

Nunavut Impact Review Board

2020 Nunavut Impact Review Board Annual Report

Eureka High Arctic Weather Station

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Distribution List

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01	17- Dec-2020	Leslie Coe	FINAL to NIRB

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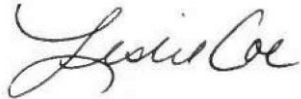
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1. Introduction

The Eureka High Arctic Weather Station (HAWS; the Project; the site) is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, NU. Since 1947, Environment & Climate Change Canada (ECCC; the Proponent) has owned and managed the overall operations and maintenance of the site under Land Reserve #1021. The total area of the Project is approximately 2.23 hectares. There are presently 15 primary buildings and other facilities at the HAWS. The Eureka runway is located 1.5 kilometres northeast of the HAWS main site and is the primary way by which the HAWS is accessed year-round.

The Eureka HAWS is an operational weather monitoring facility as well as a hub of activity for the Department of National Defence (DND), the Polar Continental Shelf Project and the Polar Environment Atmospheric Research Laboratory (PEARL). Additional sites at Eureka are operated by the Canadian Network for the Detection of Atmospheric Change including the PEARL and the Surface and Atmospheric Flux, Irradiance and Radiation Extension and Zero Altitude PEARL Auxiliary Laboratory (Arcadis 2018).

The Nunavut Impact Review Board (NIRB) is an institute of Territorial government created by the Nunavut Agreement to assess potential impacts of developmental projects in the territory of Nunavut before the approval of required project authorizations (NIRB 2020).

1.1 Purpose of this Document

The purpose of the NIRB Annual Monitoring report is to provide a yearly reference and summary for the Project components, monitored and predicted effects, and PSPC's performance with respect to Project terms and conditions. This document assists the protection of the well-being of existing and future residents and communities of the Nunavut Settlement Area and to protect the ecosystemic integrity of the Nunavut Settlement Area by ensuring that the Project is complying with legislation, regulations and the terms and conditions set out by the NIRB in the Screening Decision Report, NIRB FILE No. 12XN020 (the Screening Decision; NIRB 2018).

Per the Screening Decision, an annual report is a reporting requirement for the Project (NIRB 2018). This 2020 NIRB Annual Report presents findings of the Project's monitoring program and summarizes the following:

- A summary of Project engagement activities undertaken between January 1, 2020 – December 31, 2020.
- Project activities completed or performed between January 1, 2020 – December 31, 2020.
- The status of the Post-Environment Assessment Monitoring Program (PEAMP).
- PSPC's performance relative to the terms and conditions outlined in the Screening Decision (NIRB 2018).
- A Summary of results from NIRB Site Visits and/or inspections that took place during the reported year.

1.2 Project Overview

ECCC is currently undertaking or planning a number of construction and infrastructure upgrade projects to the HAWS. To support these projects, ECCC has obtained a number of permits. Due to project updates, design changes, unforeseen issues such as the discovery of contaminated soils or the need for additional infrastructure to

support the HAWS operation or projects, ECCC may be required to re-apply for new or amended licences and permits. The numerous improvement projects currently being undertaken or planned for include the following:

- Eureka Airport Runway Recapitalization Project
- Eureka Water and Wastewater Treatment Infrastructure Upgrades Project
- Fuel Tank Inspections
- Building Decommissioning Project
- Development of New Licenced Waste Disposal Area(s)
- Human Health and Ecological Risk Assessment and Remedial Action Plan
- Long Term Monitoring Plan

1.3 Regulatory Context

1.3.1 NIRB Screening Decision Report

The terms and conditions are contained in the Screening Decision (NIRB 2018). The Screening Decision was issued on June 1, 2018. Per the Screening Decision, *the NIRB is of the view that the Project proposal is not likely to cause significant public concerns, and it is unlikely to result in significant adverse environmental and social impacts* (NIRB 2018).

1.3.2 Existing Permits

Over the years, ECCC has applied for and received various regulatory permits, licences and approvals that have been required to operate the facilities at the site, including the currently planned construction and infrastructure upgrades. The existing permits and licences include the following:

- Land Use Permit N2017N0017 (2017)
- Amended Land Use Permit N2017N0017 (2018)
- Quarry Permit 2018QP0001
- Quarry Permit 2020QP0002
- Type 'B' Water Licence 8BC-EUR1621 (2016)
- Amended Water Licence 8BC-EUR1621 / Amendment No. 1 (2018)
- Screening Decision (NIRB 2018)
- Class 2 Nunavut Archaeologist Permit No. 2018-42A (Expired as of October 31, 2018)
- 18-HCAA-00071, Bridge Construction, Small Creek near Slidre Fiord, Eureka High Arctic Weather Station (February 20, 2018) – Authorization Email from DFO to PSPC ESCSM
- Bridge construction complete and authorization now expired/obsolete. Any modifications or amendments will require contact/communication with DFO

It should be noted that the DND maintains Fort Eureka (the Fort), located south of the Eureka runway. The Fort is occupied for approximately three weeks per year during the summer (typically in July) and DND's water use is currently captured under ECCC's existing water licence. ECCC is responsible for including DND's annual usage amounts with ECCC's annual report but is not responsible for any DND operations or permits.

1.3.3 Renewals, Updates and Amendments for the Authorizations

A letter dated December 16, 2020 has been sent to the Nunavut Water Board (NWB) requesting open burning of uncontaminated wood waste resulting from the demolition of various buildings and abandoned infrastructure anticipated to occur in 2021 through to 2023.

An application to Nunavut Planning Commission for conformity will be submitted on December 18, 2020 for; i) the demolition of various structures and infrastructure, ii) a temporary camp, iii) an amendment and extension of the current Type 'B' Water Licence 8BC-EUR1621, and iv) an extension of Quarry Permit 2020QP0001.

No further renewals, updates or amendments were made in 2020.

2. Engagement Activities

This section includes a summary of community consultations undertaken, issues identified and any modifications to monitoring programs.

2.1 Engagement Approach

Community and Indigenous engagement is important for projects in the northern region. Engagement builds new and stronger relationships and maintains relationships with those previously established. The goal is to inform stakeholders, communities, and Indigenous communities using effective communication strategies, prioritizing concerns of the listed parties, and collecting and processing feedback on potential concerns or issues raised.

Meaningful consultation and engagement occur when individuals provide input on how they want to be consulted and engaged, which yields a framework for creating unique and flexible approaches and activities that can be tailored to the needs of Indigenous communities, government agencies and interested persons. The NIRB conformity review and the NIRB screening processes utilize local/Indigenous consultation through information distribution and public forum. The NIRB process encompasses aspects of this process.

2.2 Engagement Objectives

ECCC has retained PSPC, and the consulting firm AECOM Canada Ltd. (AECOM) to engage with interested groups who may wish to receive Project status updates or general information on upcoming activities. Feedback may also support ongoing planning efforts, operations and decommissioning of the current and proposed activities. Feedback will help ECCC understand how the Project may affect communities, and support ongoing efforts, operations and decommissioning of the current and proposed activities.

2.3 Engagement Activities

No public or Indigenous consultation or engagement activities occurred in 2020.

2.4 Engagement Activities Planned for 2021

AECOM has prioritized the development of engagement activity goals. A letter of notification has been drafted for consultation groups which provides a high-level summary of the projects that will be put forward for an NPC/NIRB screening and asks the consultation groups or communities to provide any comments or feedback. ECCC is currently reviewing the notification and AECOM's overall engagement plan. As recommended by the NIRB, engagement is being planned with the Hamlet of Grise Fiord, and the local Hunter Trapper Organization (HTO). Additional groups or communities not listed above will be considered for distribution of the letter of notification and consultation efforts.

3. Operations Overview

3.1 Site Activities Completed in 2020

Below is a summary of activities undertaken at site in 2020:

- Camp opening – operations commenced on June 5, 2020.
- Equipment maintenance and camp facility repairs and maintenance.
- Installation of updated Pacto toilets throughout camp and an incinerator for handling of black water waste.
- Snow removal and winter road maintenance. Road maintenance of West Remus access road year-round.
- Freshet management including observations and maintenance of culverts and bridge at Blacktop Creek.
- Installation of temporary threshold lights at Station 5+400.
- Removal of existing runway and apron edge lighting from 4+940 – 5+400.
- Construction of new DND Apron complete with lined fuelling area.
- Reconstruction of Main Apron complete with lined fuelling area.
- Runway reconstruction from Station 4+940 to 5+400, including subgrade preparations and regrading, placement and compaction of new granular materials.
- Installation of new runway edge and apron lighting for both aprons and the reconstructed runway section.
- Removal of temporary threshold lighting and activation of new permanent threshold lights at Station 4+940.
- Construction of access road and pad complete with liner for future site fuel drum crushing activities.
- Construction of temporary contaminated soil storage facility.
- Removal of hydrocarbon contaminated soil encountered within the footprint of the Main Apron and deposition of soil into the temporary containment facility.
- Camp shut down and demobilization from site on Sept 26, 2020.

