

## **NIRB Uuktuutinga Ihivriuhikhamut #125295**

### **Amended Land Use Permit application for Eureka Weather Station**

<b>Uuktuutinga Qanurittuq:</b>	New
<b>Havaap Qanurittunia:</b>	Scientific Research
<b>Uuktuutinga Ublua:</b>	3/19/2018 2:55:21 PM
<b>Period of operation:</b>	from 0001-01-01 to 0001-01-01
<b>Piumayaat Angirutinga:</b>	from 0001-01-01 to 0001-01-01
<b>Havauhikhaq Ikayuqtinga:</b>	Jean-Philippe Cloutier-Dussault Environment and Climate Change Canada 160 Chemin Tour-de-l'Isle Montreal Quebec H3C4G8 Canada Hivayautit Nampanga.: 514-283-4045, Kayumiktukkut Nampanga.:

## **QANURITTUT**

### **Tukihinnaqtunik havaariyayumayumik uqauhiuyun**

**Qablunaatitut:** WHO The Eureka High Arctic Weather Station (HAWS) is located on the north side of Slidre Fiord, at the north-western tip of Fosheim Peninsula, Ellesmere Island. Eureka station coordinates are 79.59.41N and 85.48.48W. The Eureka HAWS site occupies a federal land reserve No. 1021 and encompasses an area of 1125 ha. The station has been operated by Environment Climate Change Canada since April 7th 1947. The primary purpose of the Eureka station is to collect weather information in order to produce public weather forecasts. In addition, the Eureka station provides support to the Arctic aviation community. Eureka also serves as a staging location for other science based activities in the High Arctic, various exploration projects, and some tourism. Environment Climate Change Canada provides the entire necessary infrastructure to support its activities at Eureka. This includes accommodations, fuel supplies, electrical power, transportation, aircraft landing strip, cooking operations, and water and sewage services. WHAT The existing aircraft runway at the Eureka HAWS requires upgrades and recapping with aggregate. In order to do this, a new quarry site is proposed to be developed approximately 15 kilometers from the airstrip. This quarry site will supply the aggregate needed to complete the airstrip upgrades. A new 9 kilometer access road connecting the airstrip to the quarry site is also proposed to be constructed. Crushed aggregate from the quarry will be used to build the road. As the road will need to cross Blacktop Creek, a water crossing is also planned to be constructed at this location. A temporary, 24 person camp will be set up near the quarry site. This camp will be decommissioned once the access road is constructed. One the road is constructed, workers will stay at existing accommodations near the HAWS. WHY The runway upgrade and recapping is necessary to ensure the ongoing functionality of the current airstrip. The development of the quarry site, access road and water crossing are all required in order to proceed with the runway upgrade project. WHERE All activities are proposed to occur within the vicinity of the Eureka HAWS. Runway upgrades will occur at the existing runway. The quarry site is proposed to be developed 15 kilometers east of the Eureka HAWS, towards West Remus Creek. The water crossing will be constructed at Blacktop Creek. WHEN The access road, temporary camp and water crossing are planned to be constructed in the summer of 2018. The camp will be decommissioned at the end of the summer. Upgrades to the airstrip will begin in summer 2019 and continue into summer 2020. Work will only occur during the summer months.

**Uiviititut:** QUI La station météorologique de l'Extrême-Arctique Eureka est située du côté nord du fjord Slidre, à l'extrémité nord-ouest de la péninsule Fosheim sur l'île d'Ellesmere. Les coordonnées géographiques de la station Eureka sont les suivantes : 79.59.41N et 85.48.48O. Le site de la station Eureka se trouve sur la réserve terrestre no 1021 du gouvernement fédéral et couvre une superficie de 1 125 ha. La station est dirigée par Environnement et Changement climatique Canada (ECCC) depuis le 7 avril 1947. L'objectif principal de la station Eureka est de recueillir des renseignements météorologiques en vue de produire des prévisions météorologiques à l'intention du public. De plus, la station Eureka soutient la collectivité de l'aviation dans l'Arctique, en plus de servir à titre de rassemblement pour d'autres activités scientifiques dans l'Extrême-Arctique, pour divers projets d'exploration et pour des activités de tourisme. ECCC fournit l'ensemble de l'infrastructure nécessaire afin d'appuyer ses activités à la station Eureka, notamment l'hébergement, le ravitaillement en carburant, l'électricité, le transport, la piste d'atterrissage pour aéronefs, la cuisson des repas ainsi que les services d'eau et d'égouts. QUOI La piste existante pour aéronefs à la station Eureka doit être réaménagée et refaite avec des granulats. Pour ce faire, on propose d'utiliser une nouvelle carrière située à environ 15 kilomètres de la piste d'atterrissage. Cette carrière permettra d'obtenir les granulats nécessaires pour mener à bien les améliorations de la piste. On propose aussi de réaménager un chemin existant de 9 kilomètres pour en faire une route accessible dans n'importe quelle condition météorologique, et faire le lien entre la piste et la carrière. Des granulats concassés provenant de la carrière seront utilisés pour construire la route. Comme ce dernier devra traverser le ruisseau Blacktop, on prévoit construire une traverse à cet emplacement. Un campement pouvant accueillir 24 personnes sera mis en place à proximité de la carrière. Celui-ci sera démonté une fois que la route aura été construite. Les ouvriers pourront alors rester dans les installations d'hébergement existantes près de la station. POURQUOI Le réaménagement de la piste et les travaux connexes sont requis afin d'assurer la fonctionnalité continue de la piste actuelle. La mise sur pied d'une carrière, d'une route d'accès et d'une traverse est requise afin de pouvoir aller de



