

“Nunavut Land Claims Agreement” (NLCA) 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;

“Sewage” means all toilet wastes and greywater;

“Sewage Disposal Facilities” comprises the area and engineered lagoon and decant structures designed to contain sewage as described in the Application for Water Licence filed by the Applicant on January 9, 2003, and as modified pursuant to the amendment request granted by the NWB on April 24, 2007.

“Solid Waste Disposal Facilities” comprises the area and associated structures designed to contain solid waste (landfill site) as described in the Application for Water Licence filed by the Applicant on January 9, 2003;

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

“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;

“Water Supply Facilities” comprises the area and associated intake infrastructure at Water Supply Lake, as described in the Application for Water Licence filed by the Applicant on January 9, 2003.

3. Enforcement

- a. Failure to comply with this Licence will 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 this Licence and with respect to the use of water and deposit or discharge of waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law; and

- d. The Licensee shall, in relation to any application to renew or amend the Licence, provide an updated Plan for Compliance as submitted pursuant to Part B, Item 10. The updated Plan for Compliance must be submitted at the time of Application, in order for the Application to be deemed complete.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report with the Board not later than March 31st of the year following the calendar year reported which shall contain the following information:
 - a. tabular summaries of all data generated under the “Monitoring Program”;
 - b. the monthly and annual quantities in cubic metres of fresh water obtained at the Water Supply Facilities;
 - c. the monthly and annual quantities in cubic metres of each and all waste discharged;
 - d. a summary of modifications and/or major maintenance work carried out on the Water Supply Facilities and Sewage Disposal Facility and Solid Waste Facility, including all associated structures and facilities;
 - e. a list of unauthorized discharges and summary of follow-up action taken;
 - f. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;
 - g. Any updates or revisions for manuals and plans (i.e., *Operations and Maintenance Manual*) as required by changes in operation and/or technology;
 - h. a summary of any studies or reports requested by the Board that relate to water use and waste disposal or restoration, and a brief description of any future studies planned; and
 - i. any other details on water use or waste disposal requested by the Board by November 1st of the year being reported.
2. The Licensee shall comply with the “Monitoring Program” described in this Licence, and any amendments to the “Monitoring Program” as may be made from time to time, pursuant to the conditions of this Licence.
3. The “Monitoring Program” and compliance dates specified in the Licence may be modified at the discretion of the Board.

4. Meters, devices or other such methods used for measuring the volumes of water used and waste discharged shall be installed, operated and maintained by the Licensee.
5. The Licensee shall, within ninety (90) days after the first visit by the Inspector following issuance of this Licence, post the necessary signs to identify the stations of the "Monitoring Program." All signage postings shall be in the Official Languages of Nunavut.
6. The Licensee shall immediately report to the 24-Hour Spill Report Line (867-920-8130) any spills of Waste, which are reported to, or observed by the Licensee, within the municipal boundaries or in the areas of the Water Supply or Waste Disposal Facilities.
7. The Licensee shall ensure a copy of this Licence is maintained at the Municipal Office at all times. 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@nunavutwaterboard.org

Inspector Contact:

Water Resources Officer
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

Analyst Contact:

Taiga Laboratories
Department of Indian and Northern Affairs
4601 – 52 Avenue, P.O. Box 1500
Yellowknife, NT X1A 2R3
Telephone: (867) 669-2781
Fax: (867) 669-2718

8. The Licensee shall submit one paper copy and one 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.

9. The Licensee shall ensure that all document(s) and correspondence submitted by the Licensee to the Board are received and acknowledged by the Manager of Licensing.
10. The Licensee shall submit to the Board for approval within the lesser of ninety (90) days or upon the filing of any application in relation to the Licence, a Plan for Compliance that clearly demonstrates the ways and means the Licensee will undertake to achieve full compliance with the conditions of this Licence. The Plan for Compliance must also address the potential for minimally treated sewage to enter the environment during periods when the wetland area may be frozen or otherwise not fully capable of treating sewage.
11. 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.
12. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
13. 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 condition 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.
14. This Licence is not assignable except as provided in Section 44 of the Act.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all fresh water from Water Supply Lake using the Water Supply Facilities or as otherwise approved by the Board in writing.
2. The annual quantity of water used for all purposes shall not exceed 35,000 cubic metres.
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 remove any material from 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 body of water and shall provide necessary controls to prevent such erosion.