In 2020, no temporary camps were constructed and flights were restricted (see Section 5.2.8). Runway maintenance occurred simultaneously with any construction activities to ensure availability for incoming air traffic.

3.1.1 Aggregate Extraction

In 2020, aggregate was extracted from Remus Creek Quarry as per quarrying permit 2018QP0001. A total of 10,199 m³ of aggregate was extracted in 2020, all during the month of September.

3.1.2 Wildlife Mitigation and Observations

In 2020, wildlife and wildlife habitat mitigation measures, avoidance, response and safety measures were in accordance with the Wildlife and Wildlife Habitat Management Plan (WWHMP). The purpose of the WWHMP is to help on site personnel comply with legislative and regulatory requirements under the *Migratory Birds Convention*

Act (MBCA), Migratory Birds Regulations, *Species at Risk Act* (SARA), and the *Wildlife Act* (Nunavut), and the terms and conditions described in the Screening Decision (NIRB 2018). As a requirement of the WWHMP, wildlife or wildlife activity in 2020 was documented in a Wildlife Observation Log (see **Appendix A**).

Between August 28 and September 15, 2020, a polar bear (*Ursus maritimus*) was identified on site and in proximity to employees on multiple occasions. After sequential deterrence tactics of increasing severity, the bear was scared off and did not return to the site. Personnel on site reported the nuisance bear to the Government of Nunavut's wildlife officer (Tabatha Mullin) on September 15, whom commended their efforts. Approximately three weeks following the bear activity, local authorities from Iqaluit also reached out to commend on-site personnel for their deterrence efforts.

In addition to wildlife mitigation measures listed in the WWHMP, the following new wildlife mitigation measures were implemented in 2020 and will be carried forward in 2021:

- Increased training and use of the Wildlife Observation Log to differentiate between Species at Risk.
- Implementation of Wildlife Monitors on site during work activities that occur outside of the immediate HAWS vicinity.
- Ensure proper wildlife reporting to the Government of Nunavut, including polar bear sightings/encounters.

3.1.3 Archaeological Sites

In 2020, inspections of fencing surrounding significant archaeological sites was conducted. The fencing is composed of rebar rods marked with survey flagging for visibility. The fencing remains in place and is highly visible. Maintenance of the fencing will continue into 2021.

3.2 Work Plan for 2021

A 2021 regulatory strategy has been proposed and is currently being reviewed by ECCC. The proposed 2021 construction schedule and activities outlined below are subject to changes and restrictions related to the COVID-19 Pandemic. The summary below assumes similar restrictions and conditions encountered in 2020.

- Re-open camp and prepare fleet for summer construction – estimated start date of June 10, 2021.
- Install all necessary temporary runway lighting required during the construction phase.
- Remove remaining runway edge lighting from Station 5+400 to east extremity at 6+570.
- Re-grade and compact existing subgrade to specifications.
- Place and compact new granular materials for remainder of runway reconstruction.
- Excavate perimeter trench for installation of remaining new runway edge lighting.
- Activate all new runway, apron and edge lighting, test and commission.
- Resume crushing at West Remus quarry for future project requirements.
- Haul and stockpile all crushed material from West Remus to approved stockpile area at Blacktop Creek quarry area.
- Shut down camp and demobilize in late September.
- It is expected that approximately one month of crushing activities will be carried over into the 2022 season.

4. Post-Environment Assessment Monitoring Program (PEAMP)

The Post-Environmental Assessment Monitoring Program (PEAMP) for the site was developed in FY 2012/13 after extensive site investigations (ESA Phase I-III). The PEAMP was developed to ensure that site risks related human health and safety and environmental health, as affected by site activities and impacted media, are within or below the established levels on site.

The Long-Term Monitoring (LTM) plan will ensure that pathways, contaminants of concern and receptors at the site are regularly monitored so as to mitigate unnecessary risk.

Impacts in soil and surface water have been/will be tested for Petroleum Hydrocarbons (PHC), BTEX, Poly Aromatic Hydrocarbons (PAH) and metals at the site. Along with decreasing concentrations, sampled monitoring locations will also ensure that contaminants are not migrating from the specified impacted areas.

In 2020, no Post-Environmental Assessment Monitoring occurred.

5. Performance on Decision Screening Report Terms and Conditions

The following subsections provide a status of compliance in relation to the terms and conditions of the Screening Decision (NIRB 2018). Compliance monitoring involves an assessment undertaken by regulators and other agencies to establish whether the Project is compliant with relevant legislation, regulations, instruments, commitments and agreements. Compliance monitoring, as reported by authorizing agencies, is also a requirement of the NIRB's Monitoring Program.

Table 5-1 summarizes the compliance criteria used to determine if compliance of a term or condition was met. The Screening Decision conditions for the Project are represented by four statuses of compliance. If a term or condition threshold for compliance has been met (or exceeded), a ranking of "In compliance" was given. Conversely, in instances where some or none of the requirements are met, a ranking of "Incomplete compliance" and "Not compliance" are given, respectively. In these cases, rationale is provided for why these requirements have not been met and what methodologies, mitigation methods and/or strategies will be put into place to achieve compliance.

Table 5-1: The Status of Compliance Criteria in relation to the Terms and Conditions of the Screening Decision

Status of Compliance	Compliance Criteria
In compliance	The condition requirements have been met.
Incomplete compliance	Some conditions have been met and evidence towards meeting compliance is demonstrated.
Non-compliance	The condition requirements have not been met.
Not applicable	The condition is related to Project activities or aspects that have not commenced or are not relevant to the Project or work category.

5.1 Performance on General Conditions

The Proponent shall always maintain a copy of the Project Terms and Conditions at the site of operation.

- In compliance

The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.

- In compliance

The Proponent shall operate in accordance with all commitments stated in correspondence and materials provided as a part of the current application package:

- NIRB Part 1 Form, April 5, 2012;
- NPC Application for Conformity, April 16, 2012
- AANDC Land Use Permit Application, April 4, 2012;
- Operations and Maintenance for Drinking Water, Sewage, Solid waste Disposal and
- Waste Treatment Facilities, January 2011; and,
- Operating procedures for Eureka Land Reserve, March 1, 2011.

- In compliance

The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

- In compliance

5.2 Performance on Compliance with Regulatory Instruments

5.2.1 Waste Disposal/Incineration/Landfarms

The Proponent shall incinerate all combustible wastes daily and remove the ash from incineration activities and non-combustible wastes from the project site to an approved facility for disposal.

- In compliance: ECCC will be applying for a Burn Permit to the NWB and amending the Water Licence to burn untreated and unpainted wood (dimension boards, timbers and plywood); material this is suitable to be suitable to be burned.

The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.

- In compliance

The Proponent shall ensure that the incineration of combustible camp wastes comply with the Canadian Wide Standards for Dioxins and Furans, and the Canadian Wide Standards for Mercury.

- In compliance: The site only incinerates non-hazardous materials. Signs are posted on site to advise 3rd party camp workers not to burn hazardous materials.

The Proponent shall ensure that no waste oil/grease is incinerated on site.

- In compliance

The Proponent shall remove and treat hydrocarbon contaminated soils/snow on site or transport them to an approved disposal site for treatment.

- In compliance: Contaminated snow or soil as a result of oil/fuel leaks or spills from construction equipment is first contained in place, then excavated and placed into drums or trucks and transported to the approved site contaminated waste disposal site.

The Proponent shall only treat petroleum and hydrocarbon contaminated soils using the landfarm facility. Materials contaminated with other substances such as glycol and heavy metals are not to be stored at the landfarm and shall only be disposed of at an authorized facility.

- In compliance: Contaminated snow or soil is transported to the approved site contaminated waste disposal site. There is no landfarm on site.

5.2.2 Wastewater Disposal and Storage

The Proponent shall ensure required standards, set out in the Nunavut Water Board's Water Licence for this project are met prior to any discharge of collected water in the retention cell.

- In compliance: In 2020, no water was discharged on site.

