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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **3BM- SAN1520**

May 14, 2015

Daryl Dibblee
Hamlet of Sanikiluaq
P.O. Box 157
Sanikiluaq, NU, X0A 0W0

Bhabesh Roy
GN-CGS
P.O. Box 379
Pond Inlet, NU, X0A 0S0

Email: sanisa@qiniq.com

Email: BRoy@gov.nu.ca

RE: NWB Renewal Licence No. 3BM- SAN1520

Dear Mr. Dibblee and Mr. Roy:

Please find attached Licence No. **3BM- SAN1520** issued to the Hamlet of Sanikiluaq by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Land Claims Agreement or NLCA)*. The terms and conditions of the attached Licence related to Water use and Waste disposal are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then Water use and Waste disposal must cease, or the Licensee may be in contravention of the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least three months prior to the Licence expiry date.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public's interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the amendment; however, a minimum of sixty (60) days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and are acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consults the comments received by interested

parties and the issues of compliance identified by the NWB. This information is attached for your consideration.¹

Sincerely,



Thomas Kabloona
Nunavut Water Board
Chair

TK/sa/pb

Enclosure: Licence No. **3BM- SAN1520**
Comments – AANDC

Cc: Qikiqtani Distribution List

¹ Aboriginal Affairs and Northern Development Canada (AANDC), November 16, 2014.

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DECISION

LICENCE NUMBER: 3BM- SAN1520

This is the decision of the Nunavut Water Board (NWB) with respect to a complete application dated September 15, 2014 for the renewal of a Water licence made by:

HAMLET OF SANIKILUAQ

to allow for the use of Water and deposit of Waste during municipal activities by the Hamlet of Sanikiluaq, located within the Qikiqtani Region, Nunavut at the geographical coordinates as follows:

Latitude: 56° 32' N and Longitude: 79° 14' W

DECISION

After having been satisfied that the application was for a location that falls outside of an area with an approved Land Use Plan¹ and exempt from the requirement for screening by the Nunavut Impact Review Board² in accordance with Schedule 12-1 of the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (*Nunavut Land Claims Agreement* or *NLCA*), the NWB decided that the application could proceed through the regulatory process. In accordance with s.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (Act)* and Article 13 of the *NLCA*, public notice of the application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and considering the representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the *NLCA* and of the *Act*, waived the requirement to hold a public hearing and determined that:

Licence No. 3BM-SAN1214 be renewed as Licence No. 3BM-SAN1520 subject to the terms and conditions contained therein (Motion #2015-B1-004).

Signed this 14th day of May, 2015 at Gjoa Haven, NU.



Thomas Kabloona
Nunavut Water Board
Chair

TK/sa/pb

¹ Nunavut Planning Commission, B. Aglukark's email on October 27, 2014.

² Nunavut Impact Review Board, Exemption from Screening Decision, October 23, 2014.

I. BACKGROUND

The Hamlet of Sanikiluaq is located on the North end of Flaherty Island, a large central island of the Belcher Islands in Hudson Bay. Located at 56° 32' N latitude and 79° 14' W longitude, it is the southernmost community in Nunavut, about 150 kilometres off the west coast of Nunavik, Quebec, in the Baffin Region of Nunavut. It has an estimated population of 856 people (2014).

The Hamlet operates water supply and waste management facilities; the Community infrastructure includes:

- the Water Supply Facility which draws freshwater from Sanikiluaq Lake situated near the edge of the Community. Water is treated and then transferred to municipal trucks that distribute the Water to the Community;
- the Sewage Disposal Facility which consists of a natural ditch (serving as Sewage Lagoon) located 2.9 km west of the Hamlet with an approximate capacity of 21,600 m³. The sewage effluent is discharged from the lagoon to a wetland and then into the marine environment; and
- the Solid Waste Disposal Facility which includes a generic Landfill Area, a Bulky Metals Disposal Area, and a Hazardous Waste Storage Area.

II. FILE HISTORY

On **November 28, 2003**, the Nunavut Water Board (“NWB” or “Board”) issued Water Licence NWB3SAN0308 — Type “B” to the Hamlet of Sanikiluaq for the use of 34,000 m³ of Water *per* year and the deposit of Waste generated by the Hamlet. Licence NWB3SAN0308 expired on November 15, 2008, at which time no renewal application had been submitted.

On **February 28, 2012**, the NWB issued Licence 3BM-SAN1214 Type “B” to the Hamlet of Sanikiluaq for the use of 40,000 m³ of Water per year and the deposit of Waste generated by the Hamlet. Licence 3BM-SAN1214 expired on March 1, 2014.

III. PROCEDURAL HISTORY OF RENEWAL APPLICATION

The application for renewal of the Licence 3BM-SAN1214 was submitted to the NWB by the Hamlet of Sanikiluaq on **November 29, 2013**.

On **April 25, 2014**⁴, the Licensee was advised of a number of deficiencies concerning the application.

