



## **NIRB Application for Screening #125837**

### **Keewaytinook Okimakanak Bathymetric Marine Fiber Optic Cable Survey**

<b>Application Type:</b>	New
<b>Project Type:</b>	Marine Based Activities
<b>Application Date:</b>	7/5/2023 7:25:19 PM
<b>Period of operation:</b>	from 0001-01-01 to 0001-01-01
<b>Proposed Authorization:</b>	from 0001-01-01 to 0001-01-01
<b>Project Proponent:</b>	Franz Seibel Keewaytinook Okimakanak 730 S Syndicate Ave Thunder Bay ON P8T1B9 Canada Phone Number:: 807.632.2035, Fax Number:: 807.577.2665

## DETAILS

### Non-technical project proposal description

English: Keewaywinook Okimakanan has contracted Seaforth Geological Surveys and the Arctic Research Foundation's vessel the William Kennedy to complete a bathymetric (sonar) survey during September and October 2023 between Kuujuaaraapik, Peawanuck and Fort Severn. The survey, vessel with a crew of 14, will be completing the survey in 45 days. The purpose of this marine survey phase is to determine a route for a marine fibre optic cable between Kuujuaaraapik and the two Ontario Cree Nations. If the marine survey route phase and all other future construction permitting is approved, the fibre optic cable could be installed in the summer of 2026. The remote Cree Nations of Peawanuck and Fort Severn require long-term fibre optic broadband (internet) connection for access to critical health, education, and administrative services, and community-led environmental monitoring.

French: Keewaytinook Okimakanak a confié à Seaforth Geological Surveys et le navire William Kennedy de l'Arctic Research Foundation le mandat d'effectuer un levé bathymétrique (sonar) en septembre et octobre 2023 entre Kuujuaupik, Peawanuck et Fort Severn. Le bateau d'exploitation et son équipage de 14 personnes devraient terminer le levé en 45 jours. L'objectif de cette étape du levé marin est de déterminer le tracé potentiel d'un câble marin à fibre optique entre Kuujuaupik et les deux nations crie de l'Ontario. Si l'étape du levé de la voie maritime et toutes les autres autorisations de construction sont approuvées, le câble à fibres optiques pourrait être installé à l'été 2026. Les nations crie isolées de Peawanuck et de Fort Severn ont besoin d'une connexion à large bande (internet) à long terme par fibre optique pour accéder à des services essentiels comme la santé, l'éducation et des services administratifs, mais aussi pour la surveillance de l'environnement menée par la communauté.