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

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall direct all Sewage to the Sewage Disposal Facility or as otherwise approved by the Board in writing.
2. The Licensee shall provide notice to an Inspector annually when flow is observed from the sewage disposal facility and upon commencing the monitoring program at Monitoring Program Station HAL-4.
3. All Effluent discharged from the Sewage Disposal Facility at Monitoring Program Station HAL-4 shall meet the following Effluent quality standards:

<u>Parameter</u>	<u>Maximum Average Concentration</u>
BOD ₅	120 mg/L
Total Suspended Solids	180 mg/L
Fecal Coliforms	1 x 10 ⁶ CFU/100mL
Oil and Grease	No visible sheen
pH	between 6 and 9

4. The Licensee shall maintain at all times, a freeboard of at least 1.0 metre, or as recommended by a qualified geotechnical engineer and as approved by the Board in writing, for all dams, dykes or other structures intended to contain, withhold, divert or retain water or wastes.
5. The Sewage Disposal Facility shall be maintained and operated in such a manner as to prevent structural failure.
6. All Effluent discharged from the Sewage Disposal Facility (HAL-4), shall be demonstrated to be Not Acutely Toxic at Monitoring Program Station HAL-5 prior to entering Foxe Basin, under the following tests to be conducted once annually approximately mid-way through discharge:
 - a. Acute lethality to Rainbow Trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13); and
 - b. Acute lethality to the crustacean, *Daphnia magna* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/14).

7. The Licensee shall dispose of and contain all solid wastes at the Solid Waste Disposal Facility or as otherwise approved by the Board in writing.
8. The Licensee shall segregate and store all hazardous materials and/or hazardous waste within the Solid Waste Disposal Facility in a manner as to prevent the deposit of deleterious substances into any water until such a time as proper disposal arrangements are made.
9. The Licensee shall implement measures to control wind-blown litter at the Solid Waste Disposal Facility.

PART E: CONDITIONS APPLYING TO MODIFICATION AND CONSTRUCTION

1. The Licensee shall submit to the Board for written approval, construction design drawings stamped by a qualified engineer registered in Nunavut, prior to the construction of any dams, dykes or structures intended to contain, withhold, divert or retain water or wastes.
2. The Licensee may, without written approval from the Board, carry out modifications to the Water Supply 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. these modifications do not place the Licensee in contravention of the Licence or the Act;
 - c. the Board has not, during the sixty (60) days following notification of the proposed modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
 - d. the Board has not rejected the proposed modifications.
3. Modifications for which all of the conditions referred to in Part E, Item 2, have not been met may be carried out only with written approval from the Board. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

4. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage
5. The Licensee shall implement sediment and erosion control measures prior to and during all activities carried out under this Part to prevent the release of sediment and minimize erosion.

PART F: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE

1. The Licensee shall submit to the Board for approval, within ninety (90) days of issuance of the Licence, an Operations and Maintenance Manual prepared where appropriate, in accordance with the "*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996*". The Manual shall take into consideration the comments received during the application review process and shall contain the following plans:
 - a. *Water Distribution Facility Operation and Maintenance (O&M) Plan;*
 - b. *Sewage Disposal Facility Operation and Maintenance (O&M) Plan;*
 - c. *Sewage Sludge Management Plan;*
 - d. *Solid Waste Disposal Facility Operation and Maintenance (O&M) Plan;*
 - e. *Spill Contingency Plan; and*
 - f. *Monitoring Program Quality Assurance/Quality Control Plan (QA/QC Plan).*
2. The Licensee shall review the O&M Manual referred to in Part F, Item 1 as required by changes in operation and/or technology and modify accordingly. Revisions are to be submitted in the form of an Addendum to be included with the Annual Report.
3. An inspection of all engineered facilities related to the management of water and waste shall be carried out annually in July or August by a Geotechnical Engineer. The 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 Engineer's recommendations.
4. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.
5. If, during the period of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. employ the appropriate contingency measures as approved under the Operation and Maintenance Manual for the Hamlet of Hall Beach;

- b. report the incident immediately via the 24-Hour Spill Reporting Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
- c. submit to the Inspector, a detailed report on each occurrence, not later than thirty (30) days after initially reporting the event, that provides the necessary information on the location (including the GPS coordinates), initial response action, remediation/clean-up, status of response (ongoing, complete), proposed disposal options for dealing with contaminated materials and preventative measures to be implemented.

PART G: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. The Licensee shall submit to the Board for approval an *Abandonment and Restoration Plan* at least six (6) months prior to abandoning any facilities or upon submission of the final design drawings for the construction of new facilities to replace existing ones. Where applicable, the Plan shall include information on the following:
 - a. water intake facilities;
 - b. the water treatment and waste disposal sites and facilities;
 - c. petroleum and chemical storage areas;
 - d. any site affected by waste spills;
 - e. leachate prevention;
 - f. an implementation schedule;
 - g. maps delineating all disturbed areas, and site facilities;
 - h. consideration of altered drainage patterns;
 - i. type and source of cover materials;
 - j. future area use;
 - k. hazardous wastes; and
 - l. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.