On **September 15, 2014**, Hamlet of Sanikiluaq submitted an updated and consolidated renewal application (Application), which superseded the renewal application submitted on November 29, 2013. The Application includes the following documents:

⁴ Letter to B. Roy, GN, from C. Zyla, NWB on April 25 2014

- Authorization letter, dated September 5, 2014
- Cover letter, dated September 15, 2014
- Plan for Compliance Licence No. 3BM-SAN1214
- Renewal Application Form, dated September 5, 2014
- Technical Summary in English and Inuktitut
- Design Brief Sanikiluaq Truck Fill Station, prepared by Trow Associates Inc. in May 2010
- Operation and Maintenance Manual, Volume I and II Water Truck Fill Station, prepared by exp Services Inc. on July 15, 2011
- Sanikiluaq Truck Fill Station, Evaluation of Existing Conditions, November 2012
- Operation and Maintenance Manual for the Existing Sewage Lagoons, Hamlet of Sanikiluaq, September 2014
- Solid Waste Operation and Maintenance Plan, Hamlet of Sanikiluaq, September 2014
- Hazardous Waste Segregation, Storage and Transportation Procedure
- Spill Contingency Plan – Existing and Proposed Municipal Quarry Sites, Sanikiluaq, prepared by Arktis Piusitippaa Inc on May 21, 2013
- Quality Assurance/ Quality Control Plan, Hamlet of Sanikiluaq, September 2014
- Site Plan of Sanikiluaq Water Use and Waste Management Infrastructure and Table presenting facility coordinates, November 2013.
- Sanikiluaq – Improvement of the Existing Wastewater Treatment Facility, Memorandum by Arktis Piusitippaa Inc, on July 8 2011.

In addition, in order to fulfill the requirements for the renewal Application, the Proponent had submitted with the 2013 Application the following drawings of the rehabilitated Sanikiluaq Truck Fill Station:

- Mechanical (M1, M2, M3, SKE-M1, M4, M5, M6; dated April 2010)
- Mechanical (186-M10 and 186-M11; dated September 2010)
- Electrical (E1 and E2; dated February 2010)
- Civil (C1, C2, C3 and C4; dated February 2010)
- Structural (S1, S2, S3, S4 and S5; dated February 2010)

Also, in accordance with s.11.5.10 of the *Nunavut land Claims Agreement* (“NLCA”), the NWB sent the project proposal to the Nunavut Planning Commission, to determine whether it is in conformity with an approved land use plan. Moreover, pursuant to s. 13.5.1 of the NLCA, the NWB requested that the Nunavut Impact Review Board (NIRB) determine whether the project requires environmental screening. The NPC responded on October 27, 2014 that the project proposal is located outside the boundaries of the two approved land use plans; and the NIRB informed the NWB on October 23, 2014 that the Project is exempt from screening.

On October 16, 2014, following receipt and an internal review, the Board distributed the Application to interested parties for a thirty (30) day review and comment period. On November 16, 2014, comments were received from AANDC.

Based on the results of the completed detailed assessment, including consideration of any potential accidents, malfunctions, or cumulative environmental effects that the overall project might have in the area, the Board has approved the application for the renewal of Licence No. 3BM-SAN1214 as Licence No. 3BM-SAN1520.

IV. ISSUES

Compliance

In determining the Licensee state of compliance with respect to terms and conditions of the Water Licence, the Board considers a number of factors, including AANDC's site inspection reports, Hamlet's annual reports and plans submitted to the Board.

AANDC's Environmental Inspection Form on October 10, 2014 includes the following comment:

“Much has been done since the last inspection to address the non-compliance issues identified in the previous inspection report. Notable examples of progress made since last inspection are improved record keeping and regular sampling. It is recognized that significant of time and effort has been deployed by Hamlet staff and CGS Municipal Planning Engineers to ensure compliance with the terms and conditions of the Water License.”

The NWB is aware of recurring, non-compliance issues regarding the Hamlet's previous licence. However, it is clear to the Board the efforts made by the Hamlet in order to solve some of the Non-Compliance issues. These include: the timely submission of Annual Reports; the identification of Monitoring Stations by posting signs at site; upgrades of the Water Supply Facility (WSF) with the installation of chlorine pumps, replacement of water treatment filters and installation of a fish screen at the water intake; submission of record drawings of the rehabilitated WSF; and submission of Facilities Operational Plans.

In addition, the Licensee has submitted to the Board with the Application an updated Plan for Compliance, the Plan's main objective is to assist the Licensee to achieve full compliance with the Water Licence. The Board notes that the Plan presents a lack of information regarding timelines for some commitments as well as inaccuracies regarding the status of compliance. Most of these issues are related to waste management. Regardless of those issues, the Board recognizes that the submission of a Plan for Compliance demonstrate the commitment of the Hamlet to reach the full compliance with Water Licence conditions. Therefore, under Part B Item 6 of the Renewal Licence, the Board accepts the Plan for Compliance and has included conditions for its implementation.

Subsequent to this, the Board believes that the Licensee's attention shall be focused on the improvement of Waste Management practices in order to address issues, such as:

- inadequacy of the hazardous waste storage area, that is unlined and does not include

- secondary containments to capture spills;
- unauthorized disposal area;
- control and management of hazardous waste leachate;
- inadequacy of the un-engineered sewage disposal lagoon: currently the lagoon operates under capacity and has uncontrolled discharge of effluent.

Term of the Licence

The Licensee has requested a five (5) year term for the renewal licence. In accordance with s. 45 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA or the Act), the NWB may issue a licence for a term not exceeding twenty-five (25) years. In determining an appropriate term of a Water licence, the Board considers a number of factors, including the results of the AANDC annual site inspection and the compliance record of the Applicant.

In recognition of the recent efforts made by the Licensee to address compliance issues and taking into consideration the Licensee's request, compliance history, and intervener's (AANDC) recommendations, the NWB has issued the licence for a term of five (5) year and believes that this time period will provide a realistic opportunity for the Licensee to prove to the Board that it can meet the long-term requirements of the Licence, as well as establish a consistent compliance record with respect to the requirements under the terms and conditions of the Licence. The five (5) year renewal Licence will also ensure that sufficient time is given to permit the Licensee to develop, submit, and implement the Plans required under the Licence to the satisfaction of the NWB.

