



## **NIRB Uuktuutinga Ihivriughikhamut #125979**

### **Grise Fiord and Resolute Bay Field Program**

**Uuktuutinga Qanurittuq:** New

**Havaap Qanurittunia:** Scientific Research

**Uuktuutinga Ublua:** 6/17/2024 11:45:42 AM

**Period of operation:** from 2024-06-26 to 2026-12-31

**Havauhikhaq** Justin

**Ikayuqtinga:** Government of Nunavut

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Iqaluit Nunavut (NU) X0A 0H0

Canada

Hivayautit Nampanga:: 867-975-5441, Kayumiktukkut Nampanga::

## Tukihiannaqtunik havaariyaumayumik uqauhiuyun

Qablunaatitut: Worley Canada Services Ltd., operating as Worley Consulting, has been retained by the Government of Nunavut – Community & Government Services (GN-CGS) to support the detailed design of Community Harbour facilities in Grise Fiord and Resolute Bay in Nunavut. To inform the detailed design phase, several field programs will be undertaken over the next few years, initiating in the 2024 open-water season. This Project Description (PD) is specific to the field programs. The intention of the field programs, will be as below:

- Conduct environmental, geoscience, geophysics, and archaeological baseline studies in each location.
- Perform a geotechnical study to confirm seabed and quarry rock conditions.
- Topographic and bathymetric surveys.
- Existing conditions or effects studies prior to construction of the Community Harbours.

Surveys will be conducted in two Study Areas: the Community Harbour and the Haul Road and Quarry. Maps depicting the Study Areas for each community are provided in Appendix A, Figure A-1 and Figure A-2 in the attached Application Letter. Field programs will largely be undertaken in open-water seasons, with the exception of the Geotechnical Drilling Program which may occur during the iced ocean condition. The initial 2024 existing conditions field program will be undertaken between July and September. Consultations on the Community Harbour facilities have been ongoing since the feasibility phase and have included six separate community visits from 2018 to 2022 to conduct meetings with the Hamlet, design workshops with the Hunters and Trappers Associations/Organizations (HTAs/HTOs), Inuit knowledge (Inuit Qaujimajatuqangit [IQ]) workshops with elders and active hunters, and community open houses. Meaningful consultation will be continued throughout the 'life cycle' of the Projects, including during the design and construction phases so that issues of concern can be identified and responded to in a timely manner and design and construction planning can be adjusted where possible to avoid and mitigate any adverse social or environmental effects. The next round of consultations is being planned for July 2024, before any field programs, and will focus on providing the communities with a Project update and general overview, confirming preferred options for the Community Harbour layouts, Quarries, and Haul Roads and discussing the field program activities including coordinating with the community for local support of workers and equipment for the field programs.

Uiviititut: NA

[illegible]

Inuinnaqtun: NA

Personnel on site: 7

Days on site: 22

Total Person days: 154

Operations Phase: from 2024-06-26 to 2026-12-31

## Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannguqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
General location for Grise Fiord, located on the southern shore of Ellesmere Island in Jones Sound.	Scientific/International Polar Year Research	Municipal	Project area is an established longstanding community.	Archaeological field study is a component of the field program.	Community harbour located along 1.4 km of shoreline directly fronting the Grise Fiord community. Haul road: 14 km north of community. Quarry: 3 quarries of varying size.
General location for Resolute Bay, located on the south shore of Conwallis Island in Parry Channel.	Scientific/International Polar Year Research	Municipal	Project area is an established longstanding community.	Archaeological field study is a component of the field program.	Community harbour (CH) 1: 500 m along shoreline SW of the Resolute Bay community. CH 2: 1 km along shoreline fronting the community. Haul road: 3.3 km SE of CH 1 & 1.3 km SE of CH 2. Quarry 1: 7 km NW of CH study area. Quarry 2: 3.3 km SE of CH study area. Quarry 3: 1.7 km SE of CH study area

## Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Ausuittuq	Amon Akeeagok	Iviq Hunters and Trappers' Organization	2024-05-27
Ausuittuq	Meeka Kigukta, Mayor	Hamlet of Grise Fiord	2024-05-27
Qausuittuq	Aziz, Mayor	Hamlet of Resolute Bay	2024-06-18
Qausuittuq	Nancy	Resolute Bay Hunters and Trappers' Organization	2024-06-18

# Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Nunavunmi Ihivriunqimut Timiqutigiyanga	Research Permit	Not Yet Applied		
Indigenous and Northern Affairs Canada	Land Use Permit	Not Yet Applied		
Nunavut Kavamanga, Nunalingni Kavamatkunnilu Pivikhaqautikkut	Land Use Permit- to be confirmed if required.	Not Yet Applied		
Iqalukhiurniqmut Tariuqmilu Kaanata	License to Fish for Scientific Purposes	Not Yet Applied		
Nunavut Kavamanga, Avatiliriyikkut	Wildlife Research Permit	Not Yet Applied		
Nunavut Kavamanga, Avatiliriyikkut	Vegetation (wildlife) export permit. (Local conservation officer)	Not Yet Applied		
Government of Nunavut, Department of Culture, Language, Elders, and Youth	Class 2 Permit	Not Yet Applied		
Nunavut Imaligiyyit Katimayit	Type B water license - to be confirmed if required	Not Yet Applied		

## Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Air	field crews will travel to the project area by plane from Vancouver	
Land	field crews will travel by foot or local truck within the communities	

## Project accomodation types

Nunauyuq

# Ihuaqutivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutunik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Equipment	1	1	A variety of equipment will be required to undertake the planned Field Program. Please refer to Table 3-1 of the provided Application Letter which summarizes the equipment required for each of the Field Program components. Equipment may include small manual hand tools, iPads, transect line and quadrats, survey equipment such as remotely operated vehicles (ROVs) and unmanned aerial vehicles (UAVs), multi-beam survey equipment, and a track/skit mounted rotary drill rig.
Transportation Equipment	1	1	A variety of transportation equipment may be required, such as ATVs, vehicles, and boats. Transportation equipment required is provided in Table 3-1 of the provided Application Letter.

## Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Sample Preservative	hazardous	1	1	1	Liters	Preservatives such as formalin, ethanol, and hydrochloric acid are required to preserve water and sediment quality samples for the marine-based Field Program components. Less than 1 millilitre of preservative will be required per sample bottle.

## Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
0		

# Iqqakuq

## Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Scientific/International Polar Year Research	Ikulalimanngittun iqqakuuvaluin	limited amount (no bulk waste)	a 'pack in, pack out' policy	none required
Scientific/International Polar Year Research	Anaagun (inuin anaaguin)	limited/ regular amount	use existing facilities.	none required

### Avatiliriniqmut Ayurhautingit:

Environmental impacts associated with the field programs are expected to be minimal. Potential impacts to terrestrial and marine habitat and wildlife may occur, however, all personnel will be accompanied by a local field assistant to confirm minimal disturbances. Minor disruptions to traditional land use may occur in the proposed study area, however, arrival of the research team will be advertised on local social media prior to arrival. There may be temporary sediment suspension in marine habitats due to grab sampling but the footprint of this activity is small and sediment disturbance will be minimal. Disturbance to heritage resources is possible, but unlikely. Measure to mitigate impacts are described in the Class 2 archaeological permit which was submitted to the C&H department. There will be an increase in anthropogenic presence in the Study Area but the research team is relatively small and are conducting non-invasive short term studies. Please see attached application letter Table 10-1.

# **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**

N/A

**SECTION D2: Facility Construction**

N/A

**SECTION D3: Facility Operation**

N/A

**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**

There will be a small vessel used for fish habitat, water quality, sediment quality, drogue, and bathymetric surveys.

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

N/A

## **SECTION I1: Municipal Development**

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

Baseline studies of the physical environment were conducted in 2019 and will be conducted as a component of this field program. This will include surveys of the marine (subtidal and intertidal) and terrestrial habitats within the Study Areas.

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

Baseline studies of the biological environment were conducted in 2019 and will be conducted as a component of the field program.

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

Consultation programs have been ongoing since the feasibility stage of the project. Consultation program will be undertaken in each community prior to arrival of the field team to confirm local support and gather traditional knowledge to support the baseline assessments.

## **Miscellaneous Project Information**

N/A

## **Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit**

Potential impacts to terrestrial and marine habitat and wildlife may occur, however, all personnel will be accompanied by a local field assistant to confirm minimal disturbances. Minor disruptions to traditional land use may occur in the proposed study area, however, arrival of the research team will be advertised on local social media prior to arrival. There may be temporary sediment suspension in marine habitats due to grab sampling but the footprint of this activity is small and sediment disturbance will be minimal. Disturbance to heritage resources is possible, but unlikely. Measures to mitigate impacts are described in the Class 2 archaeological permit which was submitted to the C&H department. There will be an increase in anthropogenic presence in the Study Area but the research team is relatively small and are conducting non-invasive short term studies. See Table 10-1 in application letter.

## **Tamatkiumayunik Ihuikgutivaktunik**

Limited cumulative effects are anticipated, as most project components have mitigation measures in place that will limit impacts.

