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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

Licence No.: 1BR-CLR1419

May 20, 2014

Natalie Plato, P. Eng.
Director, Contaminated Sites
Aboriginal Affairs and Northern Development Canada
P.O. Box 2200
Iqaluit, NU, X0A 0H0
Email: natalie.plato@aandc-aadnc.gc.ca
erika.solski@aandc-aadnc.gc.ca

RE: NWB Licence No. 1BR-CLR1419

Dear Ms. Plato:

Please find attached Licence No. **1BR-CLR1419** issued to the Department of Indian Affairs and Northern Development (DIAND) (also known as Indian and Northern Affairs Canada [INAC], Aboriginal Affairs and Northern Development Canada [AANDC]) by the Nunavut Water Board (NWB or Board) 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 (3) 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 consult the comments received from interested person(s) on issues identified. This information is attached for your consideration.¹

Sincerely,



Thomas Kabloona
Nunavut Water Board
Chair

TK/kk/ri

Enclosure: Licence No. **1BR-CLR1419**
Comments – AANDC

Cc: Kitikmeot Distribution List

¹ Aboriginal Affairs and Northern Development Canada (AANDC), April 3, 2014

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DECISION

LICENCE NUMBER: 1BR-CLR1419

This is the decision of the Nunavut Water Board (NWB or Board) with respect to an application, dated November 18, 2013, for a new water licence made by:

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

to allow for the use of water and disposal of waste during camp operations and activities related to the remediation and monitoring program at the Contwoyto Lake, Former Weather Station Remediation Project, located within the western Kitikmeot Region of Nunavut, generally located at the following geographical coordinates:

Project Extents:	NW:	Latitude: 65° 29' 21.13" N	Longitude: 110° 23' 01.63" W
	NE:	Latitude: 65° 29' 21.13" N	Longitude: 110° 21' 08.18" W
	SE:	Latitude: 65° 28' 51.84" N	Longitude: 110° 21' 14.60" W
	SW:	Latitude: 65° 28' 51.84" N	Longitude: 110° 23' 08.27" W
Camp Location:	NW:	Latitude: 65° 28' 58.34" N	Longitude: 110° 22' 05.25" W

DECISION

After having been satisfied that the application was for a location in which there is no approved Land Use Plan¹ and that the application was exempt from the requirement for screening as described within Schedule 12-1 by the Nunavut Impact Review Board², in accordance with Article 12 of the *Nunavut Land Claim Agreement (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 written 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. 1BR-CLR1419 be issued subject to the terms and conditions contained therein. (Motion #: 2014-B1-010)

Signed this 16th day of May 2014 at Gjoa Haven, NU.



Thomas Kabloona
Nunavut Water Board
Chair
TK/kk/ri

¹ Nunavut Planning Commission (NPC) Conformity Determination, dated April 23, 2014.

² Nunavut Impact Review Board (NIRB) Exemption Decision dated March 13, 2014.

I. INTRODUCTION

The Contwoyto Lake, Former Weather Station Remediation Project (Project) is located on an unnamed island that is situated on crown land approximately 190 km southwest of Bathurst Inlet, Nunavut. The Project covers an area of approximately 37 hectares, which is characterized by a coarse overburden esker that is the predominant geologic feature in the area. The nearest permanent community is Kugluktuk, which is located approximately 330 km northwest of the Project.

The Project site was originally a small camp built during the Distant Early Warning (DEW) Line Site construction in 1956. Pacific Western Airlines built the existing buildings which include living quarters, a power house, a beacon building, and an airstrip. Transport Canada (TC) acquired the site to establish a telecommunications and navigational aid station in 1978, which was operational until its closure and abandonment in 1981.

The Project site consists of five dilapidated buildings, three above ground storage tanks, a drum-lined emergency airstrip suitable for smaller fixed wing aircrafts, trails, four drum caches, several upright and laying metal towers, and two debris areas. While the majority of the site and related debris are located on Crown Land, there is a radio tower located on Inuit Owned Land (IOL) that will be removed during remedial activities. An active Inuit hunting camp (operated by the Kugluktuk Hunters and Trappers Association) is located approximately 300 m west of the weather station on a peninsula that extends from the western shoreline of the island, while there is also a former Inuit camp located along the shoreline on the IOL south of the former weather station and east of the former radio tower location.