Annual Report

Under Part B, Item 1 of the expired Water Licence, the Licensee is required to submit, on an annual basis, a report that describes the Licensee's activities as they relate to water use and waste deposition during the preceding year.

In accordance with s.14 of the *Nunavut Water Regulations*, the NWB maintains the condition under Part B, Item 1 of the current Licence, to produce and submit Annual Reports by March 31st every year. Annual Reports are an important assessment tool for the NWB regarding the state of a Water licence in addition to ensuring that the NWB and other stakeholders possess an accurate understanding of municipal activities during any particular calendar year related to Water use and Waste disposal. This information is maintained on the public registry and is available to interested parties upon request. A "*Standardized Form for Annual Reporting*" is to be used by the Licensee and is available for use by the Licensee at the NWB's ftp site at: <http://www.nwb-oen.ca/public-registry>

Water Use

The Hamlet currently receives freshwater supply for municipal use from Sanikiluaq Lake. The Licensee has not requested changes in the volume of Water use, and maintains the request of 40,000 cubic meters per year of Water use as in the previous Licence. During the comment

period no concerns were raised in relation to Water allowances requested by the Licensee. The Board has therefore approved the use of 40,000 cubic meters freshwater *per* year as requested by the Licensee.

Deposit of Waste

Sewage

All sewage generated by the Community is collected and transported by trucks to the sewage lagoon for treatment.

The Sewage lagoon is a natural ditch (serving as a Sewage Lagoon) used for storing the wastewater. This is a non-engineered facility located about 2.9 Km away from the Community. The Lagoon's approximate capacity is estimated at about 19,360 cubic meters.

The Lagoon overflows naturally during freshet, its effluent discharges from the lagoon to the "wetland area". After flowing through the wetland, the effluent meets and mixes with a natural stream, and then the combined effluent flows toward Eskimo Harbour, a part of Hudson Bay, located at about one km from the lagoon.

The Applicant has indicated in the Plan for Compliance that, no engineered work is expected to be performed to solve the issues related to the Sewage Lagoon and that the existing lagoon will be abandoned once a new lagoon is built and commissioned. A new Sewage Lagoon is expected to be built sometime in 2017/2018.

Under Part D Item 3, the Board has set the effluent quality criteria at Monitoring Program Station SAN-4, the Sewage's Final Discharge Point. The discharge criteria adhere to the *Guidelines for the Discharge of Treated Municipal Wastewater in the Northwest Territories* (1992).

Solid Waste

Sanikiluaq's Solid Waste Facility is located adjacent to the Sewage Disposal Facility. The Municipal Dump Site or Solid Waste Facility (SWF) comprehends the domestic waste area or Municipal Solid Waste (MSW) Disposal Area (43,560 m²) and the Metal Waste Area or Bulk Metal / Hazardous Waste Storage Area (3,422 m²). The current state of the SWF is described as full with no protocol in place to manage the community waste.

Moreover, the SWF is a non-engineered facility partially fenced and unlined. The primary purpose of a liner system is to protect the soil and groundwater from pollution originating in the landfill. Leachate generated in landfill may migrate and contaminate soil and groundwater presenting a risk to human and environmental health. The Board supports the recommendation expressed in the Solid Waste Operation and Maintenance Plan which states that "*if the area is to continue to be used, an engineered berm and liner system should be installed*".

According to the 2014 AANDC's Inspection Report (IR), household waste in the Waste Facility is indiscriminately burned in an open burn box. The Inspector's recommendation is that:

“Measures should be taken to ensure materials such as plastics, treated wood, Styrofoam and other materials described in Part D item 11 of the Water Licence are not burned inadvertently”.

The management of the Hazardous Waste is described as chaotic. The Hazardous Waste is deposited in containers in a random way and the containers are unsealed and unlabeled. Shipping out of the waste to an authorized disposal site is not yet organized. Also according to the IR, Runoff from the Hazardous Waste Storage Area flows into the wetland, and mixes with the sewage effluent.

Overall the SWF is described as a full and disorganized Facility, however it has reportedly achieved some progress: the Operational Plans as well as the Inspection Report are indicating that some sort of hazardous waste segregation has commenced and may have some endurance through time. Furthermore, information included in the Solid Waste Operation and Maintenance Plan suggests that the Licensee is contemplating the construction of a new solid waste facility to *“accommodate all the waste satisfying the regulatory requirements”* with no more details regarding this construction.

Subsequently, under Part D of the renewal Water Licence the Board has established general conditions to assist the Licensee with the management of waste in an environmentally sound way. In addition, the expired Water Licence included some conditions related to specific management issues of the SWF, under the renewal Water Licence the Board maintains the same conditions; and under Part D Items 9 and 10 of the 3BM-SAN1520 the Licensee is required to implement measures ensuring that hazardous material and leachate from the SWF do not enter water; to segregate and store all hazardous materials including waste oil, within the SWF; and to prevent the deposit of deleterious substances into any water.

Unauthorized Disposal Area

Figure 2 of the submitted Solid Waste Operation & Maintenance Plan (September 2014) presents a sketch of the SWF, with an area identified as *“contaminated site”*. According to AANDC's 2010, 2011, and 2014's Inspection Reports, the *“contaminated site”* has abandoned barrels containing waste oil, glycol, and unknown substances, and runoff of leaking from some barrels are entering the Sewage Lagoon.