The Proponent shall ensure that the equipment used in the landfarm operation for aeration, have been cleaned off within the landfarm facilities prior to exiting to prevent contaminated soil transfer.

- Not applicable: No landfarm on site.

The Proponent shall take appropriate dust suppression measures when conducting soil turning and removal.

- In compliance: In 2020, water was used as a dust suppressant on site.

All operation personnel shall be adequately trained prior to commencement of any operation in the landfarm facility. Operational personnel should also be trained in the operational guidelines and commitments made by the Proponent for this project.

- Not applicable: No landfarm on site.

The Proponent shall ensure that all on site personnel are properly trained in fuel and hazardous waste handling procedures as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

- In compliance: Training logs for personnel are provided in **Appendix B**.

5.2.3 Fuel and Chemical Storage

The Proponent shall ensure that storage of fuel and hazardous materials and re-fuelling of project equipment is conducted at a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent their release into the environment.

- In compliance

The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.

- In compliance

The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting instalberms and fold-a-tanks) when storing barrelled fuel and chemicals at all locations. Appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) must be readily available during any transfer of fuel or hazardous substances, as well as at fuel caches, vehicle-maintenance areas and drill sites. Spill kits and secondary containment structures should accommodate 110% of the capacity of the largest fuel storage container within the cache.

- In compliance

The Proponent shall inspect and document the condition of all large fuel tanks on a weekly basis. All fuel and chemical storage containers must be clearly marked with the Proponent's name and examined for leaks immediately upon delivery.

- In compliance

The Proponent shall flag all fuel caches on site, so they remain visible in the winter months.

- In compliance

The Proponent shall use drip pans or other equivalent device when refuelling equipment on site. The Proponent shall ensure that appropriate spill kit (e.g., shovels, absorbents, etc.) must be readily available during any transfer of fuel.

- In compliance

The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

- In compliance: Training logs for personnel are provided in **Appendix B**.

5.2.4 Water License Compliance

The Proponent shall not extract water from any fish-bearing waterbody unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish. Small lakes or streams should not be used for water withdrawal unless approved by the Nunavut Water Board.

- Non-compliance:
 - The NWB License No. 8BC-EUR1621 states that Station Creek is the authorized source of water under the license; additionally, the NWB License No. 8BC-EUR1621 Amendment No.1 states that West Remus Creek is an amended use of water for dust suppression.
 - From July 10 to Sept 4, 2020, water was extracted from Blacktop Creek and was used for dust suppression. During this period, approximately 16-24 m³ per day was incorrectly extracted from Blacktop Creek through a 3/8' mesh screen intake hose.
 - PSPC has since advised all on site personnel that only West Remus Creek should be used for dust suppression purposes and the contractor has altered their procedures. PSPC and their AECOM will work more closely with contractors throughout the year to ensure and improve compliance and reporting requirements.

The Proponent shall only discharge water according to NWB license requirements.

- In compliance: In 2020, no water was discharged on site.

Effluent discharged from the Sewage Treatment Facility at monitoring station EUR-3 shall not exceed effluent quality limits.

- In compliance: To ensure compliance with the Water License requirements the following mitigation measures have been completed:
 - Compliant laboratory analysis results were received in July 2020, after which authorization to discharge into the lagoon was requested to CIRNAC.
 - Upon reception of written authorization, the discharge was initiated on July 9, 2020 and is now complete.

The Proponent 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.

- In compliance: To ensure compliance with the Water License requirements the following mitigation measures have been completed:
 - Signs have been installed next to the burning location. Directive is in effect and is being followed by station staff and visitors.
 - Station occupants and managers have been notified of the rules related to open burning near water bodies on site.

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

- In compliance: To ensure compliance with the Water License requirements the following mitigation measures have been or are in the process of being completed:
 - It is recommended that the banks will be repaired, and work has been completed in fall of 2020.
 - Increased signage has been installed at site to notify drivers of heavy vehicles.
 - ECCC will establish an exclusion zone around the raw water reservoir and the wastewater lagoon to prevent erosion.

The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board.

- In compliance: To ensure compliance with the Water License requirements the following mitigation measures have been completed:
 - Flow meters have been installed at the raw pump house on site, and after the portable pump near the lagoon and are currently in service.
 - Monitoring of the sewage lagoon is stringent and ongoing. ECCC management will be notified if wastewater levels come close to the limits indicated at site.

5.2.5 Temporary Camps

The Proponent shall ensure that all camps are located on gravel, sand or other durable land.

- Not applicable: In 2020, no temporary camps were erected.

The Proponent shall not erect camps or store material on the surface ice of lakes or streams.

- Not applicable: In 2020, no temporary camps were erected.

5.2.6 Roads and Transportation

The Proponent shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles must be suspended if rutting occurs.

- In compliance

The Proponent shall implement suitable erosion and sediment suppression measures on disturbed areas in order to prevent sediment from entering any water body.

- In compliance: To date, there has not been a need to install sedimentation and erosion controls along the road or at the airstrip work site. Conditions are monitored continuously; silt fencing is available on site, if needed.

All road vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.

- In compliance: All vehicles are fitted with factory exhaust systems.

The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.

- In compliance: In 2020, only water was used as a dust suppressant on site.

5.2.7 Aggregate Extraction and Quarrying

The Proponent shall clearly stake and flag pit and quarry boundaries, so they remain visible to other land users.

- In compliance: All quarry sites are properly flagged and staked and visible to land users. Full time survey support is also present and available to monitor ground disturbance, as required.

The Proponent shall not remove any material from below the ordinary high-water mark of any lake or stream.

- In compliance: Quarrying activities occur above the high-water mark.

The Proponent shall not deposit or permit the deposit of sediment into any water body.

- In compliance: The use of silt fencing has been explored; however, has not been required on site. An earth beam has been constructed along the western edge of the approved quarry to isolate and separate the main channel of west Remus Creek from the worksite.

The Proponent shall ensure there is no obstruction of natural drainage, flooding or channel diversion from quarry/pit access, stockpiles, or other structures or facilities.

- In compliance: There are no obstructions to drainage or waterways on site.

The Proponent shall ensure that silt fences/curtains are installed down gradient of any quarry activities.

- In compliance: The use of silt fencing has been explored; however, has not been required on site. An earth beam has been constructed along the western edge of the approved quarry to isolate and separate the main channel of west Remus Creek from the worksite.

The Proponent shall maintain an undisturbed buffer zone between the periphery of quarry sites and the high-water mark of any water body that is of an adequate distance to ensure erosion control.

- In compliance: Appropriate buffer zones have been installed around the periphery of the quarry sites.

The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.

- In compliance

The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.

- In compliance: In 2020, only water was used as a dust suppressant on site.

5.2.8 Aircraft Flight Restrictions

The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum altitude of 610 metres above ground level unless there is a specific requirement for low-level flying, which does not disturb wildlife and migratory birds.

- In compliance

The Proponent shall ensure that aircraft maintain a vertical distance of 1,000 metres and a horizontal distance of 1,500 metres from any observed groups (colonies) of migratory birds. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.

- In compliance

The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.

- Not applicable: In 2020, no emergency aircraft was needed.

The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

- Not applicable: Notice to Airmen (NOTAM) was generated during the runway construction project. NOTAM was removed once runway construction was completed..

5.3 Performance on Ecosystemic Conditions

5.3.1 General Wildlife

The Proponent and staff will complete bear and carnivore safety training.

- In compliance: Bear awareness training was completed by staff (see **Appendix B**)

The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.

- In compliance: Safe Operating Procedures (SOPs), wildlife observations and responses are included in these documents and are reviewed with the crews during orientation and/or at other appropriate times during the construction phase.

The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.

- In compliance: Work site SOP's, wildlife observations and responses are included in these documents and are reviewed with the crews during orientation and/or at other appropriate times during the construction phase.

The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

- In compliance: Work site SOP's, wildlife observations and responses are included in these documents and are reviewed with the crews during orientation and/or at other appropriate times during the construction phase. Training logs for personnel are provided in **Appendix B**.

5.3.2 *Migratory Birds and Raptors*

The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metre buffer around the nests). If active nests of any birds are discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.

- Not applicable: In 2020, no nests or eggs of any birds were observed or documented on site.

5.3.3 *Species at Risk*

As per the Species at Risk Act and the WWHMP, species at risk must be documented and reported to the appropriate authorities.