Environmental conditions and historic activities at the Project site have been obtained through various environment site assessment (ESA) and monitoring programs, including an Integrated Phase I and Phase II ESA (WESA, 2011) and Phase III ESA (SENSES, 2013). The contaminants identified at the site through these assessments include Petroleum Hydrocarbon (PHC) impacted soil, metal impacted soils, lead and PCB amended paint, and various hazardous and non-hazardous debris. The Phase III ESA divided the Project into five Areas of Environmental Concern (AEC) depending on their setting, historical use, and potential for contamination. The different areas were as follows:

- AEC 1: Peninsular Pond Area
- AEC 2: Camp Area
- AEC 3: Radio Tower Area
- AEC 4: Airstrip Area
- AEC 5: Former Inuit Camp Area [part of IOL area]

A Community Consultation was held in Kugluktuk to discuss the Project during January in 2013. The results of the ESAs and the various remediation options being considered for the site were presented to the community. The community's concerns and preferred remedial options were solicited at that time. Further community meetings will be held in Kugluktuk for this Project, including a meeting that will be held following the completion of the Project.

A Remedial Action Plan (RAP) was developed and finalized subsequently based on the ESAs and community consultations conducted in Kugluktuk. Based on the RAP, the following is a list of all remedial activities that will be completed during the summer of 2014:

- Access to the site will be determined based on weather conditions;
- Establishment of a camp to support site operations;
- Existing site infrastructure will be demolished and demolition wastes will be segregated into hazardous and non-hazardous materials and disposed of properly;
- All hazardous materials will be disposed of, at an off-site licensed disposal facility;
- Non-hazardous wastes will be disposed of, at an off-site appropriately licensed disposal facility;
- Existing debris areas at this site will be remediated as described in the RAP;
- A Contaminant Treatment Area (CRA) will be constructed for the treatment of hydrocarbon contaminated soil;
- Metal Contaminated Soil will be disposed of at an off-site appropriately licensed disposal facility;
- Contaminated soils will be handled as described in the RAP;
- Barrels with like contents will be consolidated, depending on test results the contents will either be incinerated on-site or shipped off-site for disposal. Empty barrels will be transported off-site to an appropriately licensed disposal facility;
- Scattered surface debris and partially buried debris (non-hazardous) will be collected and disposed of off-site in an appropriately licensed disposal facility;
- Roads and the airstrip will be re-constructed and repaired as required; and
- Several borrow sources will be developed and the material will be used during the remediation work.

Site remediation activities will take place on both Crown Land and IOL. The final site demobilization for this site is planned for March of 2015. All site closure reports and project closure are planned to be completed by March 2016. All project supplies, and contaminated material will be shipped off-site to an appropriately licensed disposal facility.

II. PROCEDURAL HISTORY

The NWB received on November 28, 2013, the following documents, as part of the new Water Licence Application (Application) from AANDC, in support of the Contwoyto Lake, Former Weather Station Remediation Project (Project):

- Archaeological Impact Assessment
- Environmental Screening Report (ESR)
- Water Licence Application Cover Letter
- Supplemental Information Guideline for Landfarm Water Licence Application
- List of Additional Documents
- Maps and Drawings
- Mobilization Options Plan and Supplemental Information
- NIRB Executive Summary
- NIRB Part 1 Form Project Proposal Information Requirements
- NIRB Part 2 Form Project Specific Information Requirements
- Project Schedule
- Remedial Action Plan
- Remote Camp Questionnaire
- Signed Water Licence Application
- Site Specific Health and Safety Plan

On February 19, 2014, AANDC submitted the following additional information upon the request of the Nunavut Water Board (NWB or Board) to further support the water licence application package:

- Contwoyto Test Pit Logs Phase 3 ESA (Oct 2012 SENES)

On March 11, 2012, following a preliminary internal technical review, the NWB concluded that the Application met the requirements of section 48(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRA or Act) and distributed a notice of the Application to interested parties. All parties were invited to make representations to the NWB by April 11, 2014. Submissions were received from AANDC's Water Resources Division. AANDC's Water Resources Division provided comments and recommendations that specifically aimed to ensure the minimization of any potential adverse effects that could result from the Project.

The Board is aware that on January 23, 2014, the Nunavut Impact Review Board (NIRB) issued a Screening Decision as per Section 12.4.4(a) of the *Nunavut Land Claims Agreement (NLCA)* stating that the proposal may be processed without a review under Part 5 or 6, and recommended project-specific terms and conditions. On April 23, 2014, the Nunavut Planning Commission (NPC) issued a conformity determination indicating that the Application was for a location in which there is no approved Land Use Plan and therefore not subject to further review.