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## Personnel

Personnel on site: 14

Days on site: 45

Total Person days: 630

Operations Phase: from 2023-09-01 to 2023-10-31

## Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Kuujjuaraapik Existing Shore Landing	Marine Based Activities	Marine	The Inuit and Cree have hunted and fished along the Hudson Bay coast long before the arrival of Europeans in 1820 when a Hudson's Bay Company (HBC) built a trading post known as Great Whale. The Eastern Arctic Undersea Fibre Optic Network (EAUFON) was built including a shore landing and beach manhole adjacent the airport.	Artifacts are likely from the fur trade, and pre-contact along rivers and travel routes.	Kuujjuaraapik and Whapmagoostui - 0km, interconnection, crossing Joint Cree / Inuit Marine Region
Fort Severn Cree Nation Proposed Shore Landing	Marine Based Activities	Marine	The people of Wasaho Cree Nation have lived and traveled the area since time immemorial. Severn House / Fort Severn was established as an outpost during the fur trade. The trading post no longer exists. The Cree Nation cares for and uses the land extensively with an existing ATV trail leading to the shore landing location selected by the Cree Nation.	Fort Severn has partnered with archaeologists to lead research into the fur trade and early contact history. Artifacts have been discovered along rivers. There are three schooners and a steam ship beached along the coast. The First Nation has indicated that no known archeological sites are within the already disturbed proposed route corridor. Fort Severn members have published a number of research papers and articles sharing their stories of the people. <a href="http://firstmile.ca/#home">http://firstmile.ca/#home</a>	Fort Severn Cree Nation, Ontario - 15km - proposed fibre connection. Proposed National Marine Conservation Area in western James Bay and southwestern Hudson Bay crossing (under development led by the First Nations and Mushkegowuk Council).
Peawanuck Cree Nation Proposed Shore Landing	Marine Based Activities	Marine	The people of Weenusk Cree Nation have lived and traveled the area since time immemorial. Winisk was originally located closer to the coast, but moved due to flooding and the Peawanuck Cree Nation settlement is now located south along the Winisk River. A DEW Line radar base site is located on the east bank of the river, and has had some clean-up and reclamation. A winter road and winter trail exists on both sides of the river. The Cree Nation cares for and uses the land extensively.	Peawanuck has partnered with archaeologists to lead community-based research into the fur trade and early contact history. Artifacts have been discovered along rivers.	Peawanuck Cree Nation, Ontario - 45km, proposed fibre connection. Proposed National Marine Conservation Area in western James Bay and southwestern Hudson Bay crossing (under development led by the First Nations – Sam Hunter in Peawanuck, and Mushkegowuk Council).
Proposed Marine Survey Route	Marine Based Activities	Marine	“Sanikiluarmit share a long history with Quebec Inuit. Until the early twentieth century, Sanikiluarmit travelled great distances to the Ungava region of Quebec to trade at a Hudson’s Bay Company post. Following the disappearance of the islands’ caribou herd, Sanikiluarmit learned to use eider ducks, which live year-round on the islands, as a source of food, clothing and materials”. <a href="https://www.qtcommission.ca/en/communities/sanikiluaq">https://www.qtcommission.ca/en/communities/sanikiluaq</a>	“Sanikiluarmit have inhabited the Belcher Islands for centuries, and archaeological sites show evidence of use by the Dorset and Thule cultures dating back over 3,000 years.” <a href="https://www.qtcommission.ca/en/communities/sanikiluaq">https://www.qtcommission.ca/en/communities/sanikiluaq</a>	Proximity to communities: Fort Severn Cree Nation, Ontario - 15km, proposed fibre connection, Peawanuck Cree Nation, Ontario - 45km, proposed fibre connection, Kuujjuaraapik - 0km, interconnection, crossing Joint Cree / Inuit Marine Region, Sanikiluaq Hamlet, Nunavut - 150km, crossing Sanikiluaq Marine Region and proposed Qikiqtait Protected Area.

## Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Sanikiluaq	Lucassie Arragutainaq	Sanikiluaq Hunter and Trappers	2023-07-04

		Organization	
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# Authorizations

Indicate the areas in which the project is located:

Transboundary  
South Baffin

## Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Research Institute	Scientific Research Licence	Applied, Decision Pending		
Government of Nunavut, Department of Environment	Wildlife Research Permit	Applied, Decision Pending		
Other	Nunavik Marine Region Impact Review Board	Applied, Decision Pending		
Other	Eeyou Marine Region Impact Review Board	Applied, Decision Pending		
Fisheries and Oceans Canada	Letter of AdviceFile: 23- HCAA-00643	Active	2023-07-04	

## Project transportation types

Transportation Type	Proposed Use	Length of Use
Water	The Arctic Research Foundation’s vessel the William Kennedy	

## Project accomodation types

Other,

# Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Magnetometer	1	2meters X 45cm	Identify the existing KRG EAUFON cable crossing point
Vibracore	1	3meters X 50cm	Core sampling at 5km intervals (with additional sample sites if required, as dictated by observed geology) within water depths <25m at the Fort Severn, Peawanuck, and Kuujjuaraapik shore landing corridors to determine geotechnical properties of the soil
Grab Sampler	1	50cm X 3 meters	After three failed attempts, surficial grab sampling at 5km intervals (with additional sample sites if required, as dictated by observed geology) within water depths <25m at the Fort Severn, Peawanuck, and Kuujjuaraapik shore landing corridors to determine geotechnical properties of the soil
Pole mounted, towed geophysical survey equipment: Multibeam Echosounder	1	1 meter X 1 50cm	Obtain a 500m wide survey corridor in water depths >50m, and 250m wide survey corridor in water depths <50m
Side scan sonar (SSS)	1	2 meters X 50cm	Obtain a 500m wide survey corridor in water depths >50m, and 250m wide survey corridor in water depths <50m
Sub bottom profiler (SBP)	1	1 meter X 1 meter	Obtain a 500m wide survey corridor in water depths >50m, and 250m wide survey corridor in water depths <50m

## Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Diesel	fuel	3	12000	36000	Liters	Propulsion and power generation

## Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
1	Sea water is drawn through a screen to stop any marine life from entering. The vessel is equipped with two 114 L/Hour reverse osmosis water makers. The vessel has freshwater tanks (capacity 3400L).	Freshwater will be taken in Churchill. Once this water has been used up, if needed, sea water will be retrieved in small amounts from the ocean to replenish the freshwater supply.

# Waste

## Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Information is not available				

### Environmental Impacts:

Negative environmental impacts are not anticipated caused by the project to lands, waters, or natural resources, including wildlife. The marine survey will not capture, handle or dispose of any wildlife species. The survey team will report any incidents resulting in wildlife being killed. At no point will the marine survey disrupt the traditional practices of the people. Based on best practices of the Eastern Arctic Undersea Fibre Optic Network (EAUFON) project in Nunavik, and the DFO July 4, 2023 Letter of Advice, the following will be implemented during the marine survey. 1. The use of minimum gear power level to achieve the survey objectives will be used to reduce the impact on aquatic life. 2. Ramp up procedure will be completed with gradual increase in power of survey equipment to reduce impact on aquatic life. 3. Cetacean monitoring by visual observation post will be completed. The survey will begin only if cetaceans are absent from the survey zone and stop survey if cetaceans are present. A summary cetacean sightings report will be provided to appropriate agencies following the survey completion. 4. Plan in-water works, undertakings and activities to respect timing windows to protect fish and fish habitat. 5. Plan in-water works, undertakings and activities to respect timing windows, or as stipulated by the Ministry of Natural Resources and Forestry (MNRF), to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed and migrate. 6. Develop and implement a response plan to prevent a spill of deleterious substances from entering a waterbody. 7. The marine survey will not capture, handle or dispose of any wildlife species. The survey team will report any incidents resulting in wildlife being harmed or killed. 8. The marine survey will not enter any rivers.

## **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**

Seaforth Geosurveys Inc and the Arctic Research Foundation will be completing the marine survey aboard the William Kennedy. The marine survey is estimated to be conducted for up to 45 days (24hours/day) conducting the bathymetric and geophysical survey. A survey launch will be deployed during the daylight hours to conduct survey operations across the cable corridor in the shallow nearshore water depths (<10m) and to come to shore to inspect the existing shore landing and beach manhole at Kuujuaapik and the proposed shore landings at Peawanuck and Fort Severn. Pole-mounted, towed geophysical survey equipment including swath bathymetry (MBES), sidescan sonar (SSS) and subbottom profiler (SBP) will be used to obtain a 500m wide survey corridor in water depths >50m, and 250m wide survey corridor in water depths <50m. A magnetometer will be used to identify the existing KRG EAU FON cable crossing point. A vibracore sampling will be completed at 5km intervals (with additional sample sites if required, as dictated by observed geology) within water depths <25m at the Fort Severn and Peawanuck shore landing corridors to determine geotechnical properties of the soil. If upon three failed vibracore attempts, a surficial grab sample will be taken.