- In compliance: The only SARA listed species observed on site (the polar bear) was documented and reported to the Government of Nunavut (see Section 3.1.2; **Appendix A**)

5.3.4 *Reclamation of Disturbed Areas*

The Proponent shall remove all garbage, fuel and equipment upon abandonment.

- Not applicable: Site is still in operation and no areas have been abandoned.

5.4 Performance on Socio-Economic Conditions

The Proponent should, to the extent possible, hire local people and consult with local residents regarding their activities in the region.

- Not applicable.

5.5 Performance on Other Terms and Conditions

The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 148746), and the NIRB (Online Application Form, March 26, 2018; Response to Comments, May 15, 2018).

- In compliance

6. NIRB Site Visits and Inspections

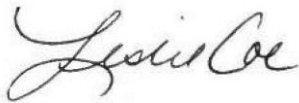
In 2020, no formal inspector site visits occurred. Currently a site visit is scheduled in the summer of 2021. The last inspector visit was conducted in July 2019 and a copy of the Water Inspection report is provided in **Appendix C**.

Ongoing work site inspections throughout the work season include inspections of all fuel tanks for leakage/damage. Areas of concern noted during these daily inspections are documented through the reporting system as either a Spill or Equipment Damage event. There are no records of such events related to fuel storage.

7. Closure

Should NIRB have any questions or concerns regarding this document, please contact the undersigned.

AECOM Canada Ltd.



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Technical Lead – Permitting
robin.reese@aecom.com

References

Arcadis Canada Inc. (Arcadis), 2018:

Environmental Impact Assessment Addendum for the High Arctic Weather Station Project Improvements for: Construction of New Road, Construction of Water Crossing over Black Top Creek, and Development of New Quarry Site. March 2018. Prepared for Public Services and Procurement Canada.

Nunavut Impact Review Board (NIRB), 2018:

Screening Decision Report File No. 12XN020. NPC File No.: 148746 (Related to NPC File No.: 148232), Nunavut Impact Review Board.

Nunavut Impact Review Board (NIRB), 2020:

Proponent's Guide., NIRB Technical Guide Series. Nunavut Impact Review Board.

Nunavut Impact Review Board (NIRB), 2020:

S. Granchinho, personal communication, September 4, 2020.

Nunavut Impact Review Board (NIRB), 2020:

K. Morrison, personal communication, November 9, 2020.

Appendix **A**

Wildlife Log

Appendix A. Wildlife Log

Table A-1: Wildlife Observations in 2020 at the Eureka HAWS Site in Eureka, Nunavut

Date	Time	Location	Wildlife Observation	Comments
23-Jun-20	18:30	Blacktop Creek	Ptarmigan	
23-Jun-20	18:30	PEARL	Arctic Hare	In a herd
4-Jul-20	8:00	Remus Creek	Muskox	
4-Jul-20	8:00	Remus Creek	Arctic Hare	
22-Jul-20	16:00	Blacktop Creek	Arctic Fox	
23-Jul-20	15:00	Blacktop Creek	Seagull	
28-Jul-20	18:00	Nuna Point	Seal	Two individuals on ice
5-Aug-20	0:30	North of Airstrip	Muskox	
11-Aug-20	17:15	Camp porch	Arctic Fox	
12-Aug-20	6:15	Camp	Arctic Wolf	
17-Aug-20	5:00	Remus Creek	Arctic Hare	In a herd
17-Aug-20	16:00	Nuna Point	Seal	On ice
17-Aug-20	17:00	KM9	Arctic Wolf	
21-Aug-20	12:30	Blacktop Creek	Arctic Fox	
26-Aug-20	7:00	Blacktop Creek	Muskox	In a herd
27-Aug-20	5:15	Blacktop Creek	Muskox	In a herd
27-Aug-20	18:40	Camp	Arctic Fox	
29-Aug-20	8:00	Camp	Muskox	
30-Aug-20	9:00	Blacktop Creek	Polar Bear	First sighting of nuisance bear, chased off with vehicles
30-Aug-20	10:30	KM5	Polar Bear	Same bear
31-Aug-20	7:00	South of Airstrip	Grey Wolf	
31-Aug-20	11:00	Road between Remus & Blacktop Creeks	Wolves	Pack of 5
31-Aug-20	15:30	DND	Muskox	
4-Sep-20	7:00	Blacktop Creek	Muskox	In a large herd
6-Sep-20	7:00	West of Airstrip	Muskox	In a large herd
6-Sep-20	14:30	Camp	Wolves	Pack of 11
7-Sep-20	7:00	Landfill	Wolves	Pack of 11
7-Sep-20	15:30	Landfill	Arctic Wolf	
10-Sep-20	5:30	KM4	Polar Bear	Same bear, Tracks only, no sighting
10-Sep-20	6:30	Between Camp & Weather Station	Polar Bear	Same bear
10-Sep-20	10:30	WS Sewage Lagoon	Polar Bear	Same bear, Chased off with loader and truck
10-Sep-20	14:30	Weather Station	Polar Bear	Same bear, chased off again
11-Sep-20	19:00	Camp	Polar Bear	Same bear, used banger shells in a shotgun to scare off
12-Sep-20	6:00	Landfill	Arctic Wolves	
12-Sep-20	6:00	Landfill	Grey Wolves	
12-Sep-20	7:00	Landfill	Polar Bear	Same bear
12-Sep-20	7:00	Landfill	Arctic Fox	
12-Sep-20	14:30	Landfill	Polar Bear	Same bear, used bear bangers with no effect so resorted to rubber bullets
12-Sep-20	19:00	Camp	Muskox	
13-Sep-20	7:00	Landfill	Arctic Fox	
14-Sep-20	6:00	Landfill	Polar Bear	Same bear, used bangers to scare off. Next sighting near site was on Sept. 15 th but was never seen again

Date	Time	Location	Wildlife Observation	Comments
14-Sep-20	11:00	Landfill	Arctic Wolf	
14-Sep-20	15:00	KM 4	Seals	Three individuals on Ice
15-Sep-20	10:00	Camp	Muskox	
17-Sep-20	8:00	DND	Arctic Wolf	
17-Sep-20	13:30	Blacktop Creek	Arctic Wolf	
17-Sep-20	14:00	West Remus	Arctic Wolf	
18-Sep-20	6:00	Blacktop Creek	Muskox	In a large herd
19-Sep-20	19:00	Blacktop Creek	Wolves	Pack of 11
20-Sep-20	8:00	KM 6	Arctic Wolves	In a pack
20-Sep-20	15:00	Blacktop Creek	Arctic Wolves	In a pack
22-Sep-20	8:00	South of Airstrip	Arctic Wolf	
22-Sep-20	6:00	West of Airstrip	Muskox	In a large herd
23-Sep-20	6:30	Main Apron	Arctic Hare	
23-Sep-20	8:00	Camp	Arctic Hare	
23-Sep-20	10:00	KM 2	Arctic Wolf Pup	Killed as a result of fight between 2 packs
23-Sep-20	12:00	KM 5	Arctic Wolf Pup	Alone and injured
23-Sep-20	15:30	Camp	Arctic Wolves	In a pack
24-Sep-20	7:00	KM 4	Arctic Hares	
24-Sep-20	15:00	Camp	Arctic Wolves	Hunt and capture an Arctic Hare
24-Sep-20	15:30	East of Airstrip	Arctic Wolf	

Appendix **B**

Personnel Training Records

Training Log

Employee	Gavin Randell
Employee ID	716025
Trainee's Employer	Company

Role	Start Date	End Date
Eureka (Basic)	Jul 31, 2020	Sep 11, 2020

Safety Training/Certificates

None

Equipment Training Achieved

Record of Training

None

Operator Evaluation History

None

Competency Review History

None

Site Training Requirements

Mandatory Topic(Library)	Role	Start Date	End Date	Valid For
0877: Orientation - Eureka	Eureka (Basic)	Jul 31, 2020		1 year
0502: First Aid & A.E.D.	Eureka (Basic)	Jul 31, 2020		3 years
0850: SOP Sign Off (Basic)	Eureka (Basic)	Jul 31, 2020		1 year
0807: WHMIS	Eureka (Basic)	Jul 31, 2020		1 year
0873: Bullying & Harassment Video Review	Eureka (Basic)	Jul 31, 2020		0 months

Optional Topic (Library)	Role	Start Date	End Date	Valid For
0808: Bear/Wildlife Safety	Eureka (Basic)	Jul 31, 2020		1 year
0859: Fire Extinguisher Simulator Training	Eureka (Basic)	Jul 31, 2020		1 year