Based upon the results of the detailed assessment of the Application, including consideration of any potential accidents, malfunctions, or impacts to water that the overall project might have on the area, the Board has approved the Application and has issued Water Licence 1BR-CLR1419.

III. GENERAL CONSIDERATIONS

A. Term of Licence

In accordance with s. 45 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, the NWB may issue a licence for a term not exceeding twenty-five (25) years. The NWB believes that the requested five (5) years licence term is appropriate. This licence term will allow the Licensee to properly carry out the terms and conditions of the licence, while ensuring 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. The Board has considered the content of the Project, the licence term requested by the proponent, and the comments provided by the intervening parties in determining this licence term.

B. Annual Report

Under PART B of the terms and conditions in this licence, the Licensee is required to submit Annual Reports for the purpose of ensuring that the NWB has on file accurate updates of all water use and/or waste deposal activities that occurred during any particular calendar year. This information is maintained in the NWB's public registry and is made available to interested persons upon request and/or through the NWB's ftp site. A standard form for annual reporting can be downloaded from administration folder located on the NWB ftp site (username: "public", password: "registry"): <http://nunavutwaterboard.org/ftp/>.

C. Water Use

The Board has included conditions under PART C of this licence to prevent the use of water except for the purposes of the established camp and for carrying out activities associated with the remediation of the Contwoyto Lake, Former Weather Station. Water will be drawn for use from Contwoyto Lake at a maximum rate of fifteen (15) cubic metres of water per day.

D. Deposit of Waste

Borrow Sources

The Licensee shall use material from Borrow Sources for the purposes specified in the RAP, provided that those sources are approved by an Inspector, free of contaminants, and satisfy the requirement of PART D, Item 15 of this Licence. The Licensee shall provide confirmation of the locations of selected Borrow Sources (GPS coordinates) and shall provide all related permits.

Wastewater Disposal

The Licensee shall store camp sewage in Pacto Toilets, which shall then be incinerated in a CY14CA Dual Chamber Incinerator. All ashes resulting from this process shall be consolidated and shipped to an off-site licensed disposal facility.

The Licensee shall direct all camp grey water into the Bio Barrier Membrane and subsequently store resulting wastewater in bladders until testing confirms that it meets applicable criteria prior to discharge to the natural environment. The Licensee anticipates that approximately 1.5 cubic metres of camp grey water shall be produced per day.

Non-Hazardous Waste

The Licensee has stated that solid combustible camp waste (paper, packaging, food, etc.) will be incinerated or shipped south to a licensed disposal facility. Environment Canada (EC) typically recommends that burning should only be considered after all other alternatives for waste disposal have been explored and the devices used for incineration meet the emission limits established under CCME Canada-wide Standards (CWS) for Dioxins and Furans and the CWS for Mercury Emissions, available at:

http://www.ccme.ca/ourwork/environment.html?category_id=108.

Bulky items including wood and metal debris will be packaged and shipped south to a licensed disposal facility. As a result, the scope of remediation activities does not include the construction of non-hazardous waste landfills. Conditions have been included under Part D in the Licence to ensure that appropriate measures are developed and implemented for the storage and shipment of waste originating from the Project.

Hazardous Waste

The Licensee has proposed to package and ship all hazardous waste to a licensed disposal facility in the south, including cylinders, items painted with lead-based paint, empty barrels, fuel drums, organic liquids, and contaminated soils (metal and petroleum hydrocarbons). All hazardous wastes must be handled in accordance with applicable regulations, including the *Transportation of Dangerous Goods Regulations*. The Licensee is required, as specified in Part D of this Licence, to dispose of all hazardous substances and/or materials at approved facilities.

Contaminated Soils

The Licensee has estimated that approximately 50 m³ of Tier II soil will be excavated, packaged, and transported to a licensed disposal facility in the south. The Licensee has further estimated that approximately 1,142 m³ of Type B hydrocarbon impacted soils will be treated on-site in a landfarm. The criteria being used for the metal impacted soils are the Canadian Council of Ministers of Environment *Soil Quality Guidelines for the Protection of Environmental and Human Health (Agricultural)* with the exception of copper and vanadium for which site specific remediation criteria are proposed. Conditions have been included under Part D of this Licence to ensure that appropriate measures are developed and implemented for the storage and shipment of PHC contaminated and metal impacted soils.

Conditions have been included under PART H of this Licence to ensure that the Licensee shall provide to the Board for review, complete for-construction and as-built engineering design drawings that are signed and stamped by an Engineer and that provide consideration for the siting, operation, monitoring, sampling, decommissioning, and closure options and plans for the proposed facilities.