## SECTION H2: Disposal At Sea

N/A

## SECTION II: Municipal Development

### Description of Existing Environment: Physical Environment

The survey route crosses the offshore limits of a planned conservation area, the National Marine Conservation Area (NMCA) in western James Bay and southwestern Hudson Bay. Sam Hunter is the NMCA lead and following discussions in Peawanuck July 10-14, 2023 with the marine survey project team, provided a letter of support. Qikiqtait is the proposed future conservation area around the Belcher Islands. Qikiqtait (the Inuktitut name for the Belcher Islands Archipelago) includes more than 1,500 islands and 5,000 km of coastline. With up to 35 recurrent polynyas spread over 30,000 km<sup>2</sup>, this area surrounding Sanikiluaq acts as a refuge for wildlife, including the non-migratory sub-species of the Common Eider. <https://www.qia.ca/nauttiqsuqtiit-inuit-stewards-program-expands-to-sanikiluaq/> Negative environmental impacts are not anticipated caused by the survey project to lands, waters, or natural resources, including wildlife. The mitigation measures below will be implemented during the marine survey based on best practices of the Eastern Arctic Undersea Fibre Optic Network (EAUFON) project in Nunavik, and the DFO July 4, 2023 Letter of Advice. Additional mitigation measures are welcome through the NIRB process. The archipelago of the Belcher Islands consists of numerous long, thin peninsulas and almost 1,500 islands divided by narrow straits of saltwater and speckled with countless freshwater lakes. Rock formations on the islands are studied by geologists who have noted that there is nothing like them in Canada. The sparse vegetation found on the islands includes lyme grass, which is used locally for handcrafted baskets. <https://www.qia.ca/about-us/communities/#sanikiluaq>

### Description of Existing Environment: Biological Environment

The Belcher Islands are an important migratory flyway for more than 53 species of birds, with 19 species that breed in the summer on the islands, and more than 20 species of shorebirds. Some birds, notably eiders, are known to winter in the polynyas near the islands. Walrus, seals, whales and polar bears are among the marine species found in the leads, polynyas (area of open water surrounded by sea ice), and shorelines. (<https://nunatsiaq.com/stories/article/sanikiluaq-conservation-efforts>). The Beluga Whale (listed as Threatened) and Lake Sturgeon (listed as Special Concern) under the Species at Risk Act may use the area in the vicinity of the proposed survey route (DFO Letter of Advice July 4, 2023). The Belcher Islands are part of Canada's Southern Arctic ecoregion. "Year round, the Belcher Islands provide habitat to many species, such as the Hudson Bay common eider (*Somateria mollissima sedentaria*), an ecologically and culturally significant sub-species to Sanikiluaq, spending all year in the Archipelago. While the species *Somateria mollissima* are found all around the Arctic, this sub-species of eider is unique to Hudson Bay. During the winter and spring, the Belcher Islands are known for their consistent and stable occurrence of polynyas, areas of open water surrounded by sea ice. Polynyas provide critical habitat for many species, including: ringed seals (*Phoca hispida*), which are listed as species of 'Special Concern' by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC); the Eastern Hudson Bay beluga population (*Delphinapterus leucas*), listed as 'Endangered' by COSEWIC; the Western Hudson Bay beluga population, listed as "Special Concern" polar bears (*Ursus maritimus*), listed as 'Special Concern' by COSEWIC and 'Vulnerable' by the International Union for Conservation of Nature (IUCN) Red List of species; and the Hudson Bay common eider. During the summer months, the Belcher Islands become a hub for migratory species, providing nesting grounds for at least 53 species of migratory birds, as well as feeding and breeding grounds for migratory marine animals, such as the Eastern Hudson Bay Beluga population and Western Hudson Bay beluga population." (Haycock-Chavez, Natasha (2021) Indigenous-driven conservation: exploring the planning of Qikiqtait protected area in Sanikiluaq, Nunavut. Masters thesis, Memorial University of Newfoundland.) Voices From the Bay: Traditional Ecological Knowledge of Inuit and Cree in the Hudson Bay Bioregion provides valuable traditional knowledge and information describing the seasonal migration patterns and locations of the beluga in southern Hudson Bay that will be referred to in the marine survey. Also discussed in the Voices from the Bay are polar bear seasonal activities in southern Hudson Bay. The mitigation measures related to these species noted by the DFO on July 04, 2023 are listed below.