## Hulilukaarutit

### Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannuqtut akhuurninnga	Qanitqiyayuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
Proposed Road	Access Road	Inuit Owned Surface Lands	Please refer to the Stantec Archeological Impact Assessment available on request.	Please refer to the Stantec Archeological Impact Assessment available on request.	None
Proposed Quarry Site	Quarry/Borrow pit	Inuit Owned Surface Lands	Please refer to the Stantec Archeological Impact Assessment available on request.	Please refer to the Stantec Archeological Impact Assessment available on request.	None

### Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Information is not available			

## Angiuttauvaktunik

### Naunaiqlugu nunanga talvani havauhikhaq ittuq

#### Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyayuq/Uuktuqtuq	Umikvikhaa Ublua
Nunavut Imaligiyyit Katimayit	Water licence #8BC-EUR1621	Active	2016-08-11	2021-08-10
Nunaqaqqaahimayuliriyikkut Ukiuqtaqtumi Pivallianiqa Kaanata	Current Land Use Permit #N2017N0017	Active	2017-07-04	2022-07-03
Iqalukhiurniqmut Tariuqmilu Kaanata	Email from Fisheries and Oceans Canada approving the project. See attachments.	Active	2018-02-20	

### Project transportation types

Transportation Type	Qaffiuyut	Qanuq Atuqtauniarmangaa	Length of Use
Air	0	Eureka Airstrip	

### Project accomodation types

Temporary Camp

## Ihuaqutivaluin Atuqtauyukhan

### Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutinik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
See attached Annex B equipment list	1	1	Regular operations of Eureka Weather Station. Equipment may vary for the purpose of building the new road as well as quarry activities.
Excavation Equipment	32	Various	Excavation and Quarrying

### Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Diesel	fuel	9	60000	540000	Liters	Facilities Use
Diesel	fuel	1	800000	800000	Liters	Facilities Use
Gasoline	fuel	23	200	4600	Liters	Fuel for equipment
Aviation fuel	fuel	8	200	1600	Liters	Fuel for aircrafts
Gasoline	fuel	180	5000	900000	Liters	Fuel for excavation machinery at Remus Creek

### Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
4	Pumping from Station Creek	Station Creek

### Iqqakuq

#### Ikkakunik Munakgiyayunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyaayuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Scientific/International Polar Year Research	Ikulalaaqtun iqqakuuvaluin	40000 L	Incineration	Ashes deposited in landfill and capped
Camp	Ikulalaaqtun iqqakuuvaluin	5000 lbs	Incinerated on site	None
Camp	Ikulalaaqtun iqqakuuvaluin	35 000 gallons	contained in holding tanks and released to the environment pending receipt of acceptable weekly lab test results. Kitchen will be provided with grease traps	none
Scientific/International Polar Year Research	Qimarivyaktuq imaq	9000 m3 / year	Decant into Slidre Fjord	Sewage lagoon sedimentation
Scientific/International Polar Year Research	Hivuuranaqtun iqqakuuvaluin	varying	shipped off-site	Temporary site storage
Scientific/International Polar Year Research	Ikulalimanngittun iqqakuuvaluin	Varying	Buried and capped at landfill	Crushed and buried
Camp	Anaagun (inuin anaaguin)	4500 lbs	Pacto toilets will be provided to handle black water waste which will be incinerated on site	Residual ash waste from incinerator 400 lbs

**Avatiliriniqmut Ayurhauingit:**

All of the construction activities are of limited scope and duration and will cause temporary effects, with no residual effects and therefore no cumulative effects. Operations effects will be similar to current operations at the main HAWS site in Eureka, as they do not greatly deviate from the site activities and daily operations which are currently ongoing (including site maintenance and facility use). As an active and operating site, the HAWS has to be compliant with a number of Federal and Territorial regulations. Adherence to regulations including conditions annexed to and forming part of Land Use Permit N2017N0017 (INAC, 2017) and the Fisheries and Oceans Canada (DFO) measures to avoid causing harm to fish and fish habitat including aquatic species at risk (DFO, 2018), implementation of existing mitigation obligations, in addition to those proposed within this addendum, will ensure that all of the Improvement Projects and associated activities do not cause significant adverse effects on the environment. ECCC hired a third party consultant to complete an environmental impact assessment report for this proposed project. The report concluded that with mitigation measures, there were no significant adverse effects. This assessment has been attached.