I. Spill Contingency Planning

The Board has approved, under PART I of the Licence, the comprehensive Spill Contingency Plan provided with the Application. The Licensee is required to update the plan as necessary to reflect changes in operations and scope of the project.

J. Abandonment and Restoration

To ensure that the site is restored, to the extent possible, to a pre-disturbed state upon completion of the project, the NWB requires all Licensees to prepare and submit to the Board for approval an Abandonment and Restoration Plan (A&R Plan). The document entitled “*Contwoyto Lake Former Weather Station Remedial Action Plan* (October 15, 2013)” was submitted with the Water Licence Application and approved with the issuance of the licence. Conditions applying to the final abandonment of the site under this A&R Plan continue to apply, as do the conditions for restoration specified under PART J of this Water Licence.

K. Monitoring

Conditions have been included within the Licence, as specified under PART K, requiring the Licensee to install Monitoring Stations at the Landfarm Facility. The Licensee is required to monitor the locations and quantities of all uses of water and deposits of waste. Conditions related to monitoring requirements under this licence are included under PART K of this.

Although the “Walk Away” option has been selected for the Project, the Board has, nevertheless, included under PART K, Item 22 in the Licence, a condition that requires the Licensee to submit, if deemed necessary, a Post-closure Monitoring Plan to the Board for approval at least sixty (60) days prior to initiating Post-closure monitoring activities.

The Board, having considered the Application, interveners’ comments, and the nature of the undertaking, has accordingly set terms and conditions in this Licence to govern the use of waters and the disposal of wastes during the proposed undertaking.



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. 1BR-CLR1419

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 INDIAN AFFAIRS AND NORTHERN DEVELOPMENT (DIAND)

(Licensee)

P.O. BOX 2200 IQALUIT, NUNAVUT, X0A 0H0

(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 Amendment/Renewal:

Licence Number/Type:	<u>1BR-CLR1419 TYPE "B"</u>
Water Management Area:	<u>BACK WATERSHED (31)</u>
Location:	<u>KITIKMEOT REGION, NUNAVUT</u>
Classification:	<u>INDUSTRIAL UNDERTAKING (REMEDIATION)</u>
Purpose:	<u>USE OF WATER AND DEPOSIT OF WASTE</u>
Quantity of Water use not to Exceed:	<u>FIFTEEN (15) CUBIC METRES PER DAY</u>
Date of Licence Issuance:	<u>MAY 16, 2014</u>
Expiry of Licence:	<u>MAY 15, 2019</u>

This Licence Amendment/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 disposal of waste for an undertaking classified as an Industrial Undertaking, as per Schedule 1 of the *Regulations*, at the Contwoyto Lake Former Weather Station Remediation Project, located approximately 330 km southeast of the community of Kugluktuk and 180 km southwest of the community of Bathurst Inlet, within the Kitikmeot Region of Nunavut (generally located at the following geographic coordinates: *Latitude: 65° 28' 58.34" N, Longitude: 110° 22' 05.25" 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;

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

“**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*;

“Borrow Sources” mean sources of aggregates used for backfilling of excavations and for purposes described in the Water Licence Application received on November 18, 2013;

“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 the point at which the Licensee no longer exerts care and/or control over the quality and/or quantity of the effluent from a treatment process;

“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* at the time of clean-up;

“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 designed and constructed to bio-remediate Type B soil at the Contwoyto Lake, Former Weather Station Remediation Project site;

“Licensee” means the holder of this Licence;

“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 program established to collect data on surface water and groundwater quality to assess impacts to the 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 Treatment Facility” comprises the area and engineered structures designed for the containment and/or treatment of sewage generated at the Contwoyto Lake, Former Weather Station Remediation Project site, as described in the Application received November 18, 2013;

“Solid Waste” means non-hazardous waste and Type-A soil;

“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” means an excavation in impermeable soil for the purpose of catching or storing water or waste;

“Tier I Soil” means soil containing contaminant concentrations within the types and ranges defined as DCC Tier I in Appendix E of the NTI Agreement, including its preamble and schedules, and any amendment to that agreement made pursuant to it (see **Error! Reference source not found.**);

“Tier II Soil” means soil containing contaminant concentrations within the types and ranges defined as DCC Tier II in Appendix E of the NTI Agreement including its preamble and schedules, and any amendments to that agreement made pursuant to it (see **Error! Reference source not found.**);

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

“Type A Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of lubricating oil and grease (F3 – F4 Fractions);

“Type B Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of fuel oil and/or diesel fuel and/or gasoline (F1 – F2 Fractions);

“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” or “Waters” means waters as defined in section 4 of the *Act*;

“Water Supply Facility” consists of intake structure, transport equipment, and other infrastructure designed to collect and supply water for the Contwoyto Lake Former Weather Station Remediation Project site, as described in the Application received on November 18, 2013;

“Waste Disposal Facilities” means all facilities designated for the disposal and/or treatment of waste, including the Sewage Treatment Facility and Landfarm Facility as described in the Application received on November 18, 2013.