Training Log

Employee	Nathan Keadjuk
Employee ID	529041
Trainee's Employer	Company

Role	Start Date	End Date
Hope Bay (Basic)	Mar 10, 2020	Mar 31, 2020
Eureka (Basic)	Jul 24, 2020	Sep 26, 2020
Sabina (Basic)	Oct 21, 2020	Nov 4, 2020

Safety Training/Certificates

Certificate	Issue Date	Expiry Date
5974: Nathan Keadjuk 0850: SOP Sign Off (Basic)	Feb 28, 2016	
5975: Nathan Keadjuk 0846: Orientation - Hope Bay	Feb 28, 2016	
12840: Nathan Keadjuk 0849: Orientation - Sabina	Oct 22, 2020	
12841: Nathan Keadjuk 0850: SOP Sign Off (Basic)	Oct 21, 2020	
12842: Nathan Keadjuk 0807: WHMIS	Oct 22, 2020	
12843: Nathan Keadjuk 0493: Fire Extinguisher Training	Oct 22, 2020	
12844: Nathan Keadjuk 0873: Bullying & Harassment Video Review	Oct 22, 2020	

Equipment Training Achieved

Record of Training

Record of Training	Type of Training	Operator Experience
2818: KENWORTH Fuel/Lube Truck	Heavy Equipment	Greater than 3 yrs Operator Experience

6371	Declaration of Experience	
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Operator Evaluation History

Operator Evaluation	Site	Date of Evaluation	Competency Review Due	Final Score
0963: 2818: KENWORTH Fuel/Lube Truck	Hope Bay (4196036 & 4196138)	Sep 22, 2019	Sep 22, 2022	80.88%

Competency Review History

None

Site Training Requirements

Mandatory Topic(Library)	Role	Start Date	End Date	Valid For
0877: Orientation - Eureka	Eureka (Basic)	Jul 24, 2020		1 year
0502: First Aid & A.E.D.	Eureka (Basic)	Jul 24, 2020		3 years
0850: SOP Sign Off (Basic)	Eureka (Basic)	Jul 24, 2020		1 year
0807: WHMIS	Eureka (Basic)	Jul 24, 2020		1 year
0873: Bullying & Harassment Video Review	Eureka (Basic)	Jul 24, 2020		0 months
0846: Orientation - Hope Bay	Hope Bay (Basic)	Mar 10, 2020		1 year
0850: SOP Sign Off (Basic)	Hope Bay (Basic)	Mar 10, 2020		1 year
0849: Orientation - Sabina	Sabina (Basic)	Oct 21, 2020		1 year
0850: SOP Sign Off (Basic)	Sabina (Basic)	Oct 21, 2020		1 year
0873: Bullying & Harassment Video Review	Sabina (Basic)	Oct 21, 2020		1 year
0807: WHMIS	Sabina (Basic)	Oct 21, 2020		1 year

Optional Topic (Library)	Role	Start Date	End Date	Valid For
0808: Bear/Wildlife Safety	Eureka (Basic)	Jul 24, 2020		1 year
0859: Fire Extinguisher Simulator Training	Eureka (Basic)	Jul 24, 2020		1 year

Training Log

Employee	Samuel (Sam) Ovayuak
Employee ID	529752
Trainee's Employer	Company

Role	Start Date	End Date
Winter Road (Basic)	Dec 17, 2018	Mar 27, 2019
Eureka (Basic)	Jul 19, 2019	Sep 24, 2019
Eureka (Basic)	Jul 3, 2020	Sep 26, 2020

Safety Training/Certificates

Certificate	Issue Date	Expiry Date
2680: Samuel (Sam) Ovayuak 0868: Orientation - Winter Road	Dec 18, 2018	
2681: Samuel (Sam) Ovayuak 0850: SOP Sign Off (Basic)	Dec 18, 2018	
2682: Samuel (Sam) Ovayuak 0807: WHMIS	Jan 10, 2018	
2943: Samuel (Sam) Ovayuak 0859: Fire Extinguisher Simulator Training	Feb 18, 2019	
5698: Samuel (Sam) Ovayuak 0877: Orientation - Eureka	Jul 20, 2019	

Equipment Training Achieved

Record of Training

Record of Training	Type of Training	Operator Experience
0551: STERLING Water Truck	Heavy Equipment	Greater than 3 yrs Operator Experience

0701: CAT Wheel Loader 906 - 982 (Including IT24-IT62)	Heavy Equipment	Greater than 3 yrs Operator Experience
2430	Declaration of Experience	
2431	Powered Mobile Equipment - General Skills	
2432: CAT Compactor CS34 - CS78	Heavy Equipment	Less than 3 yrs Operator Experience
3207: CAT Haul Truck (Articulated) 725 - 745	Heavy Equipment	Greater than 3 yrs Operator Experience

Operator Evaluation History

Operator Evaluation	Site	Date of Evaluation	Competency Review Due	Final Score
0361: 0551: STERLING Water Truck	Margaret Lake - GK Spur WR (4200424)	Feb 2, 2019	Feb 1, 2022	73.94%
0362: 0701: CAT Wheel Loader 906 - 982 (Including IT24-IT62)	Margaret Lake - GK Spur WR (4200424)	Feb 27, 2019	Feb 26, 2022	72.7%
0833: 2432: CAT Compactor CS34 - CS78	Eureka (4199434)	Jul 14, 2019	Jul 14, 2022	79.37%
1164: 3207: CAT Articulated Truck 725 - 745	Eureka (4199434)	Aug 9, 2019	Aug 9, 2022	76.81%

Competency Review History

None

Site Training Requirements

Mandatory Topic(Library)	Role	Start Date	End Date	Valid For
0868: Orientation - Winter Road	Winter Road (Basic)	Dec 17, 2018		1 year
0850: SOP Sign Off (Basic)	Winter Road (Basic)	Dec 17, 2018		1 year
0807: WHMIS	Winter Road (Basic)	Dec 17, 2018		1 year
0873: Bullying & Harassment Video Review	Winter Road (Basic)	Mar 1, 2019		0 months
0877: Orientation - Eureka	Eureka (Basic)	Jul 19, 2019		1 year
0877: Orientation - Eureka	Eureka (Basic)	Jul 3, 2020		1 year

0502: First Aid & A.E.D.	Eureka (Basic)	Jul 19, 2019		3 years
0502: First Aid & A.E.D.	Eureka (Basic)	Jul 3, 2020		3 years
0850: SOP Sign Off (Basic)	Eureka (Basic)	Jul 19, 2019		1 year
0850: SOP Sign Off (Basic)	Eureka (Basic)	Jul 3, 2020		1 year
0807: WHMIS	Eureka (Basic)	Jul 19, 2019		1 year
0807: WHMIS	Eureka (Basic)	Jul 3, 2020		1 year
0873: Bullying & Harassment Video Review	Eureka (Basic)	Jul 19, 2019		0 months
0873: Bullying & Harassment Video Review	Eureka (Basic)	Jul 3, 2020		0 months

Optional Topic (Library)	Role	Start Date	End Date	Valid For
0808: Bear/Wildlife Safety	Winter Road (Basic)	Dec 17, 2018		1 year
0502: First Aid & A.E.D.	Winter Road (Basic)	Dec 17, 2018		3 years
0859: Fire Extinguisher Simulator Training	Winter Road (Basic)	Dec 17, 2018		1 year
0858: Light Vehicle Site Driver's	Winter Road (Basic)	Dec 17, 2018		1 year
0507: Spotter Awareness	Winter Road (Basic)	Dec 17, 2018		1 year
0852: SOP Sign Off Mechanic/Service Men	Winter Road (Basic)	Dec 17, 2018		1 year
0808: Bear/Wildlife Safety	Eureka (Basic)	Jul 19, 2019		1 year
0808: Bear/Wildlife Safety	Eureka (Basic)	Jul 3, 2020		1 year
0859: Fire Extinguisher Simulator Training	Eureka (Basic)	Jul 19, 2019		1 year
0859: Fire Extinguisher Simulator Training	Eureka (Basic)	Jul 3, 2020		1 year

Training Log

Employee	Bruce Stevenson
Employee ID	529358
Trainee's Employer	Company

Role	Start Date	End Date
FalCon (Basic)	Aug 1, 2018	Oct 25, 2018
Eureka (Basic)	Sep 26, 2019	Sep 30, 2019
Winter Road (Basic)	Jan 4, 2020	Mar 25, 2020
Eureka (Basic)	Jul 3, 2020	Sep 27, 2020
Sabina (Basic)	Sep 28, 2020	Oct 21, 2020