Under Part G Items 3, 4 and 5 of the expired Licence the Licensee is required to take immediate steps to clean up and remediate the area, to manage the runoff and submit to the Board a Work Plan addressing these issues. The issues are still unaddressed and the Plan has not been submitted to date.

Therefore, under Part G Item 6 of the Renewal Licence the Board requires that the Licensee submit to the Board for review, within ninety (90) days of issuance of this Licence, a Closure and Remediation Report for the *“contaminated site”* including but not limited to:

- a. mapped GPS coordinates delineating the extents of the disposal areas referred to in Figure 2 of the Solid Waste Operation and Maintenance Plan; and
- b. a work Plan to assess, close and remediate the unauthorized disposal areas.

In addressing these issues the Board recommends the Licensee to consult the following documents authored by Government of Nunavut, Department of Environment: “Environmental Guideline for the General Management of Hazardous Waste”, “Used Oil and Waste Fuel” and “Waste Antifreeze”.

Construction

A rehabilitation of the Water Supply Facility was completed in November 2010, and as per Part E, Item 4 of the expired Licence the Licensee was required to submit, within ninety (90) days of completion of the modification, as-built plans of the rehabilitated Water Supply Facility.

The Hamlet has submitted the required documentation with the current Application, including record and as-built drawings of the rehabilitated Water Intake Facility. Public access to the drawings is made available through the NWB’s ftp site.

According to the Spill Contingency Plan Existing and Proposed Municipal Quarry Sites, submitted with the Application:

“It is proposed that the Municipality of Sanikiluaq expand their existing quarry operations to include three additional sites to the two existing areas currently worked for the extraction of granular materials.”

Subsequently, under Part E Item 9 of the renewal Water Licence the Board has included a condition with respect to activities related to Hamlet development and operation of rock quarries. It requires the Licensee to maintain a minimum of thirty-one (31) metres buffer zone between the periphery of quarry sites and the High Water Mark of any Water body.

Conditions related to Operation and Maintenance:

Operating Plans:

As part of the documents accompanying the renewal Application, the Licensee has included the following Operation and Maintenance (O&M) documents:

- Operation and Maintenance Manual for the Water Truck Fill Station, Volume I and II Water Truck Fill Station, prepared by exp Services Inc. on July 15, 2011
- Operation and Maintenance Manual for the Existing Sewage Lagoon, Hamlet of Sanikiluaq, dated September 2014
- Solid Waste Operation and Maintenance Plan, Hamlet of Sanikiluaq, September 2014
- Hazardous Waste Segregation, Storage and Transportation Procedure.

The NWB has conducted individual reviews for each of the mentioned documents and consequently has approved the Manuals/ Plan for the Water Truck Fill Station, Existing Sewage Lagoon and Solid Waste under Part F, Items 1, 2 and 3 of the Water Licence respectively.

The management of the Community hazardous Waste requires a Plan that delineates the Hamlet waste management strategy; it shall reflect the current state of the Facility and demonstrates the Hamlet's capacity to address the already identified issues. The Plan shall state proper practices of waste management; such practices shall have as goal the prevention of contamination and they shall represent negligible or null risk to the surrounding Water resources.

The review of "Hazardous Waste Segregation, Storage and Transportation Procedure" determined that the Procedure does not comply with the cited requirements. It contains information which does not apply to the current status of the Waste Facility. The Facility is not registered as hazardous waste receiver, as it is suggested in the Procedure. The Licensee shall remember that while wastes from residential, commercial and some industrial sources can be disposed of at the Municipal Facility, industrial and commercial wastes that do not meet the standards set out in the Environmental Guideline for Industrial Waste Discharge⁵ must be treated prior to disposal at the Facility or transported to a facility that is registered to accept hazardous wastes.

Furthermore, under the 3BM-SAN1214 the Licensee is authorized to store only "*until such a time disposal arrangements are made to a licensed facility*", and is required "*to dispose of all Hazardous Waste at a licensed waste disposal facility*".

The Board has, therefore included a condition, under Part F, Item 3 of the Water Licence requiring the Licensee to submit to the Board for review, within ninety (90) days from the date of issuance of this Licence, an updated Solid Waste Operation and Maintenance Plan. The updated Solid Waste O&M Plan shall include a revised version of the Hazardous Waste Management Procedure (HWMP).

In reviewing the HWMP, the Board recommends the Licensee to consult the following Guidelines:

- Industrial Waste Discharges in Nunavut, 2002 and
- Environmental Guideline for the General Management of Hazardous Waste, Nunavut, 2010.

Spill Contingency Plans:

Two separate Spill Contingency Plans (SCP), one for the Sewage Lagoon and one for the Solid Waste Facility, were submitted with the Application, they are included in the O&M Manual for the Existing Sewage Lagoons and in the Solid Waste O&M Plan; these SCP are approved herein

⁵ Environmental Guideline for the General Management of Hazardous Waste, Nunavut 2010

jointly with their corresponding O&M Manuals or Plans under Part F Item 2 and 3 of the Water Licence.

The Licensee has not submitted a SCP for the Water Supply Facility. The chemicals handled and stored in the Facility for Water treatment and other uses make such Plan necessary, therefore under Part F Item 1 the Board has requested the Licensee to submit for Board review, (90) days from the date of issuance of this Licence, an updated O&M Manual for the Water Truck Fill Station. The updated version of the O&M Manual shall include a SCP for the Water Supply Facility.