PART H: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain Monitoring Program Stations at the following locations:

Monitoring Program Station Number	Description	Status
HAL-1	Raw water supply intake at Water Supply Lake	Active (Volume)
HAL-2	Runoff from Solid Waste Disposal Facility	Active
HAL-3	Raw Sewage at discharge point into the Sewage Disposal Facility	Active (Volume)
HAL-4	Effluent discharged from Sewage Disposal Facility	Active

HAL-5	Final Effluent Discharge Point prior entering Foxe Basin	New
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2. The Licensee shall sample at Monitoring Program Stations HAL-4 and HAL-5 upon providing notice to the inspector and every four weeks thereafter when flow is observed. Samples shall be analyzed for the following parameters:

Biochemical Oxygen Demand - BOD	Fecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Total Phenols
Magnesium	Calcium
Sodium	Potassium
Chloride	Sulphate
Total Hardness	Total Alkalinity
Ammonia Nitrogen	Total Zinc
Total Cadmium	Total Iron
Total Cobalt	Total Manganese
Total Chromium	Total Nickel
Total Copper	Total Lead
Total Aluminum	Total Arsenic
Total Mercury	Total Organic Carbon (TOC)

3. The Licensee shall sample at Monitoring Program Station HAL-2 once annually during periods of runoff or seepage. Samples shall be analyzed for the following parameters:

TPH (Total Petroleum Hydrocarbons)	
PAH (Polycyclic Aromatic Hydrocarbons)	
BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	
BOD	Fecal Coliforms
pH	Conductivity
Total Suspended Solids	Oil and Grease
Nitrate-Nitrite	Ammonia Nitrogen
Total Phenols	Total Alkalinity
Total Hardness	Calcium
Magnesium	Potassium
Sodium	Sulphate
Total Arsenic	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel

4. The Licensee shall report all results of acute toxicity testing as required under Part D,

Item 6 within the Annual Report as per Part B, Item 1.

5. The Licensee shall measure and record, in cubic metres, the monthly and annual quantities of water pumped at Monitoring Program Station HAL-1, for all purposes.
6. The Licensee shall measure and record, in cubic metres, the monthly and annual quantities of raw sewage offloaded from trucks at Monitoring Program Station HAL-3, for all purposes.
7. The Licensee shall measure and record the annual quantities of sewage solids removed from the Sewage Disposal Facility. Details of the protocol for monitoring quantities of sewage sludge removed from the Sewage Disposal Facility shall be provided in the *Sewage Sludge Management Plan*, as part of the O&M Manual.
8. The Licensee shall include all of the data and information required by the “Monitoring Program” in the Licensee's Annual Report, as required *per* Part B, Item 1, or as requested by an Inspector.
9. Modifications to the Monitoring Program may be made only upon written approval from the NWB.
10. If, during the term of this Licence, additional Final Discharge Points are identified, the Licensee shall submit a report to include:
 - a. Plans, specifications, geographic coordinates and a general description of each Final Discharge Point; and
 - b. A description of how each Final Discharge Point is designed and maintained, if required.
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 by a laboratory certified by the Canadian Association of Environmental Analytical Laboratories (CAEAL), or as otherwise approved by an Analyst.

APPENDIX B

Operational and Maintenance Summary Checklist

OPERATIONAL AND MAINTENANCE SUMMARY CHECKLIST

Daily

- Collect waste from the Hamlet and transport to the landfill
- Cover compacted waste as required
- Ensure all wastes are disposed of and stay in designated areas
- Clean up any spills immediately
- Clear snow from roads and disposal areas as required
- Record number of bird and wildlife sightings on and around site
- Record O & M information

Weekly

- Pick up windblown materials which have migrated past the boundaries of the landfill
- Record O & M information
- Cover refuse as required

Monthly

- Grade and maintain access roads if required
- Record O & M information
- Perform sampling at stations HAL-4 and HAL-5 upon providing notice to the inspector and every four weeks thereafter when flow is observed.