Safety Training/Certificates

Certificate	Issue Date	Expiry Date
2433: Bruce Stevenson 0860: Orientation - FalCon	Aug 23, 2018	
6373: Bruce Stevenson 0868: Orientation - Winter Road	Jan 5, 2020	
6419: Bruce Stevenson 0807: WHMIS	Jan 5, 2020	
6458: Bruce Stevenson 0869: Orientation - Margaret Lake (Spur Road)	Jan 15, 2020	
6463: Bruce Stevenson 0850: SOP Sign Off (Basic)	Jan 4, 2020	
6466: Bruce Stevenson 0749: TDG (Transportation of Dangerous Goods)	Jan 18, 2020	Jan 17, 2023
6511: Bruce Stevenson 0858: Light Vehicle Site Driver's	Jan 19, 2020	
6667: Bruce Stevenson 0873: Bullying & Harassment Video Review	Mar 15, 2020	
12672: Bruce Stevenson 0849: Orientation - Sabina	Sep 29, 2020	
12673: Bruce Stevenson 0873: Bullying & Harassment Video Review	Sep 29, 2020	

12674: Bruce Stevenson 0808: Bear/Wildlife Safety	Sep 29, 2020	
12675: Bruce Stevenson 0493: Fire Extinguisher Training	Sep 29, 2020	
12676: Bruce Stevenson 0850: SOP Sign Off (Basic)	Sep 29, 2020	
12677: Bruce Stevenson 0807: WHMIS	Sep 29, 2020	

Equipment Training Achieved

Record of Training

Record of Training	Type of Training	Operator Experience
2899	Declaration of Experience	
3277: CAT Wheel Loader 906 - 982 (Including IT24-IT62)	Heavy Equipment	Less than 3 yrs Operator Experience
3377: Light Vehicle All Makes	Light Vehicles/Crew Bus	Greater than 3 yrs Operator Experience
6331: Fuel Pump All Makes	Tools (Portable/Mechanical)	
6332: CAT Compactor CS34 - CS78	Heavy Equipment	Less than 3 yrs Operator Experience
6333: CAT Dozer D3 - D9	Heavy Equipment	Less than 3 yrs Operator Experience
6334: CAT Haul Truck (Articulated) 725 - 745	Heavy Equipment	Less than 3 yrs Operator Experience
6335	Declaration of Experience	

Operator Evaluation History

Operator Evaluation	Site	Date of Evaluation	Competency Review Due	Final Score
1264: 3277: CAT Wheel Loader 906 - 982 (Including IT24-IT62)	Lac de Gras Camp WR (4200444)	Feb 20, 2020	Feb 19, 2023	91.05%
1923: 6332: CAT Compactor CS34 - CS78	Sabina (4200024)	Oct 17, 2020	Oct 18, 2023	84.62%
1932: 6334: CAT Haul Truck (Articulated) 725 - 745	Sabina (4200024)	Oct 17, 2020	Oct 18, 2023	80.29%

Competency Review History

None

[Site Training Requirements](#)

Mandatory Topic(Library)	Role	Start Date	End Date	Valid For
0860: Orientation - FalCon	FalCon (Basic)	Aug 1, 2018		1 year
0859: Fire Extinguisher Simulator Training	FalCon (Basic)	Aug 1, 2018		1 year
0861: Green Defensive Driving	FalCon (Basic)	Aug 1, 2018		0 months
0850: SOP Sign Off (Basic)	FalCon (Basic)	Aug 1, 2018		1 year
0807: WHMIS	FalCon (Basic)	Aug 1, 2018		1 year
0873: Bullying & Harassment Video Review	FalCon (Basic)	Mar 1, 2019		0 months
0868: Orientation - Winter Road	Winter Road (Basic)	Jan 4, 2020		1 year
0850: SOP Sign Off (Basic)	Winter Road (Basic)	Jan 4, 2020		1 year
0807: WHMIS	Winter Road (Basic)	Jan 4, 2020		1 year
0873: Bullying & Harassment Video Review	Winter Road (Basic)	Jan 4, 2020		0 months
0877: Orientation - Eureka	Eureka (Basic)	Sep 26, 2019		1 year
0877: Orientation - Eureka	Eureka (Basic)	Jul 3, 2020		1 year
0502: First Aid & A.E.D.	Eureka (Basic)	Sep 26, 2019		3 years
0502: First Aid & A.E.D.	Eureka (Basic)	Jul 3, 2020		3 years
0850: SOP Sign Off (Basic)	Eureka (Basic)	Sep 26, 2019		1 year
0850: SOP Sign Off (Basic)	Eureka (Basic)	Jul 3, 2020		1 year
0807: WHMIS	Eureka (Basic)	Sep 26, 2019		1 year
0807: WHMIS	Eureka (Basic)	Jul 3, 2020		1 year
0873: Bullying & Harassment Video Review	Eureka (Basic)	Sep 26, 2019		0 months
0873: Bullying & Harassment Video Review	Eureka (Basic)	Jul 3, 2020		0 months
0849: Orientation - Sabina	Sabina (Basic)	Sep 28, 2020		1 year
0850: SOP Sign Off (Basic)	Sabina (Basic)	Sep 28, 2020		1 year
0873: Bullying & Harassment Video Review	Sabina (Basic)	Sep 28, 2020		1 year
0807: WHMIS	Sabina (Basic)	Sep 28, 2020		1 year

Optional Topic (Library)	Role	Start Date	End Date	Valid For
0808: Bear/Wildlife Safety	FalCon (Basic)	Aug 1, 2018		1 year
0502: First Aid & A.E.D.	FalCon (Basic)	Aug 1, 2018		3 years

0858: Light Vehicle Site Driver's	FalCon (Basic)	Aug 1, 2018		1 year
0507: Spotter Awareness	FalCon (Basic)	Aug 1, 2018		1 year
0852: SOP Sign Off Mechanic/Servicemen	FalCon (Basic)	Aug 1, 2018		1 year
0808: Bear/Wildlife Safety	Winter Road (Basic)	Jan 4, 2020		1 year
0502: First Aid & A.E.D.	Winter Road (Basic)	Jan 4, 2020		3 years
0859: Fire Extinguisher Simulator Training	Winter Road (Basic)	Jan 4, 2020		1 year
0858: Light Vehicle Site Driver's	Winter Road (Basic)	Jan 4, 2020		1 year
0507: Spotter Awareness	Winter Road (Basic)	Jan 4, 2020		1 year
0852: SOP Sign Off Mechanic/Servicemen	Winter Road (Basic)	Jan 4, 2020		1 year
0808: Bear/Wildlife Safety	Eureka (Basic)	Sep 26, 2019		1 year
0808: Bear/Wildlife Safety	Eureka (Basic)	Jul 3, 2020		1 year
0859: Fire Extinguisher Simulator Training	Eureka (Basic)	Sep 26, 2019		1 year
0859: Fire Extinguisher Simulator Training	Eureka (Basic)	Jul 3, 2020		1 year

Training Log

Employee	Daniel MacFadyen
Employee ID	706228
Trainee's Employer	Company

Role	Start Date	End Date
Eureka (Basic)	Jul 5, 2020	Oct 26, 2020

Safety Training/Certificates

None

Equipment Training Achieved

Record of Training

None

Operator Evaluation History

None

Competency Review History

None

Site Training Requirements

Mandatory Topic(Library)	Role	Start Date	End Date	Valid For
0877: Orientation - Eureka	Eureka (Basic)	Jul 5, 2020		1 year
0502: First Aid & A.E.D.	Eureka (Basic)	Jul 5, 2020		3 years
0850: SOP Sign Off (Basic)	Eureka (Basic)	Jul 5, 2020		1 year
0807: WHMIS	Eureka (Basic)	Jul 5, 2020		1 year
0873: Bullying & Harassment Video Review	Eureka (Basic)	Jul 5, 2020		0 months

Optional Topic (Library)	Role	Start Date	End Date	Valid For
0808: Bear/Wildlife Safety	Eureka (Basic)	Jul 5, 2020		1 year
0859: Fire Extinguisher Simulator Training	Eureka (Basic)	Jul 5, 2020		1 year