### Description of Existing Environment: Socio-economic Environment

Proximity to communities: Fort Severn Cree Nation, Ontario - 15km, proposed fibre connection, Peawanuck Cree Nation, Ontario - 45km, proposed fibre connection, Kuujuaaraapik - 0km, interconnection, crossing Joint Cree / Inuit Marine Region, Sanikiluaq Hamlet, Nunavut - 150km, crossing Sanikiluaq Marine Region and proposed Proposed Qikiqtait Protected Area. The long-term benefits of reliable scalable broadband in the two remote Ontario Cree Nations include: access to emergency medical services, rescue, public safety, and healthcare, access to distance education and learning tools, real-time water quality monitoring, and the ability for the Cree to monitor the land, water and wildlife combining western science and traditional knowledge. Fort Severn and Peawanuck also have plans to increase eco-tourism and unique businesses such as a Cree call centre. The Nunavik Marine Region Wildlife Board has completed extensive research with land users and communities recording traditional knowledge and western science for beluga, polar bear, ringed seal, arctic tern, etc. Research priorities include environmental changes, potential impacts to development and invasive species. <https://nmrb.ca/resources-and-education/> "Qikiqtait includes a planned Inuit stewardship program the national conservation area with Inuit from Arctic Bay working on monitoring sea ice conditions in the area, archiving information about cultural sites, transmitting knowledge to younger generations, and helping out with search and rescue operations. Soapstone is quarried on Tukarak Island and is the basis of a successful local carving industry. Rocky cliffs tower high above sea level near Sanikiluaq. These cliffs are nesting grounds for eider ducks, whose feathers are collected from the nests and made into warm outdoor gear and bedding. Inuit families sustainably collect the eiderdown and sell it to companies who make parkas and duvets." <https://www.qtccommission.ca/en/communities/sanikiluaq>. "Sanikiluaq's environmental stewardship is engrained in the community's history and lifestyle. The community's economy is about 60% subsistence-based, meaning they continue to heavily rely on hunting and harvesting practices, actively integrating community knowledge and values to guide their hunting practices, such as not hunting eiders during the nesting season and only hunting and harvesting what is needed for the community. Along with resource management, Sanikiluaq has been working with the government since the 1970s to develop sustainable regulations regarding natural resources, including working with the government to develop Arctic char fishing regulations for the region that better support stable char populations (Canadian Arctic Resources Committee, Environmental Committee of Sanikiluaq, & Rawson Academy of Aquatic Science, n.d.). The community has initiated and conducted many research projects and species monitoring within the Belcher Islands (Canadian Arctic Resources Committee et al., n.d.; Fleming & Nunavut Hudson Bay Inter-Agency (NTK), 2006; Robertson & Gilchrist, 1998; Sanikiluaq Hunters & Trappers Association, 2015." <https://research.library.mun.ca/15040/>

### Miscellaneous Project Information

The Arctic Research Foundation and Keewaytinook Okimakanak are pleased to share observations (geological, marine, wildlife, etc.) observed during the survey that might be of use to the surrounding Nations and organizations upon request. The ARF is a non-profit organization that supports Indigenous community-led research. <https://www.arcticfocus.org/about/>

### Identification of Impacts and Proposed Mitigation Measures

Negative environmental impacts are not anticipated to be caused by the marine survey project to lands, waters, or natural resources, including wildlife with the mitigation measures planned. The marine survey will not capture, handle or dispose of any wildlife species. The survey team will report any incidents resulting in wildlife being killed. At no point will the marine survey disrupt the traditional practices of the people. Based on best practices of the Eastern Arctic Undersea Fibre Optic Network (EAUFON) project in Nunavik, and the DFO July 4, 2023 Letter of Advice, the following will be implemented during the marine survey: 1) The use of minimum gear power level to achieve the survey objectives will be used to reduce the impact on aquatic life; 2) Ramp up procedure will be completed with gradual increase in power of survey equipment to reduce impact on aquatic life; 3) Cetacean monitoring by visual observation post will be completed. The survey will begin only if cetaceans are absent from the survey zone and stop surveying if cetaceans are present. A summary cetacean sightings report will be provided to appropriate agencies following the survey completion; 4) Plan in-water works, undertakings and activities to respect timing windows to protect fish and fish habitat; 5) Plan in-water works, undertakings and activities to respect timing windows, or as stipulated by the Ministry of Natural Resources and Forestry (MNRF), to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed and migrate; 6) Develop and implement a response plan to prevent a spill of deleterious substances from entering a waterbody; 7) The marine survey will not capture, handle or dispose of any wildlife species. The survey team will report any incidents resulting in wildlife being harmed or killed; 8) The marine survey will not enter any rivers.

