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

"**Landfarm Facility**" means the facility for the petroleum hydrocarbon contaminated soil treatment situated adjacent to the main complex area as referenced in application dated June 18, 2021, and the new facility as referenced in the Updated Remedial Action Plan (RAP) at the Eureka High Arctic Weather Station, Nunavut dated March 2023;

"**Landfill**" means the facility designed to contain non-hazardous solid waste as described in the application dated June 18, 2021;

"**Licensee**" means the holder of this Licence;

"**Management Plan**" means a well thought out strategy for accomplishing a specific objective, provided in the form of a stand-alone written document or as part of a larger integrative Management Plan;

"**Minister**" means the Minister of Northern Affairs;

"**Modification**" means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

"**Monitoring Program**" means the program to collect data on surface water and groundwater quality to assess impacts to the environment of an appurtenant undertaking;

"**Monthly**" means, in the context of monitoring frequency, one sampling event occurring within calendar month with a minimum of twenty-one (21) days between sampling events;

"**Nunavut Agreement**" means the *"Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*", including its preamble and schedules, and any amendments to that agreement made pursuant to it;

"**Quality Assurance / Quality Control (QA/QC)**" Quality Assurance means the system of activities designed to better ensure that quality control is done effectively; Quality Control means the use of established procedures to achieve standards of measurement for the three principle components of quality: precision, accuracy and reliability;

"**Quarry or Quarries**" means the area of surface excavation for extracting rock material for use as construction materials in the development of infrastructure and facilities for the project as described in the application dated June 18, 2021;

"**Regulations**" means the *Nunavut Waters Regulations* SOR/2013-69 18th April, 2013;

"**Secondary Containment**" means an impermeable structure, external to and separate from primary containment, which prevents unplanned spills of hazardous materials and provides a minimum capacity of 110% of the original vessel. Where multiple vessels are stored within the containment, it must provide a minimum capacity equal to the sum of the largest vessel and 10% of the aggregate volume of all other vessels located in the containment. This structure shall also provide containment and control of hoses and nozzles;

"**Sewage**" means all toilet Wastes and Greywater;

"Sewage Treatment Facility" means the sewage lagoon as described in the application dated June 18, 2021;

"Solid Waste Disposal Facilities" means the structures and associated area designed to contain solid waste as described in the application dated June 18, 2021;

"**Spill Contingency Plan**" means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

"**Sump or Sumps**" A structure or depression that collects, controls, and filters liquid Waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid Waste;

"Temporary Contaminated Soil Storage" means the lined, bermed area (estimated capacity of 3,200 m^3) and two lined, bermed areas (estimated combined capacity of 10,000 m^3) for temporary storage of petroleum hydrocarbon contaminated soil excavated from the main apron area of the airport and from the new raw water reservoir footprint, respectively, as described in the applications dated June 18, 2021 and February 2, 2022;

"**Toilet Wastes**" means all human excreta and associated products, but does not include greywater;

"**Undertaking or Undertakings**" means an undertaking or undertakings in respect of which Water is to be used or Waste is to be deposited, as classified in Schedule 1 of the Regulations;

"**Use**" means use as defined in section 4 of the Act;

"**Waste**" means, as defined in s. 4 of the *Act*, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;

"**Waste Disposal Facilities**" means the Sewage Treatment Facility (Wastewater Retention Pond upon completion of the Wastewater Treatment Plant), Greywater Exfiltration Trench, Wastewater Treatment Plant, Landfill, Temporary Contaminated Soil Storage, and Landfarm Facility;

"**Wastewater**" means the water generated by site activities or originates on-site that requires treatment or any other water management activity;

"Wastewater Retention Pond" means the Sewage Treatment Facility converted into a treated wastewater reservoir upon commissioning of the Wastewater Treatment Plant as described in the application dated February 18, 2022;

"Wastewater Treatment Plant" means the engineered system that is designed for the containment and treatment of Sewage generated by the Eureka High Arctic Weather Station Project (HAWS Project or Project) as described in the application dated February 18, 2022;

"**Water**" **or** "**Waters**" means waters as defined in section 4 of the Act;

"**Water Supply Facility**" means the area and associated intake infrastructure at Station Creek, West Remus Creek, and Blacktop Creek, water reservoirs, storage tanks, and piping as described in the applications dated June 18, 2021 and February 18, 2022.