Further to that, the submitted “Spill Contingency Plan for Existing and Proposed Municipal Quarry Sites, Sanikiluaq, Nunavut” dated May 2013, is approved under Part F Item 4 of the Renewal Water Licence.

Annual Inspections by an Engineer

The Board has also included a requirement for annual inspections by an Engineer, of engineered facilities pertaining to Water and Waste management in Part F, Item 5. The Board also requires that, as indicated in Part F, Item 6, the Licensee is to conduct a geotechnical inspection of engineered facilities related to Water and Waste management at least one (1) year prior to the renewal of the Licence. These conditions put the Hamlet in-line with inspection requirements found elsewhere in Nunavut.

Abandonment and Reclamation Plan

Part G Item 1 of the expired Water Licence 3BM-SAN1214 required the Licensee to submit to the Board for approval an Abandonment and Restoration Plan at least six months prior to abandoning any facilities and the construction of new facilities to replace existing ones.

The Applicant has indicated in the Plan for Compliance that sometime in 2017/2018 is planning to build a new sewage lagoon. The existing lagoon will be abandoned once the new lagoon is built and commissioned. Following this, the Board wants to emphasize the necessity of proper site reclamation every time a facility is abandoned. And under Part G, Item 1 of the renewal Water Licence, the Board has included the requirement to submit to the Board for approval in writing, an Abandonment and Reclamation Plan, at least six (6) months prior to abandoning any facilities related to Water and Waste management, or upon submission of the final design drawings for the construction of new facilities to replace existing ones.

Monitoring Program

The 2012 and 2013 Reports include data generated under the Monitoring Program for the Monitoring stations SAN-2 and SAN-4; results indicate that all parameters were well within the requirements of the expired Water Licence.

Under Part H, Item 1 the Board has reaffirmed all of the monitoring locations established under the expired licence and has added an additional one-Monitoring Station SAN-5, in order to monitor the runoff from Unauthorized Disposal Area.

As per Part H, Item 10 of the expired Water Licence the Hamlet was required to submit to the Board a Quality Assurance / Quality Control (QA/QC) Plan. The QA/QC plan was required to be accompanied by approval letter from an accredited laboratory or Analyst confirming acceptance of the Plan.

The QA /QC Plan, dated September 2014, and submitted with the Application does not include the required Approval Letter. The QA/QC Plan states also that a copy of the laboratory's CALA accreditation certificate is included as an Appendix however this information was not found within the Plan. Therefore under Part H Item 11 of the Licence, the Board has reaffirmed the requirement to submit a QA/QC Plan for Board review within ninety (90) days following the issuance of the Licence, and to include an endorsement letter from a CALA certified laboratory.



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. **3BM- SAN1520**

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

HAMLET OF SANIKILUAQ

(Licensee)

P.O. BOX 157 SANIKILUAQ, NUNAVUT, X0A 0W0

(Mailing Address)

Herein after 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: 3BM-SAN1520 TYPE "B"

Water Management Area: HUDSON BAY ISLAND WATERSHED (16)

Location: HAMLET OF SANIKILUAQ, QIKIQTANI REGION,
NUNAVUT

Classification: MUNICIPAL UNDERTAKING

Purpose: DIRECT WATER USE AND DEPOSIT OF WASTE

Quantity of Water use not to Exceed: 40,000 CUBIC METRES PER ANNUM (OR 299 CUBIC METRES PER DAY MAXIMUM)

Date of Licence Issuance: MAY 14, 2015

Expiry of Licence: MAY 13, 2020

This Licence renewal issued and recorded at Gjoa Haven, Nunavut includes and is subject to the annexed conditions.

Thomas Kabloona,
Nunavut Water Board, Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the use of Water and the deposit of Waste for a Municipal undertaking classified as per Schedule 1 of the *Regulations*, at the Hamlet of Sanikiluaq, located in the Qikiqtani Region, Nunavut (Latitude: 56° 32' N and Longitude: 79° 14' W).

- a. This Licence is issued subject to the conditions contained herein with respect to the taking of Water 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 *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and
- b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

“**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;

“**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 Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Dam Safety Guidelines**” means the Canadian Dam Association (CDA) Dam Safety Guidelines (DSG), January 1999 or subsequent approved editions;

“**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**” means an identifiable discharge point of a Waste Disposal Facility beyond which the Licensee no longer exercises care and control over the quality of the Effluent;

“**Freeboard**” means the vertical distance between Water line and crest on a dam or dyke’s upstream slope;

“**Geotechnical Engineer**” means a professional engineer registered with the Association of Professional Engineers, Geologist and Geophysicists of Nunavut and whose principal field of specialization with the engineering properties of earth materials in dealing with man-made structures and earthworks that will be built on a site. These can include shallow and deep foundations, retaining walls, dams, and embankments;

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

“**Hazardous Waste**” means Waste classified as “hazardous” by Nunavut Territorial or Federal legislation, or as “dangerous goods” under the *Transportation of Dangerous Goods Act*;

“**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);

“**ICP Scan**” means the laboratory method for determining trace metals in leachate or Water through Emission Spectroscopy using inductively coupled plasma (including from approximately 22 to 32 elements, depending on the laboratory performing the analysis);

“**Impermeable barrier**” means a secondary storage tank wall, synthetic membrane liner or other equivalent material;

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

“**Licensee**” means the holder of this Licence;

“**Minister**” means the Minister of Aboriginal Affairs and Northern Development Canada (AANDC);