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 31 of the year following the calendar year being reported, containing the following information:
 - a. Tabular summaries for all data and information generated under the Monitoring Program;
 - b. A review and analysis of data collected during the Monitoring Program and a brief description of any future studies planned by the Licensee;
 - c. The results of any review conducted and any recommendations regarding any changes to the Monitoring Program and/or remediation requirements;
 - d. A summary of any abandonment and restoration work undertaken during the year and an outline of any work anticipated for the next year;
 - e. A list of unauthorized discharges and summary of follow-up actions taken;
 - f. If applicable, a description of any trenches and sumps excavated, including the following: GPS coordinates, dimensions, depth below active layer, and secondary containment features;
 - g. A brief summary of work done to address any concerns of deficiencies listed in the inspection reports and/or compliance reports prepared by an Inspector;

- h. An executive summary in English and Inuktitut of all plans, reports, or studies conducted under this Licence; and
 - i. Any other details on water use or waste disposal requested by the Board by November 1 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, 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.
- 4. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
- 5. 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.
- 6. 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.
- 7. 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

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 any document(s) or correspondence submitted by the Licensee to the NWB is received and acknowledged by the Manager of Licensing.
10. 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 water from Contwoyto Lake for all purposes described in the Application. The maximum quantity of water allowed for all purposes under this Licence shall not exceed fifteen (15) cubic metres per day.
2. The Licensee shall install flow meters or other such devices, or implement suitable methods required for measuring volumes of water.
3. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that there is no entrainment of fish 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 authorized.
5. If the Licensee requires water in sufficient volume that the source water body may be drawn down, the Licensee shall, at least thirty (30) days prior to commencement of the use of water, submit to the Board for approval in writing, the following: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.
6. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into water.

PART D. 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 not practice on-site land filling of domestic waste, unless otherwise approved by the Board in writing.

3. The Licensee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.
4. 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.
5. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving wastes from the Contwoyto Lake, Former Weather Station Remediation Project prior to any backhauling and disposal of wastes to those communities.
6. The Licensee shall backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste generated through the course of the operation at a licensed waste disposal site.
7. The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste and include this information within the Annual Report, under Part B, Item 1. These records shall be made available to an Inspector upon request.
8. The Licensee shall direct all greywater to the on-site treatment system (Bio Barrier Membrane) and hold such waste until on-site testing confirms that water quality criteria specified in PART D, Item 12 have been met, following which the waste may be discharged to the natural environment.
9. The Licensee shall direct all Sewage generated from camp operations to the Sewage Treatment Facilities described in the Application, or as otherwise approved by the Board in writing.
10. The Licensee shall direct all Type B, light hydrocarbon contaminated soil to the appropriate onsite Landfarm Facility for treatment in accordance with the Remedial Action Plan, or as otherwise approved by the Board in writing.
11. The Licensee shall collect and temporarily store in preparation for future disposal all water generated from the storage and segregation of solid waste, demolition rinse water resulting from decontamination processes or procedures and water derived from borrow pits, quarry sites, and excavation activities.
12. The Licensee shall ensure that all contact water, including water associated with the dewatering of contaminated soil areas and/or water within the perimeter of the Landfarm Facility, solid waste segregation and storage area(s), demolition rinse water, water from Borrow Sources, and seepage from monitoring program stations, meet the following Effluent discharge criteria prior to being released to the receiving environment:

Parameter	Maximum Allowable Concentration (mg/L)
pH	6.5 to 9 (pH units)
Oil and Grease	15 and no visible sheen
Arsenic (total)	0.1
Benzene	0.37
Cadmium (dissolved)	0.01
Chromium (dissolved)	0.1
Cobalt (dissolved)	0.05
Copper (dissolved)	0.2
Ethylbenzene	0.09
Lead (total)	0.001
Mercury (total)	0.0006
Nickel (dissolved)	0.2
PCB (total)	1.0
Phenols	0.03
Toluene	0.002
TSS	50
Zinc (total)	0.5
TSS	50