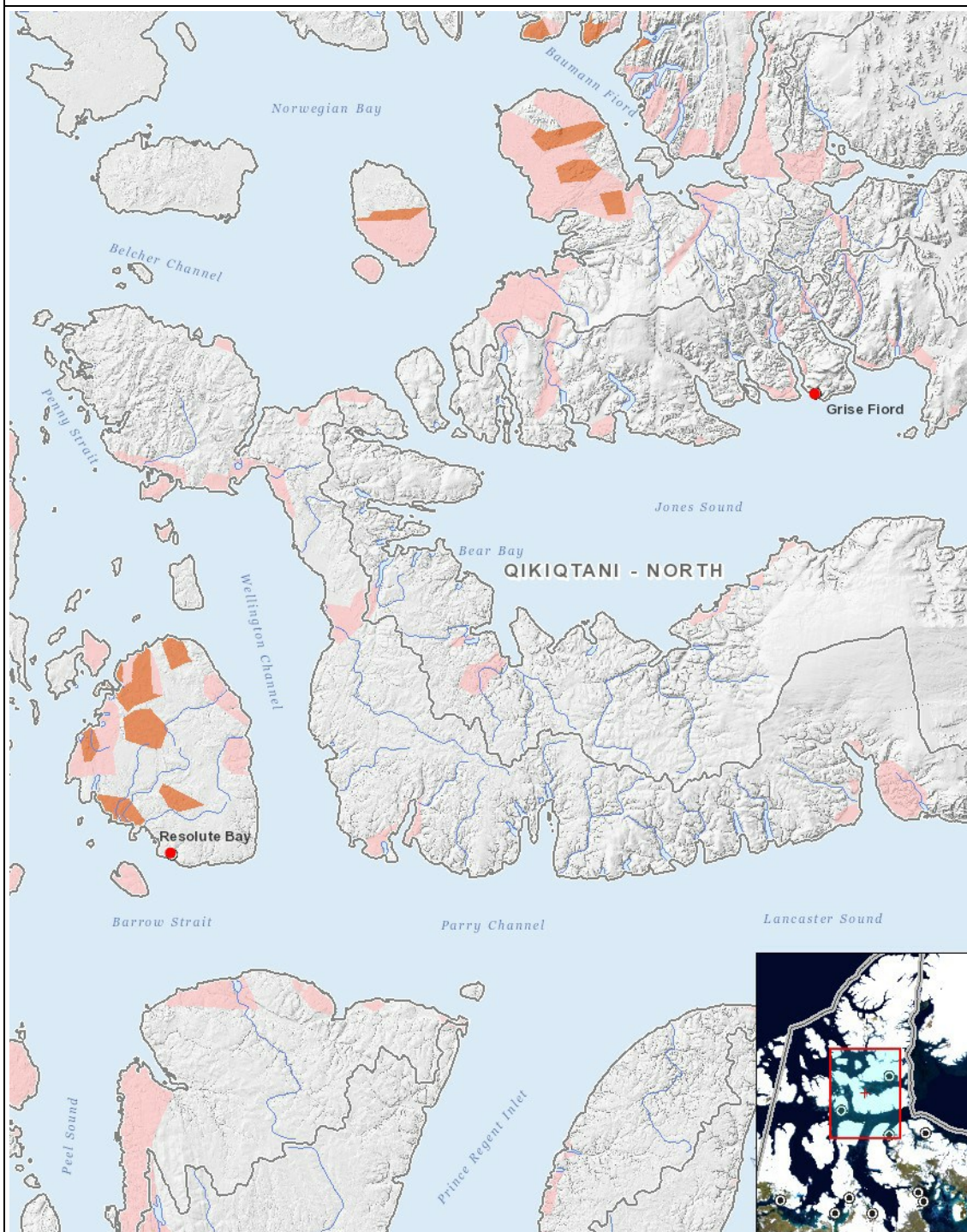
## Impacts

### Ilitariyauniq Avatiliriniqmut Ayurhautingit

	PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO - ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Havakvinga																									
-			-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-
Aulapkaininnga																									
Scientific/International Polar Year Research		-	-	-	-	-	M	-	-	-	-	-	-	M		M	M	-	M	-		M	P	-	P
Piiqtauniq																									
-			-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-

(P = Nakuuyuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyauyuq)

# Havaariyauyukhamut Nayugaa



## List of Project Geometries

- 1 point General location for Grise Fiord, located on the southern shore of Ellesmere Island in Jones Sound.
- 2 point General location for Resolute Bay, located on the south shore of Conwallis Island in Parry Channel.