“**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 a monitoring program established to collect data on surface Water and groundwater quality to assess impacts to the freshwater aquatic environment of an appurtenant undertaking;

“**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;

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

“**Sewage**” means all toilet Wastes and greywater;

“**Sewage Disposal Facility**” means the Facility designed for the disposal of toilet wastes and greywater, as described in the Operation and Maintenance Manual for the Existing Sewage Lagoon, dated September 2014 submitted with the Application for Water Licence Renewal;

“**Solid Waste Disposal Facility**” means the area comprised of, and the associated structures designed to contain solid Waste as described in the Solid Waste Operation and Maintenance Plan, dated September 2014 and submitted with the Renewal Application on September 15, 2014;

“**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;

“**Secondary Containment**” means an impermeable barrier which prevents unplanned spills from the primary storage tank system;

“**Sump**” is 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;

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

“**Water Supply Facility**” means the Facility which comprehends the rehabilitated Water Intake Facility and the Water Treatment System, as described in the document entitled

“Design Brief, Sanikiluaq Truck Fill Station” prepared by Trow Associates, dated May 2010 and in the O&M Manual Water Truck Fill Station, dated July 2011 submitted with the Renewal Application on September 15, 2014, and illustrated in Drawings E1 and E2 (electrical); M1, M2, M3, M4, M5, M6, M10, M11 (mechanical); C1, C2, C3, C4 (civil); S1, S2, S3, S4 and S5 (structural) prepared by Trow Associates;

“**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 all facilities designated for the disposal of Waste, and includes the Sewage Disposal Facility and Solid Waste Disposal Facility (including the bulk metal, Hazardous Waste and wood disposal Area), as described in the Application for Water Licence renewal filed by the Applicant in September 15, 2014;

“**Water**” or “**Waters**” means Waters as defined in section 4 of the *Act*.

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*; and
- 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.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported, containing the following information:
 - a. Tabular summaries of all data generated under the “Monitoring Program”;
 - b. summary of modifications to the “Monitoring Program” in accordance with Part H, Item 13;
 - c. the daily, monthly and annual quantities in cubic metres of freshwater obtained from all sources;
 - d. the daily, monthly and annual quantities in cubic metres of sewage effluent

- discharged; and the monthly and yearly quantities of every type of Waste:- landfill, bulky metal, hazardous, wood and soil—accepted at the Solid Waste Facilities; the total volume of sludge removed from the sewage lagoon and the disposal method;
- e. 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;
 - f. a list of unauthorized discharges and summary of follow-up action taken;
 - g. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;
 - h. any updates or revisions for manuals and plans (*Including Operations and Maintenance Plans, Spill Contingency, Abandonment and Restoration, QA/QC*) as required by changes in operation and/or technology;
 - i. a summary of any studies, reports and plans requested by the Board that relate to Waste disposal, Water use or reclamation, and a brief description of any future studies planned;
 - j. a summary of any inspections completed by federal or territorial authorities, geotechnical or municipal engineers, on undertakings related to Waste disposal, Water use or reclamation activities; and
 - k. 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 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 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.
 4. The “Monitoring Program” and compliance dates specified in the Licence may be modified at the discretion of the Board.
 5. 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 H, Item 2.
 6. The Licensee shall implement the Plan for Compliance that was submitted as additional information with the renewal Application, and accepted by the Board with the issuance of the Licence.
 7. The Licensee shall maintain the necessary signs, where possible, to identify the stations of the “Monitoring Program”. All signage postings shall be in the Official Languages of Nunavut, and shall be located and maintained to the satisfaction of an Inspector.
 8. 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/or 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.

9. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
10. 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.
11. 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.
12. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:
 - (a) **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
 - (b) **Inspector Contact:**
Manager of Field Operations, AANDC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445
13. 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.
14. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the NWB is received and acknowledged by the Manager of Licensing.
15. This Licence is assignable as provided for in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all freshwater for municipal purposes from Sanikiluaq Lake, at

the Truck-Fill Station, or as otherwise approved in writing by the Board.

2. The annual quantity of Water use for all purposes shall not exceed two-hundred ninety-nine (299) cubic metres per day, to a maximum of forty thousand (40,000) cubic metres per year.
3. Where the use of Water is of a sufficient volume that the source Water body may be drawn down, the Licensee shall submit to the Board for approval in writing, the following: details of Water volume involved, hydrological overview of the Water body, details of impacts, and proposed mitigation measures.
4. The Licensee shall maintain the Water Supply Facility to the satisfaction of the Inspector.
5. The Licensee shall equip all Water intake hoses with a screen of 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.
6. The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body unless approved by the Board in writing.
7. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
8. The Licensee shall implement sediment and erosion control measures prior to and maintain as required during Hamlet operations, to prevent entry of sediment into Water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall direct all Sewage, generated by the Hamlet of Sanikiluaq to the Sewage Disposal Facility or as otherwise approved by the Board.
2. The Licensee shall provide a minimum of ten (10) days' notice to an Inspector prior to initiating any decant of the Sewage Disposal Facility.
3. All Effluent discharged from the Sewage Disposal Facility at Monitoring Program Station SAN-4 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
BOD ₅	120 mg/L
Total Suspended Solids	180 mg/L
Faecal Coliforms	1 x 10 ⁶ CFU/dl
Oil and grease	No visible sheen
pH	Between 6 and 9

4. A Freeboard limit of at least 1.0 metre, or as recommended by a qualified Geotechnical

Engineer and as approved by the Board in writing, shall be maintained at all dams, dykes, or structures intended to contain, withhold, divert or retain Water or Waste.