13. If the effluent referred to in Part D, Item 12 does not meet the discharge criteria stipulated in this Licence, it shall be considered hazardous waste and disposed off-site at an approved facility, or as otherwise approved by the Board in writing.
14. The discharge location for all treated effluents described in Part D, Item 12 shall be located at a minimum of thirty-one (31) metres from the ordinary high water mark of any water body and where direct flow into a water body is not possible and no additional impacts are created.
15. The Licensee shall sample and provide, as part of its Annual Report, the results of laboratory analyses carried out on materials from potential Borrow Sources prior to use as construction materials. Borrow Sources containing materials that possess acid generating and metal leaching characteristics cannot be used as construction materials for the remediation projects.
16. All water collected from excavated areas, including borrow pits, shall be pumped to an area as described in Part D, Item 11, or as otherwise approved by the Board in writing.
17. The Licensee shall provide proper storage, transport, and disposal off-site at an approved facility of all non-hazardous and hazardous waste materials identified in the Application, including Tier II Soil, items contaminated with heavy metals, and waste oil generated through construction and remediation activities, or as otherwise approved by the Board in writing.
18. The Licensee shall not mix or blend soils that exceed the maximum levels of Tier II

criteria for the expressed purpose of attaining the specific limits of Tier I as listed under Table 1.

19. The Licensee shall dispose of all soils containing substances in excess of Tier II criteria, as indicated in Table 1, by collection, containment, and shipment off-site to a licensed disposal facility.
20. The Licensee shall dispose of any material coated with Polychlorinated Biphenyl (PCB) – amended paints, hazardous materials, and soils containing contaminants in excess of Canadian Environmental Protection Act (CEPA) Guidelines, off-site at an approved treatment facility, in accordance with the Application received.
21. The Licensee shall, prior to the removal of any treated soil from the Landfarm Facility, confirm with the Government of Nunavut, Environmental Protection Service that soils have been treated to meet all legislatively-required treatment objectives.
22. The Licensee shall provide at least fifteen (15) days written notice to the Inspector prior to any planned discharges from the Landfarm Facility. The notice shall include:
 - a. Estimated discharge volume;
 - b. Effluent quality or results of monitoring under PART K, Item 6; and
 - c. Proposed location for the discharge.

PART E. CONDITIONS APPLYING TO THE UNDERTAKING

1. The Licensee shall use material from Borrow Sources for the purposes specified in the “Contwoyto Lake Former Weather Station – Remedial Action Plan” dated March 2013 (revised October 2013), provided that those Borrow Sources are approved by an Inspector, free of contaminants and satisfies the requirement of Part D, Item 15. The Licensee shall provide to the NWB all permits related to Borrow Sources along with the GPS coordinates for their locations when they are confirmed.
2. The Licensee shall, upon failure of any constructed facilities, repair such facilities immediately to the appropriate standards, as recommended by an Engineer.
3. The Licensee shall implement proper handling, storage, and transportation procedures for hazardous materials during clean-up activities.
4. The Licensee shall minimize disturbance to terrain, permafrost, and drainage during extraction of granular material, development, and closure of site infrastructure, movement of contractor’s equipment and personnel around the site and removal of site debris.
5. The Licensee shall implement sediment and erosion control measures prior to and during the operation to prevent entry of sediment into water.
6. All sites affected by construction or removal activities shall be stabilized, landscaped as

necessary, and suitable erosion control measures implemented to minimize sediment deposition into watercourses located on or adjacent to the site.

7. The Licensee shall restore and stabilize all areas affected by the undertaking upon completion of the work.
8. The Licensee shall not deposit any waste in any body of water, or on the banks thereof, which may impair the quality, quantity, or flow of water.
9. The Licensee dispose of all scrap metal, discarded machinery and parts, and other bulky material in a manner that conforms to the Remedial Action Plan that was submitted with the Licence Application.

PART F. CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. 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.
2. The Licensee shall conduct all activities in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake corrective measures in the event of any impacts on surface drainage.
3. Winter lake and stream crossings, including ice bridges, shall be constructed entirely of water, ice, or snow, and shall be removed prior to spring break-up.
4. 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.

PART G. CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee is authorized to drill for the purpose of installing monitoring wells, thermistors, or other monitoring equipment.
2. The Licensee shall restore all drill holes and disturbed areas to natural conditions immediately upon completion of the projects. The restoration of drill holes must include the removal of any drill casing materials and the capping of holes with a permanent seal.