**Additional Information**

**SECTION A1: Project Info**

**SECTION A2: Allweather Road**

**SECTION A3: Winter Road**

**SECTION B1: Project Info**

**SECTION B2: Exploration Activity**

**SECTION B3: Geosciences**

**SECTION B4: Drilling**

**SECTION B5: Stripping**

**SECTION B6: Underground Activity**

**SECTION B7: Waste Rock**

**SECTION B8: Stockpiles**

**SECTION B9: Mine Development**

**SECTION B10: Geology**

**SECTION B11: Mine**

**SECTION B12: Mill**

**SECTION C1: Pits**

**SECTION D1: Facility**

**SECTION D2: Facility Construction**

**SECTION D3: Facility Operation**

**SECTION D4: Vessel Use**

**SECTION E1: Offshore Survey**

**SECTION E2: Nearshore Survey**

**SECTION E3: Vessel Use**

**SECTION F1: Site Cleanup**

## **SECTION G1: Well Authorization**

## **SECTION G2: Onland Exploration**

## **SECTION G3: Offshore Exploration**

## **SECTION G4: Rig**

## **SECTION H1: Vessel Use**

## **SECTION H2: Disposal At Sea**

## **SECTION I1: Municipal Development**

### **Qanurittuq Ittunik Avatinga: Avatingalluanga**

Please refer to the attached Arcadis Environmental Impact Assessment for a complete description of environment. Eureka is located on Ellesmere Island, Nunavut, which is the northernmost island in the Canadian Arctic Archipelago. The Arctic Ocean surrounds the Archipelago to the north and west, with Greenland to the east and the Canadian mainland to the south. Eureka itself is on the western side of Fosheim Peninsula in northern Ellesmere Island. Eureka is located on the north side of Slidre Fjord and surrounded to the northeast and northwest by ridges that rise about 600 m above mean sea level. The Eureka HAWS is located in the Eureka Hills Ecoregion of the Northern Arctic Ecozone on Ellesmere Island. The mean summer temperature of this ecoregion is 0.5°C and the mean winter temperature is -30.5°C, with mean annual precipitation ranging from 50 to 150 mm (<http://ecozones.ca/english/region/9.html>). The Eureka Hills ecoregion is classified as having a high arctic ecoclimate. It has a sparse vegetative cover consisting of moss and mixed low-growing herbs and shrubs including purple saxifrage, arctic willow, kobresia, sedge, and arctic poppy (<http://ecozones.ca/english/region/9.html>). Topography is rolling and ridged with extensive areas of low, dissected plateaus and gently rolling uplands cut by trench-like depressions forming drainage systems that extend to the coast (<http://ecozones.ca/english/region/9.html>). Permafrost is discontinuous, with medium ice content.

### **Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga**

Please refer to the attached Arcadis Environmental Impact Assessment for a complete description of environment. The dominant soils are Regosolic Static Cryosols and Orthic Turbic Cryosols, which have developed on colluvial, alluvial, and marine deposits (<http://ecozones.ca/english/region/9.html>). Wildlife in this ecoregion includes muskox, arctic hare, arctic wolf, caribou, seal, polar bear, ptarmigan, and seabirds. At Black Top Creek and West Remus Creeks, as well as along the roadway where the proposed road construction is to take place, there is sparse vegetative cover consisting of moss and mixed low-growing herbs and shrubs including purple saxifrage, arctic willow, kobresia, sedge, and arctic poppy. Note that Blacktop and West Remus Creeks are minimal streams which consist of summer snow melt/run off (freshet) (PSPC, 2018).

### **Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga**

Please refer to the attached Arcadis Environmental Impact Assessment for a complete description of environment. While Eureka has no permanent residents, a number of research and operational staff rotate through the HAWS facility. The closest Inuit community is the hamlet of Grise Fjord, located 400 km south of Eureka at the southern end of Ellesmere Island.

### **Naunaiyainiq ukuninnga Ayurhauingit unalu Piumayaat Ikiykiuumiutinahuarutit**

Please refer to the attached Arcadis Environmental Impact Assessment for a complete list of potential environmental effects and proposed mitigation measures.

### **Tamatkiuumayunik Ihuikgutivaktunik**

Please refer to the attached Arcadis Environmental Impact Assessment for a complete cumulative effects assessment. In summary, no cumulative environmental effects are anticipated from the HAWS Improvements Project.