Training Log

Employee	Dustin Greenland
Employee ID	706234
Trainee's Employer	Company

Role	Start Date	End Date
Eureka (Basic)	Jul 5, 2020	Jul 31, 2020

Safety Training/Certificates

None

Equipment Training Achieved

Record of Training

None

Operator Evaluation History

None

Competency Review History

None

Site Training Requirements

Mandatory Topic(Library)	Role	Start Date	End Date	Valid For
0877: Orientation - Eureka	Eureka (Basic)	Jul 5, 2020		1 year
0502: First Aid & A.E.D.	Eureka (Basic)	Jul 5, 2020		3 years
0850: SOP Sign Off (Basic)	Eureka (Basic)	Jul 5, 2020		1 year
0807: WHMIS	Eureka (Basic)	Jul 5, 2020		1 year
0873: Bullying & Harassment Video Review	Eureka (Basic)	Jul 5, 2020		0 months

Optional Topic (Library)	Role	Start Date	End Date	Valid For
0808: Bear/Wildlife Safety	Eureka (Basic)	Jul 5, 2020		1 year
0859: Fire Extinguisher Simulator Training	Eureka (Basic)	Jul 5, 2020		1 year

August 30 2020



EUREKA Bear Response

Date:

Supervisors:

Chaired by:

Crew Attendance Log / Sign-off

Name PRINT	Name SIGN
1. Adara Casselman	Adara Casselman
2. Sam. Ouyquid	Sam Ouyquid
3. John Goose	John Goose
4. Pierre Picard	P. Picard
5. Amanda Nadeau	Amanda Nadeau
6. John MacMurtrei	John MacMurtrei
7. Rob Ramsey	Rob Ramsey
8. Rena Pilon	Rena Pilon
9. Christine Desjardis	Christine Desjardis
10. Gail Handell	Gail Handell
11. DAN MACKADYEN	Dan Mackadyen
12. Sheldon Phillips	Sheldon Phillips
13. Mary Caley	Mary Caley
14. Sarah Farley	Sarah Farley
15. Don Hystad	Don Hystad
16. JOE NOLAN	Joe Nolan
17. Blake Olsen	Blake Olsen
18. Joe Barron	Joe Barron
19. Don Hystad	Don Hystad
20. Don Hystad	Don Hystad
21. Bruce Stevenson	B. Stevenson
22.	
23.	
24.	
25.	
26.	

Eureka:

Polar bear sighting

**NUNA STANDARD OPERATING PROCEDURE**

DEPARTMENT:	ENVIRONMENT, HEALTH & SAFETY		
SECTION - C	Environment		
PROCEDURE NAME:	Bear Notification and Response	PROCEDURE #:	EHS C.03
OWNER:	Corporate EHS Manager	EFFECTIVE DATE:	January 1, 2020
REVISION:	3	REPLACES:	October 6, 2017

1 INTRODUCTION

- 1.1 To clearly define the site alert levels and notifications when a predatory animal is in the vicinity of human activity, property, facilities, or processes if there is a risk of injury and/or incident to the personnel, the animal, property or process.
- 1.2 To ensure that appropriate responses are initiated to protect human life and maintain the animal's wellbeing.

2 SCOPE

- 2.1 This procedure applies to all personnel, workers, contractors and visitors on Nuna projects and designated work sites.
- 2.2 This document will identify the General Notification and Alert Levels. As well as the responses to those Notifications and Alert Levels (on-going monitoring, avoidance and/or deterrence measures).
- 2.3 Site personnel's responsibilities and responses, and best wildlife practices within those responses, all of which must adhere to Nuna's environmental and social responsibility standards and the relevant regulatory requirements.

3 ROLES and RESPONSIBILITIES**Personnel/Workers/Contractors/Visitors**

- 3.1 Understanding and adhering to this procedure.
- 3.2 Managing food, food wastes, and other attractants appropriately at work sites.
- 3.3 Not engaging in activities that constitute as animal harassment.
- 3.4 Quickly assessing the situation determining the Level of Alert or Emergency should wildlife be spotted in the vicinity of camp, process, and work sites.
- 3.5 Being prepared to leave their work area (if necessary).
- 3.6 Completing a Hazard Recognition Card and/or Wildlife Reporting Log Sheet or providing information to the Environmental, Health and Safety Coordinator.

Supervisor

- 3.7 Ensuring personnel, workers, contractors and visitors understand this procedure.
- 3.8 Being prepared to assist with monitoring, avoidance, and distancing measures if warranted until the appropriate personnel arrive.
- 3.9 Supervising the general safety of employees, including directing employees to remain inside.
- 3.10 Completing the Wildlife Reporting Log Sheet, Hazard Recognition Card and/or incident report.
- 3.11 Providing information to the Environment, Health and Safety Coordinator.

Appendix **C**

Water Licence Inspection Form

WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee		Licensee Representative	
Department of Environment Climate Change Canada		Jean Phillipe Cloutier	
Licence No. / Expiry		Representative's Title	
8BC-EUR1621		Property Management Division	
Land / Other Authorizations		Land / Other Authorizations	
Date of Inspection		Inspector	
July 11, 2019		Joseph Monteith & Jeremy Fraser	
Activities Inspected			
<input type="checkbox"/> Camp	<input type="checkbox"/> Drilling	<input type="checkbox"/> Mining	<input type="checkbox"/> Construction
<input checked="" type="checkbox"/> Roads/Hauling	<input type="checkbox"/> Other: Water Source, Waste Water Facility, Solid Waste facility, Airstrip	<input type="checkbox"/> Other:	<input type="checkbox"/> Reclamation
<input checked="" type="checkbox"/> Fuel Storage			

Conditions:	A- Acceptable	U-Unacceptable	C-Concern	NI-Not Inspected	NA- Not applicable
PART:				Condition	Observation No.*
A: SCOPE, DEFINITIONS AND ENFORCEMENT				A	
B: GENERAL CONDITIONS				NI	
C: CONDITIONS APPLYING TO SECURITY				NI	
D: CONDITIONS APPLYING TO WATER USE				A	1-3
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT				A	4-14
F: CONDITIONS APPLYING TO MODIFICATIONS				A	16 & 17
G: CONDITIONS APPLYING TO CONSTRUCTION				A	15
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING				A	18
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING				NA	
J: CONDITIONS APPLYING TO MONITORING				NI	
SCHEDULES				NI	
*The observation number corresponds with specific comments provided below.					
Samples taken by Inspector:			Location(s): Temporary Construction Camp: N79° 59’ 41”, W85° 48’ 48”		
<input type="checkbox"/> Yes <input type="checkbox"/> No					

SECTION 1	<input type="checkbox"/> Comments (s. __)	<input type="checkbox"/> Non-Compliance with Act or Licence (s. __)	<input type="checkbox"/> Action Required (s. __)
BACKGROUND			
<p>The Eureka High Arctic Weather Station (HAWS) was established in 1947. The Eureka HAWS is located on the northern shore of Slidre Fiord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, approximately 425 km northwest of the Hamlet of Grise Fiord.</p> <p>The Eureka HAWS is sited on crown land. The Station is operated by Environment and Climate Change Canada (ECCC) since April 7th 1947. The primary purpose of the Eureka station is to collect weather information in order to produce public weather forecasts. The station also serves as a staging location for other science based activities in the High Arctic and provides support to the Arctic aviation community. Facilities at Eureka include operations, shops, accommodations and other buildings, maintenance garage, warehouses, pump-house, power-house, fuel storage facility, electrical plumbing-carpentry facilities, water reservoir, incinerator, sewage lagoon, several landfills and a land farm.</p> <p>On August 11, 2016 the NWB issued 8BC-EUR1621 to Environment and Climate Change Canada to allow for the use of water and the deposit of waste during operations and maintenance, and runway surface repair at the ECCC Eureka High Arctic Weather Stations (HAWS), located on Ellesemere Island within the Qikiqtani region, Nunavut.</p> <p>On July 18, 2018 The Nunavut Water Board authorized an amendment with Terms and Conditions, allowing ECCC, to add activities in support of the HAWS Project:</p>			
Inspector Statement			
<p>On July 11, 2019 at 10:35am, a Water Licence Inspection was conducted by Water Resource Officer (WRO) Joseph Monteith and Jeremy Fraser at Eureka, Ellesmere Island, Qikiqtani Region, Nunavut, for water licence 8BC-EUR1621. The inspection was completed on July 11, 2019 at 1:50pm.</p>			



Water Supply Facilities

1.

Eureka obtains its water for domestic purposes from a bridge at Station Creek (photo 1). The water is pumped from Station Creek (photo 1) into the water reservoir (photo 2) using a submersible pump in a box with holes in order to reduce the transfer of silt, and potentially fish from the creek to the reservoir. The raw water is then pumped from a pump house at the water reservoir (photo 3) to holding tanks within the Eureka complex building, treated by filtration and Reverse Osmosis and chlorination prior to use for drinking and food preparation. It is estimated that the reservoir holds approximately 12,000 cubic metres of water.
2.