PART H. CONDITIONS APPLYING TO CONSTRUCTION AND MODIFICATIONS

1. The Licensee shall provide to the Board for review, within sixty (60) days prior to the construction of the Landfarm Facility, complete for-construction engineering design drawings, signed and stamped by an Engineer. These designs shall consider siting, operation, monitoring, sampling, and analytical methods, decommissioning, and closure options and plans for the proposed facility.
2. The Licensee shall provide to the Board, within ninety (90) days of completion of construction, as-built plans and drawings of the facilities referred to in this Licence. These plans and drawings shall be stamped by an Engineer.
3. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities 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 are consistent with the NIRB Screening Decision;
 - d. 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
 - e. the Board has not rejected the proposed Modifications.
4. Modifications for which all of the conditions referred to in PART H, Item 3 have not been met can be carried out only with written approval from the Board.
5. 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.

PART I. CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall implement the “Contwoyto Lake Weather Station Remediation - Spill Contingency Plan” dated as effective from October 10, 2012 to March 31, 2016, that was approved by the Board and submitted as additional information with the Application.
2. The Licensee shall submit together with the 2014 Annual Report, an Addendum to the Plan referred to in PART I, Item 1, in the format set out by the Consolidation of Spill Contingency Planning and Reporting Regulations, R-068-93, to address minor issues identified by AANDC during the review of the original plan, including:
 - a. The modification of the effective date to account for the five (5) year term of the licence;
 - b. The addition of the locations of any spill kits on site in the Plan; and
 - c. The addition of the fax number for AANDC’s Manager of Field Operations

(867-979-6445).

3. The Licensee shall prevent any chemicals, petroleum products or wastes 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.
4. 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.
5. 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;
 - b. Report the spill immediately to the 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.

PART J. CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION OR TEMPORARY CLOSING

1. The Board has approved the Plan entitled “Contwoyto Lake Former Weather Station – Remedial Action Plan” dated March 2013 (revised October 15, 2013) and received as part of the Application.
2. The Licensee shall complete all restoration work for the temporary camp facilities and waste disposal activities not included under PART J, Item 1, prior to the expiry of this Licence.
3. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee’s operations.
4. The Licensee shall backfill and restore all sumps to the pre-existing natural contours of the land.
5. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, buildings and contents, docks, water pumps and lines, material and equipment prior to the expiry of this Licence.

6. 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.
7. 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 Contaminated Site Remediation*, 2010. 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.
8. The Licensee shall contour and stabilize all disturbed areas to a pre-disturbed state upon completion of work.

PART K. CONDITIONS APPLYING TO THE MONITORING PROGRAM

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

Monitoring Station ID	Description	Frequency	Parameters
IN1	Freshwater intake monitoring station	Continuous (during periods of water use)	Volume in accordance with Part C, Item 2
SW1	Monitoring station located within the run-off water retention cell	Prior to discharge	Quality in accordance with Part J, Item 6 and Part D, Item 12
SW2	Effluent discharge point for the Landfarm Facility	At least once during discharge	Volume in accordance with Part J, Item 5 Quality in accordance with Part J, Item 6 and Part D, Item 12
MW1	Groundwater monitoring station located approximately 3 m outside landfarm berm on the west-side of the Landfarm Facility and northwest of MW3.	Twice per year (Once during spring freshet and once during mid-summer)	Quality in accordance with Part J, Item 7 Static groundwater level in accordance with Part J, Item 8
MW2	Groundwater monitoring station located approximately 3 m outside landfarm berm on the north-side of the Landfarm Facility and north-east of MW3.	Twice per year (Once during spring freshet and once during mid-summer)	Quality in accordance with Part J, Item 7 Static groundwater level in accordance with Part J, Item 8

MW3	Groundwater monitoring station located approximately 3 m outside landfarm berm on the south-side of the Landfarm Facility and southwest of MW2.	Twice per year (Once during spring freshet and once during mid-summer)	Quality in accordance with Part J, Item 7 Static groundwater level in accordance with Part J, Item 8
MW4	Groundwater monitoring station located approximately 3 m outside landfarm berm on the east-side of the Landfarm Facility and southeast of MW3.	Twice per year (Once during spring freshet and once during mid-summer)	Quality in accordance with Part J, Item 7 Static groundwater level in accordance with Part J, Item 8