Schedule B: Annual Reporting Requirements

The Annual Report referred to in Part B, Item 1, shall include the following:

a. The daily, monthly and annual quantities in cubic metres of Water withdrawn from Station Creek, West Remus Creek and Blacktop Creek at Monitoring Program Stations EUR-1, EUR-7 and EUR-8, respectively;
b. The monthly and annual quantities in cubic metres of any Sewage discharged at the Sewage Treatment Facility, Wastewater Treatment Plant and/or Wastewater Retention Pond at Monitoring Program Station EUR-3;
c. The monthly and annual quantities in cubic metres of sludge removed from the Sewage Treatment Facility, Wastewater Treatment Plant, Wastewater Retention Pond, and Greywater Exfiltration Trench;
d. The monthly and annual quantities of Wastes disposed of at the Waste Disposal Facilities;
e. A list of seeps originating from quarry activities, water quality monitoring results, and measures taken to prevent the flow of seep into nearby water bodies;
f. A list and description, including volumes, of all unauthorized discharges, spills and summaries of follow-up action taken;
g. A summary report which includes all data and information generated under the Monitoring Program, including the QA/QC program, in electronic formats acceptable to the Board;
h. A summary of Modifications and/or major maintenance work carried out on the Water Supply, and Waste Disposal Facilities, including all associated structures;
i. Any revisions required, in the form of addenda, to Plans, Manuals and Reports approved under the Licence;
j. A summary of any studies, reports and plans requested by the Board that relate to the use of Water, Waste disposal, and/or reclamation and a brief description of any future studies planned;
k. A progress report and revisions (if applicable) to any studies requested by the Board that relate to Water use, Waste management or reclamation and a brief description of any future studies planned by the Licensee including, a non-technical executive summary for the general public, translated into Inuktitut;
l. A summary of any closure and reclamation work undertaken and an outline of any work anticipated for the next year, including any changes to implementation and scheduling;
m. A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector; and
n. Any other details on Water use or Waste disposal requested by the Board by the 1st November of the year being reported.

Schedule I: Conditions Applying to Monitoring

Table 1 – Water Quality Parameters

Test Group	Analytical Parameter	Unit of Measurement
Flow (F)	Volume	m^3
General (G)	pH (field and lab)	NA
	Conductivity (field and lab)	uS/cm
	Temperature (field)	^oC
	Total Suspended Solids (TSS)	mg/L
	Oil and Grease	mg/L
	Nitrate-Nitrite	mg/L
	Ammonia Nitrogen	mg/L
	Sulphate	mg/L
	Total Hardness	mg/L
	Total Alkalinity	mg/L
	Total Phenols	mg/L
	Total Organic Carbon - TOC	mg/L
Metals (M) ICP Scan for Total Metals	Al, Ar, As, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Na, Ni, Pb, Zn	mg/L
Sewage (S)	Fecal Coliform	CFU/100 mL
	Biochemical Oxygen Demand	mg/L
	Chloride	mg/L
Hydrocarbon (H)	TPH (Total Petroleum Hydrocarbons) PAH (Polycyclic Aromatic Hydrocarbons) BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	mg/L

Table 2 - Monitoring Program

Station ID	Description	Status	Parameter	Monitoring Frequency
EUR-1	Water supply prior to treatment at Station Creek	Active	F	Daily
EUR-2	Runoff and leachate from the Solid Waste Disposal Facilities	Active	F, G, M, S	When discharge occurs
EUR-3	Effluent discharge from the Sewage Treatment Facility. Effluent discharge from the Wastewater Treatment Plant or Wastewater Retention Pond upon completion of Wastewater Treatment Plant	Active, Active once operational	F G, M, S	Monthly When discharge occurs, Monthly
	Quantity in cubic metres of sludge removed from the Sewage Treatment Facility		F	When removal occurs
EUR-4	Effluent Discharge/runoff from the Landfarm Facility	Active	F, G, M, H	When discharge occurs
EUR-5	Runoff from the quarry development at the exit point of ditches designed to collect and hold runoff water prior to release.	Active	F, G, M	When discharge occurs
EUR-6	Effluent Discharge/runoff from the Temporary Contaminated Soil Storage	Active	F, G, M, H	When discharge occurs
EUR-7	Water supply at West Remus Creek	Active	F	Daily
EUR-8	Water supply at Blacktop Creek	Active	F	Daily
EUR-9	Effluent discharge from the Greywater Exfiltration Trench	Active	F G, M, S	Daily When discharge occurs
	Quantity in cubic metres of sludge removed from the Greywater Exfiltration Trench		F	When removal occurs
EUR-10	Effluent Discharge/runoff from the Fuel Storage and Transfer Area	New	F, G, M, H	When discharge occurs