5. The Sewage Disposal Facility shall be maintained and operated, to the satisfaction of an Inspector and in such a manner as to prevent structural failure.
6. The Licensee shall dispose of and permanently contain, all Solid Wastes at the Solid Waste Disposal Facility or as otherwise approved by the Board in writing.
7. 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.
8. The Licensee shall provide a minimum of ten (10) days' notice to an Inspector, of the intent to open burn municipal Waste in accordance with the Government of Nunavut's Environmental Guideline for the Burning and Incineration of Solid Waste (2012), at the designated location at the Solid Waste Disposal Facility, including 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
9. The Licensee shall segregate and store all hazardous materials and/or Hazardous Waste within the Solid Waste Disposal Facility in such a manner as to prevent the deposit of deleterious substances into any Water, until such a time that the materials have been removed for proper disposal at an approved facility.
10. The Licensee shall implement measures to ensure Hazardous Waste and/or leachate from the Solid Waste Disposal Facility does not enter Water.

PART E: CONDITIONS APPLYING TO MODIFICATIONS AND CONSTRUCTION

1. The Licensee shall submit to the Board for approval in writing, for-construction design drawings, stamped and signed by a qualified Engineer registered in Nunavut, at least sixty (60) days 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 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. 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. The Modifications for which all of the conditions referred to in Part E, Item 2, have not been met, may only be carried out upon written approval from the Board.
 4. The Licensee shall, within ninety (90) days of completion of Modification or Construction of facilities and/or infrastructure associated with the project, submit to the Board a Construction Summary Report along with stamped as-built plans and drawings, providing explanation to reflect any deviations from the issued for construction drawings, taking into account construction and field decisions and how they may affect the performance of engineered facilities.
 5. 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.
 6. The Licensee shall implement and maintain sediment and erosion control measures prior to and during activities carried out under this Part, to prevent negative impacts to Water resulting from the release of sediment and to minimize erosion.
 7. With respect to earthworks, the deposition of debris or sediment into or onto any Water body is prohibited. These materials shall be disposed of at 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.
 8. The Licensee shall only use material that is free of contaminants, for construction, operation, and maintenance activities and that is obtained from approved sources, demonstrated not to be potentially acid generating and metal leaching.
 9. The Licensee shall maintain a minimum of thirty-one (31) metres buffer zone between the periphery of quarry sites and the high water mark of any water body. The Licensee shall not excavate and/or remove material from the quarry beyond a depth of one (1) metre above the high water mark or above the groundwater table so as to prevent the contamination of groundwater sources. Further the Licensee is advised that quarrying shall be carried out in accordance with all applicable legislation and industry standards including the *Northern Land Use Guidelines, Pits and Quarries* (INAC, 2010).

PART F: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE

1. The Board has approved the Manual entitled “Operation and Maintenance Manual of Water Truck Fill Station Municipality of Sanikiluaq, Vol. I and II” dated July 2011 submitted as additional information with the Application. The Licensee shall submit to the Board for review, within ninety (90) days from the date of issuance of this Licence, an updated O&M Manual.

The updated O&M Manual shall include a Spill Contingency Plan (SCP) for the Water Supply Facility, prepared in the format set out by the Consolidation of Spill Contingency Planning and Reporting Regulations R-068-93, the SCP shall include a detailed description of the secondary system employed to prevent spills.

2. The Board has approved the Operation and Maintenance Manual for the Existing Sewage Lagoons, dated September 2014, submitted as additional information with the Application.
3. The Board has approved the Solid Waste Operation and Maintenance Plan for the Hamlet of Sanikiluaq, dated September 2014, submitted as additional information with the Application. The Licensee shall submit to the Board, for review, within ninety (90) days from the date of issuance of this Licence, an updated O&M Plan. The updated Plan shall include a revised “Hazardous Waste Management Procedure” (HWMP) for the Solid Waste Facility. The revised HWMP shall include but not be limited to the following:
 - a. date of issuance;
 - b. period of cover;
 - c. considerations related to fencing;
 - d. considerations related to signage;
 - e. inventory of hazardous Waste;
 - f. hazardous Waste runoff management;
 - g. a description of how facilities are operated and maintained and how often these tasks are performed; and
 - h. name of the person responsible for the Facility operations.
4. The Board has approved the Spill Contingency Plan Existing and Proposed Municipal Quarry Sites, Sanikiluaq, Nunavut, dated May 2013 submitted as additional information with the Application.
5. An inspection of all engineered facilities related to the management of Water and Waste shall be carried out by an Engineer at a minimum of once annually, and before commissioning any engineered facility related to the management of Water and Waste. The Engineer’s report shall be submitted to the Board within sixty (60) days of the inspection, including a cover letter from the Licensee outlining an implementation plan to address each of the Engineer’s recommendations.
6. An inspection of all engineered facilities related to the management of Water and Waste shall be conducted by a Geotechnical Engineer in accordance with the Canadian Dam Safety Guidelines, at least one (1) year prior to the expiry of the Licence, during the open Water period (June/July/August). The Geotechnical Engineer’s report shall be submitted to the Board for review within sixty (60) days of the inspection, including a cover letter from the Licensee outlining an implementation plan to address the Engineer’s recommendations.
7. The Licensee shall perform more frequent inspections of the engineered facilities at the

request of an Inspector.