2. The Licensee shall confirm the locations and GPS coordinates for all Monitoring Program Stations referred to in PART K, Item 1 with an Inspector.
3. The Licensee shall measure and record the volume of all soil from all locations entering the Landfarm Facility.
4. The Licensee shall assess and record the concentration of F1 – F4 fractions in petroleum hydrocarbon contaminated soil entering the Landfarm Facility from all sources, as per the *CCME Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil*.
5. The Licensee shall record the volume of all Effluent discharged from the Landfarm Facility at Monitoring Program Station SW2.
6. The Licensee shall sample prior to discharge at Monitoring Program Station SW1 and analyze for the following parameters:

pH	Conductivity
Total Suspended Solids	Ammonia Nitrogen
Nitrate – Nitrite	Oil and Grease (visual)
Total Phenols	Sulphate
Total Hardness	Total Alkalinity
Sodium	Potassium
Magnesium	Calcium
Chloride	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel
Total Zinc	Total Phosphorous
Total Aluminum	Total Manganese
Total Cobalt	Total Arsenic
Total Petroleum Hydrocarbons (TPH)	
Polycyclic Aromatic Hydrocarbons (PAH)	
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	

7. The Licensee shall sample twice per year, once during spring freshet and once during mid-summer, at Monitoring Program Stations MW1, MW2, MW3, and MW4, and analyze for the parameters listed under PART K, Item 6.
8. During sampling events conducted under PART K, Item 7, the Licensee shall monitor the static depth to the groundwater level at Monitoring Program Stations MW1, MW2, MW3, and MW4.
9. The Licensee shall sample the Effluent discharged from Monitoring Program Station SW2 at least once during a particular discharge event to verify compliance with the Effluent quality limits under PART D, Item 12, and to analyze for the parameters listed under PART K, Item 6.
10. The Licensee shall maintain at least two groundwater monitoring wells down-gradient of the Landfarm Facility.
11. The Licensee shall maintain at least one groundwater monitoring well up-gradient of the Landfarm Facility for background data collection.
12. The Licensee shall sample soil being treated in the Landfarm Facility no less frequently than every four (4) months during the period of active land treatment to monitor contaminant levels until analytical results are below acceptable levels as determined under PART D, Item 18.
13. The Licensee shall determine the GPS coordinates of all locations where remediated soil is deposited.
14. The Licensee shall record the date, amount, soil quality, and final destination of all treated soil removed from the Landfarm Facility under PART D, Item 211.
15. 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.
16. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
17. The Licensee shall submit to the Board for information, at least ninety (90) days prior to releasing any Effluent, a Quality Assurance/Quality Control Plan that conforms to 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 QA/QC Plan* (INAC, 1996). The Plan shall be acceptable to an accredited laboratory and include a covering letter from the accredited laboratory confirming acceptance of the Plan for analyses to be performed under the Licence.
18. The Licensee shall include in the Annual Report, as required under PART B, Item 1, all monitoring data, analyses, and information required by PART K.

19. Modifications to the Monitoring Program may be made only upon written request and subsequent approval of the Board in writing.
20. The Licensee shall determine the GPS co-ordinates (in degrees, minutes, and seconds of latitude and longitude) of all locations where sources of water are utilized for all purposes.
21. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with camp operations are deposited.
22. If there is a need for long-term monitoring, the Licensee shall submit to the Board for approval, at least sixty (60) days prior to initiating any long-term monitoring activities, a Post-closure Monitoring Plan for the project sites. The plan shall include information pertaining to the long-term monitoring of the Waste Disposal Facilities, stability of the sites, and the need for thermal and groundwater monitoring.

Table 1. Tier I and Tier II – DEW Line Clean-up Criteria (DCC)^a

Aboriginal Affairs and Northern Development Canada^b
Abandoned Military Site Remediation Protocol

Substance	DCC Tier I^c	DCC Tier II^d
Arsenic	-	30
Cadmium	-	5.0
Chromium	-	250
Cobalt	-	50
Copper	-	100
Lead	200	500
Mercury	-	2.0
Nickel	-	100
Zinc	-	500
PCB's	1.0	5.0

Note: soil criteria are given in 'parts per million' (ppm).

- a. Formerly known as *Indian and Northern Affairs Canada*.
- b. These criteria were adopted specifically for the cleanup of Arctic DEW Line Sites from the 1991 versions of the Quebec Soil Contamination Indicators and the Canadian Council of Ministers of the Environment Interim Canadian Environmental Criteria for Contaminated Sites.
- c. Soils containing lead and/or PCBs at concentrations in excess of DCC I, but less than DCC II, may be landfilled.
- d. Soils containing one or more substrates in excess of DCC II must be containerized (i.e. removed in a manner which precludes contact with the Arctic ecosystem).