### Cumulative Effects

The marine survey is in operation over 45 days and does not have any cumulative effects aside from operating the vessel and the burning of up to 36,000L of fuel which will contribute to greenhouse gas accumulations. The long-term effects of reliable scalable broadband in the two remote Cree Nations include the ability for the Cree to continue to remain connected to the land, language, culture and identity sharing traditional skills and strengthening their way of life for future generations. The Socio-economic impacts to the Fort Severn and Peawanuck communities include: 1) Increased access to healthcare and human health programs; 2) Employment in construction and operation of their community-owned broadband companies; 3) Long-term scalable broadband infrastructure; 4) Community wellness by remaining connected to the land, language and traditional skills, and monitoring the health of the water, land and wildlife.

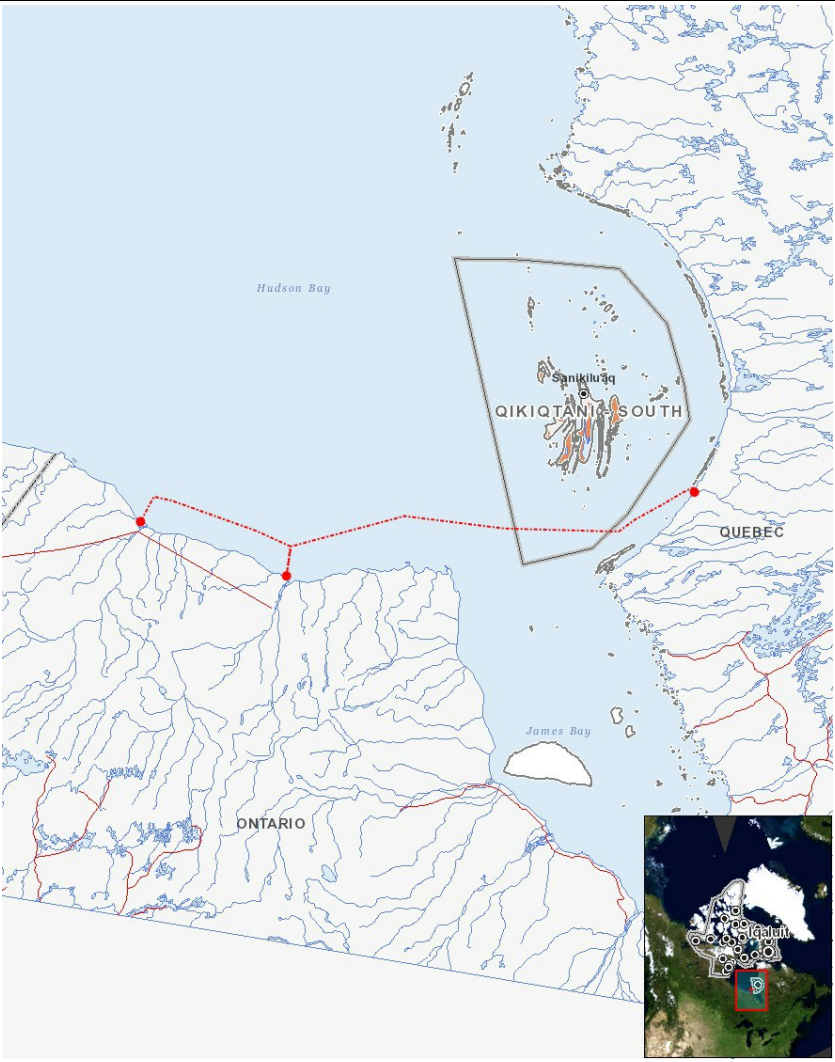
Impacts

Identification of Environmental Impacts

		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
Construction																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Operation																										
Marine Based Activities		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	P	P	P	P
Decommissioning																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

1	polyline	Proposed Marine Survey Route
2	point	Fort Severn Cree Nation Proposed Shore Landing
3	point	Peawanuck Cree Nation Proposed Shore Landing
4	point	Kuujuaaraapik Existing Shore Landing