8. 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 appropriately approved Spill Contingency Plan for the Hamlet of Sanikiluaq. Take whatever steps are immediately practicable to protect human life, health and the environment;
 - b. report the incident immediately via the NWT/NU 24-Hour Spill Reporting Line at (867) 920-8130 and to the AANDC Manager of Field Operations at (867) 975-4295; and
 - c. for each spill occurrence, submit to the Inspector not later than thirty (30) days after initially reporting the event, a detailed report that provides the necessary information on the location (including the GPS coordinates), amount and type of spilled product, initial response action, remediation/clean-up, status of response (ongoing, complete), proposed disposal options for dealing with contaminated materials and any preventative measures to be implemented.
9. The Licensee shall, in addition to Part F, Item 8, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Water body.

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. abandoned Water and Waste facilities;
 - d. petroleum and chemical storage areas;
 - e. any site affected by Waste spills;
 - f. leachate prevention;
 - g. an implementation schedule;
 - h. maps delineating site facilities;
 - i. consideration of altered drainage patterns;
 - j. type and source of cover materials;
 - k. future area use;
 - l. Hazardous Wastes; and
 - m. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment related to Water use, Waste deposit to Water, or appurtenant undertakings related to Water use and/or deposit of Waste to Water, subject to the act and regulations.

2. The Licensee shall complete all restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board.
3. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee’s operations.
4. In order to promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading, or scarifying the surface to conform to the natural topography.
5. Areas that have been contaminated by hydrocarbons shall be reclaimed to meet objectives as outlined in the Government of Nunavut’s Environmental Guideline for Site Remediation, January 2002. 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. The Licensee shall submit to the Board for review, within ninety (90) days of issuance of this Licence, a Closure and Remediation Report for the “contaminated site” including:
 - a. mapped GPS coordinates delineating the extents of the disposal areas (metal waste site, landfill site and unauthorized disposal site) referred to in Figure 2 of the Solid Waste Operation and Maintenance Plan; and
 - b. a work Plan to assess, close and remediate the unauthorized disposal areas.

PART H: CONDITIONS APPLYING TO THE MONITORING PROGRAM

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

Monitoring Program Station Identification	Description	Status
SAN-1	Raw Water Supply Intake at Sanikiluaq Lake	Active (Volume)
SAN-2	Runoff from the Final Discharge Point of the Solid Waste Disposal Facility	Active (Quality)
SAN-3	Raw Wastewater at truck offload point (existing drop-off point)	Active (Quantity)
SAN-4	Effluent discharge from the Final Discharge Point of the Sewage Disposal Facility	Active (Quantity) (Quality)
SAN-5	Runoff from the Unauthorized Disposal Area, before entering the Sewage Lagoon	Active (Quality, New)

2. The Licensee shall measure and record, in cubic metres, the daily, monthly, and annual quantities of Water extracted for all purposes at Monitoring Program Station SAN-1.
3. The Licensee shall measure and record in cubic metres, the daily, monthly and annual quantities of raw sewage offloaded from trucks at Monitoring Program Station SAN-3.
4. The Licensee shall measure and record in cubic metres, when flow is occurring, the monthly and annual quantities of Effluent discharged from SAN-4.
5. The Licensee shall sample at SAN-4, a minimum of three (3) times annually, once upon commencing discharge, once half-way through discharge and once just prior to the end of discharge.
6. All Samples obtained at SAN-4 shall be analyzed for the following parameters:

Biological Oxygen Demand (BOD ₅)	Fecal Coliforms
pH	Conductivity
Total Suspended Solids	Oil and Grease (visual)
Nitrate-Nitrite	Ammonia Nitrogen
Chloride	Sulphate
Sodium	Potassium
Magnesium	Calcium
Total Hardness	Total Alkalinity
Total Arsenic	Total Aluminum
Total Cadmium	Total Chromium
Total Cobalt	Total Iron
Total Copper	Total Manganese
Total Lead	Total Nickel
Total Mercury	Total Organic Carbon (TOC)
Total Zinc	
7. The Licensee shall measure and record the annual quantities of sludge removed from the sewage lagoon, along with the methods of storage, treatment and disposal. This information shall be included in the Annual Report.
8. The Licensee shall sample for Water quality analysis at Monitoring Stations SAN-2 and SAN-5 once per month in June, July and August during periods of observed flow. Samples shall be analyzed for the parameters listed in Part H Item 6, as well as Total Petroleum Hydrocarbons.
9. The Licensee shall conduct all sampling, sample preservation and analyses 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 a laboratory certified by the Canadian Association for Laboratory Accreditation (CALA).
10. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.

11. The Licensee shall submit to the Board for review, within ninety (90) days of the issuance of the Licence, a Quality Assurance/Quality Control Plan based on the guidance document *Quality Assurance (QA) and Quality Control (QC) Guidelines For Use by Class "B" Licensees in Collecting Representative Water Samples in the Field and for Submission of a QAQC Plan* INAC (1996). The Plan shall include a covering letter from an accredited laboratory confirming acceptance of the Plan for the monitoring and analyses to be performed under the Licence and shall meet the standards set out in Part H, Item 9 and Part H, Item 10 of the Licence.
12. The Licensee shall include all of the data and information required by the Monitoring Program, as required under Part B, Item 1, or as requested by an Inspector.
13. Modifications to the Monitoring Program including the Monitoring Program Stations and parameters may be made only upon written approval of the Board.
14. Additional monitoring stations, sampling and analysis may be requested by an Inspector.