No Fish Mesh Screen observed on the hose. A box with lots of holes was observed to be hanging from the bridge, and the intake hose was within the box.
3.

No water flow metre observed. Please review Part B: Item 3 of the water licence, and section

Waste Water Facilities

4.

The sewage lagoon onsite is a single cell, engineered retention lagoon, and can hold waste water from 21 people at a rate of 290 Litres per person, per day for the duration of the year.(photos 5, 6, 7, & 8)
5.

The freeboard appeared to be less than 1 metre (photo 7).
6.

Signs of slumping and erosion observed on lagoon wall/road (photo 8). Please review Part C: Item 7, and section 3 of this inspection report.
7.

On Monday, August 19, 2019, John MacIver emailed WRO Monteith a copy of the 190560-1920 FINAL REPORT Eureka Sewage Lagoon summer 2019. Which contained the sewage lagoon decant analysis for summer 2019 from Taiga Environmental Laboratory. The samples were reviewed and approved by Glen Hudy, Quality Assurance Officer, with Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific test registered with CALA.
8.

The copy of 190560-1920 FINAL REPORT showed an exceedance in BOD, TSS, and PH which is contrary to Part D: Item 8, and Part D: Item 10. Please review Section 3 of this inspection report.

Solid Waste Facilities

9.

An old solid waste facility was observed on site capped, with bulk metal littering the base of the capped mound (photo14 & 15). Please review section 3 of this inspection report.
10.

Open Burning in an old cut out metal storage tank was observed and will be considered as a open burn bin. Signs of prohibited materials such as plastics in the open burn bin(photo 16).
11.

A crushed Barrel landfill was observed (photo 9).
12.

A solid waste facility for capping solid waste was observed with a sign (photo 17).

Incinerator (photo 9,10, 11, & 12)

13.

3 incinerators on site. A thorough examination must be performed in order to distinguish proper ownership of the incinerators, as DND ERK1621 is also present at the site, and may have incinerators present for their own activities.
14.

Inside seacan incinerator. Prohibited plastic bags being lined up for incineration (photo 13)

Construction Camp

15.

The construction Camp was observed. A series of trailer buildings attached together formed the construction camp (photo 19).

Roads and Culverts

16.

Amendment No. 1 for this water licence was to increase the width of the road to 6 metres (photo 20, 21 &22).
17.

A previous spill report was submitted in regards to roads being washed out and sedimentation due to clogged culverts. Those have been fixed by using sandbags, and installing new culverts (photo 20, 21, 22, & 23).

Spill Report 2019-238 (photo 16)

18.

A spill was observed on July 11, 2019. This was caused by overfill by CIRNAC Charter airplane operated by Kenn Borek Air. Due to site operating with a water licence. Eureka ECCC was obligated to report the spill. The responsible party was Kenn Borek Air. Eureka ECCC had scrapped the contaminated soil, and deposited it within the bermed area for contaminated soil to be me remediated. The spill was below the reportable threshold for the NT/NU Spills working agreement. The impacted soil was deposited into the soil remediation land farm at Eureka. The spill report 2019-238 will be closed as the inspector is satisfied with the cleanup of the minor spill.

SECTION 2	<input type="checkbox"/> Comments	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
Part B: Item 3			
The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part J, Item 2.			
Part C: Item 4			
freeboard of 1.0 metre, or as recommended by a qualified geotechnical Engineer and as approved by the Board, shall be maintained at all dykes and earth-fill structures associated with the Water Supply Facilities.			
Part C: Item 7			



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

Part D:Item 3

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.

Part D: Item 8

Effluent discharged from the Sewage Treatment Facility at monitoring station EUR-3 shall not exceed the following Effluent quality limits:

Parameter Maximum Concentration
of any Grab Sample

Biochemical Oxygen Demand BOD5 100 mg/L

Total Suspended Solids 120 mg/L

Fecal Coliforms 1 x 106 CFU/100 mL


pH between 6.0 and 9.0

Oil and grease No visible sheen

SECTION 3	<input type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input checked="" type="checkbox"/> Action Required
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Do the following items below to bring yourself back into compliance:


- Maintain the 1 metre freeboard at the sewage lagoon
- Fix the walls of the sewage lagoon, as slumping and erosion was observed.
- Report all spills to the spills line regardless of size and quantity.
- Do not burn the prohibited materials outlined in your authorization to open burn under Part D: Item 3.
- Seek consultation as to how you can bring the effluent criteria to the required criteria listed in Part D: item 8 of your water licence.
- Articulate how you calculate water usage.
- Install a flow metre to help determine the amount of water being withdrawn.

Licensee or Representative	Inspector's Name
	Joseph Monteith
Signature	Signature
	
Date	Date
	January 23, 2020

CC: Licensing Department, NWB
Justin Hack, Manager of Field Operations, CIRNA

PHOTO LOG

Date	Camera	Inspector
July 11, 2019	Nikon Cool Pix	Joseph Monteith
Photo Log #	Location	
Photo 1	Eureka, Ellesmere Island	



Description: Bridge at Creek stream. Water is withdrawn within the basket to reduce the intake of soil. The bucket acts as a fish mesh screen. No fish mesh screen on the intake hose.

Photo Log #	Location
Photo 2	Eureka
	
Description: Water reservoir estimated capacity is 12,000 metres cubed.	



Photo Log #

Location

Photo 3

Eureka



Description: Water reservoir pump house

Photo Log #

Location

Photo 4

Eureka



Description: Water reservoir pump house. From reservoir to buildings. Water pump



Photo Log #	Location
Photo 5	Eureka
	
Description: liquid waste, and solid was exit the accommodations, and office building into the sump tank building.	

Photo Log #	Location
Photo 6	Eureka
	
Description: Sump tank, before being discharged to the sewage lagoon.	

Photo Log #	Location
Photo 7	Eureka



Description: sewage lagoon fills up by pipe, and trucks. Foreground tire tracks backs up to lagoon and discharges into the lagoon.

Photo Log #	Location
Photo 8	Eureka



Description: Erosion and Slumping on the walls of the sewage Lagoon/road.



Photo Log	Location
Photo 9	Eureka
	
Description: Crushed Barrel Landfill.	

Photo Log	Location
Photo 10	Eureka
	
Description: Incinerator site clean up operations – with 2 x Spill Kits. One spill kit contains product. The liquid remenants of old drums being drained ahead of compaction into spill kit drum.	



Photo Log #	Location
Photo 11	Eureka
	
Description: 2 nd Incinerator on site. For clean up operations	

Photo Log #	Location
Photo 12	Eureka
	
Description: 3 rd Incinerator. Site incinerator for on-site camp operations	



Photo Log #	Location
Photo 13	Eureka
 <p>2019 07 11</p>	
Description: inside the sea can incinerator. The plastic bags are a prohibited material to be incinerated.	

Photo Log #	Location
Photo 14	Eureka
	
Description: Solid waste facility capped. Some solid waste such as bulk metal still visible and exposed to the outside elements.	



Photo Log #	Location
Photo 15	Eureka
Description: old solid waste facility – capped – some of the solid waste such as bulk metal hasn’t been properly capped. OR deposited after the capping.	

Photo Log #	Location
Photo 16	Eureka
Description: Signs of Open Burning – Food waste. Signs of deposit of non-combustible material within open burning tank.	



Photo Log #	Location
Photo 17	Eureka
	
Description: landfill, burn and cap. Solid waste is pushed off the left hand side of the sign, and capped with gravel.	

Photo Log #	Location
Photo 18	Eureka
	
Description: Signs of Open Burning – Food waste. Signs of deposit of non-combustible material within open burning tank. Spill less than 100 Litres.	



Photo Log #	Location
Photo 19	Eureka
	
Description: Construction Camp as per amendment 1 issued Aug. 1, 2016.	

Photo Log #	Location
Photo 20	Eureka
	
Description: New culverts installed in area where a road washed out.	



Photo Log #	Location
Photo 21	Eureka
	
Description: Amendment to widen the road as per Amendment No. 1 issued	

Photo Log #	Location
Photo 22	Eureka
	
Description: Repair to washed out road due to clogged culverts	



Photo Log #

Photo 23

Location

Eureka



Description: Repaired washed out road with sand bags.