Yearly

- Cover refuse in the spring and fall
- Review O & M records to assist in planning for the upcoming year
- Construct new berm for waste disposal during the summer months if required for the upcoming year
- Performing sampling at station HAL-2 once per year during periods of runoff or seepage and or as directed by the Nunavut Water Board
- Complete Annual Report (See Appendix C) and submit to the Nunavut Water Board by March 31 of each year

Hazardous Waste Site Record

[illegible]

APPENDIX C

Solid Waste Facility Annual Sampling Report Form

**ANNUAL REPORT
FOR THE HAMLET OF HALL BEACH**

YEAR BEING REPORTED: _____

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence (3BM-HAL0810) issued to the Hamlet of Hall Beach.

- i)- iii) tabular summaries of all data generated under the "Monitoring Program"; monthly and annual quantities in cubic metres of freshwater obtained from all sources; monthly and annual quantities in cubic metres of each and all wastes discharged;

Attached are results for Monitoring Station HAL-2, HAL-4 and HAL-5, as well as results for Acute Lethality to Rainbow Trout and Daphnia from HAL-5.

Month Reported	Quantity of Water Obtained from all sources	Quantity of Sewage Waste Discharged
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
ANNUAL TOTAL		

**ANNUAL REPORT
FOR THE HAMLET OF HALL BEACH**

Please indicate volumes in cubic metres - 1 cubic meter equals 1000 litres

- iv. a summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;

- v. a list of unauthorized discharges and summary of follow-up action taken;

- vi. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;

- vii. a summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;

- viii. any other details on water use or waste disposal requested by the Board by November 1st of the year being reported; and

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- ix. updates or revisions to the approved Operation and Maintenance Plans.

ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

APPENDIX D

Sample Collection Instructions for QA/QC Plan

1 Sample Collection

1.1 Preparing for Sample Collection

Samples are to be collected from the marked Surveillance Network Program (SNP) locations. Each location should be marked with a sign and location number as well as located with GPS coordinates. Please refer to Figure 25 for a map of the SNP locations, and Table 1 for SNP descriptions. It is the responsibility of the Hamlet to maintain SNP location markers in good condition.

Before collecting samples, follow the list of instructions below:

1. Contact the lab and ask where their lab is located. Order sampling bottles and equipment required to test the following list of parameters. As well ask for field blanks. These are jars of deionized water that travel with the field samples to determine if there is any possible contamination from traveling and handling methods. Also ask them for an instruction sheet for collecting the samples. An example of an instruction sheet can be found in Appendix E.

Table 1.1. Parameters to be Tested at HAL-2 During Water Sampling Program

Total Petroleum Hydrocarbons (TPH)
Polycyclic Aromatic Hydrocarbons (PAH)
BTEX (Benzene, Toluene, Ethylbenzene, Xylene)
BOD (Biochemical Oxygen Demand)
pH
Total Suspended Solids
Nitrate-Nitrite
Total Phenols
Total Hardness
Sodium
Magnesium
Total Arsenic
Total Copper
Total Iron
Total Mercury
Fecal Coliforms
Conductivity
Ammonia Nitrogen
Total Alkalinity
Oil and Grease
Sulphate
Potassium
Calcium
Total Cadmium
Total Chromium
Total Lead
Total Nickel

2. Contact the airport and find out what time the samples must be dropped off in order to make the flight to the city where they are being sent. The samples should be collected shortly before they are shipped. For example, if the samples must be at the airport by 2:00pm, the samples should be collected that morning. Make sure that there is enough time to collect and package all samples for transport. This is important because the samples must be at the lab within 24 hours from the time they are collected, otherwise they are no longer good for analysis.
3. The samplers should familiarize themselves with the locations in Figure 25 and walk to each location prior to sampling to ensure the samples are taken from the correct locations.

Once the sampling bottles and equipment have been received from the lab, gather the following items prior to sample collection:

1. Sample bottles;
2. Preservatives;
3. Coolers that the bottles and preservatives were sent in;
4. Field blanks;
5. Plastic sheeting to protect sample bottles and equipment from ground contamination;
6. Chain of custody forms (also called COCs);
7. Permanent marker to mark on bottles;
8. Pen to fill out chain of custody forms;
9. Nitrile gloves;
10. Packing tape;
11. Ice packs;
12. Shipping label to send samples back to the lab.

Once everything has been gathered, determine which day the samples will be collected. Be sure to check the flight schedule for that day and call the lab to ask if they are able to pick up the samples at the airport when they arrive.

1.2 Instructions for Sample Collection

Follow these instructions to collect samples from the solid waste treatment facility:

1. Place ice packs in freezer the night before sampling.
2. In the morning, place ice packs and other equipment into coolers and load into vehicle. Make sure that the travel blanks and field blanks are in the cooler as well.
3. Drive to site and park in a safe spot away from traffic. DO NOT park on the truck turn around pad for the sewage lagoon.