

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
BI2 mooring location and CTD station	Marine Based Activities	Marine	N/A	N/A	Qikiqtarjuaq
BI4 mooring location and CTD station	Marine Based Activities	Marine	N/A	N/A	Qikiqtarjuaq
NL01 CTD station	Marine Based Activities	Marine	N/A	N/A	Qikiqtarjuaq
SML01 CTD station	Marine Based Activities	Marine	N/A	N/A	Qikiqtarjuaq

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Information is not available			

Authorizations

Indicate the areas in which the project is located:

South Baffin

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Research Institute	Scientific Research License	Applied, Decision Pending		

Project transportation types

Transportation Type	Proposed Use	Length of Use
Water	RV Sanna	

Project accomodation types

Other,

Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
mooring	2	50-100m	oceanographic moorings will be deployed at two locations off Cape Dyer, measuring salinity, temperature and ocean currents.
research ship	1	15 m to 90 m	Project will involve visits to these marine sites by a scientific research vessel in 2021, 2022, and 2024. In 2021, the vessel will be R/V Sanna, from Greenland. The vessels for 2022 and 2024 have not yet been determined.

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Information is not available						

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0		

Waste

Waste Management

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

Environmental Impacts:

As with any marine shipping, ship-based scientific operations can produce short term behavioral impacts on marine mammals (changing the direction of their travel, avoiding an area where a ship is working). We mitigate these impact by suspending operations when marine mammals are observed in an area. Noise levels are those associated with routine ship operations. Overall impacts are very low given the short duration that the ship is operating in any area.

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

In construction year (2021), we will use RV Sanna, a 32m research vessel operated by Greenland Institute of Natural Resources to deploy 2 small scientific moorings. In operations years (2022 and 2024), we will likely use RV Armstrong, a 72m research vessel operated by Woods Hole Oceanographic Institution to service moorings and conduct CTD (conductivity, temperature and depth) stations to measure ocean water properties at sites NL01-NL08 and SML01. RV Sanna has a crew of six. RV Armstrong has a crew of 30. In 2021, the Sanna cruise will depart Ilulissat, Greenland on 3 August and return to Sisimiut, Greenland on 6 August. Schedules for 2022 and 2024 are TBD though will also likely sail from and return to Greenland ports. There will be no intermediate port calls on any of the cruises. For 2021, Sanna will transit directly to the Cape Dyer area and return directly to Sisimiut. Once on station, total time to complete the mooring construction will be less than 12 hours. In 2022 and 2024, in addition to the operations in the settlement area, the project will include mooring operations across Davis Strait to the Greenland shelf and CTD stations throughout Davis Strait, southern Baffin Bay, and northern Labrador Sea. There are no additional regulatory requirements for those operations. Cruises are scheduled when all operational areas are ice free and no ice breaking is required. The moorings BI2 and BI4 and CTD stations NL01 - NL08 are within the Outer Land Fast Ice Zone, but other than occasional grounded icebergs, no ice will be present at those sites during our operational windows. There will be no discharges of any bilge, ballast, grey or black water, solid waste, oils or hazardous or toxic substances. Research vessels used in these operation comply with all local and international regulations relating to environmental controls, waste storage and discharge, including MARPOL Annexes I, IV and V, Canada's Vessel Pollution and Dangerous Chemicals Regulations (SOR/2012-69) and Canada Shipping Act, 2001. Research vessels used in these operation have detailed spill and emergency response plans per local and international regulations and industry best practices. Due to the very limited nature of the 2021 cruise, there will be no dedicated wildlife observers, though the Sanna bridge crew is very experienced in conducting marine mammal surveys. In 2022 and 2024 we will likely have dedicated observers as part of bird and marine mammal scientific survey operations. Our primary wildlife mitigation is to simply suspend operations when marine mammals are observed in an operating area.

SECTION H2: Disposal At Sea

N/A. No disposal or discharge during these operations.

SECTION I1: Municipal Development

Description of Existing Environment: Physical Environment

The moorings are offshore Cape Dyer, south of Akpait NWA and Qaqulluit NWA. The sites will be accessed by ship, approaching from Greenland. In operations years, the NL01-NL08 CTD sampling stations are north of Akpait and Qaqulluit wildlife areas. There are no shore landings or port calls.

Description of Existing Environment: Biological Environment

The area is visited by sea birds and marine mammals, potentially including whales listed under SARA and polar bears.

Description of Existing Environment: Socio-economic Environment

N/A

Miscellaneous Project Information

Identification of Impacts and Proposed Mitigation Measures

All route planning and transits will be designed to avoid the sensitive NWAs. Operations are suspended when marine mammals of any species are observed in an operating area.

Cumulative Effects

Given the very low frequency of visiting the area and short duration of the visits we expect no significant cumulative effects from these activities.

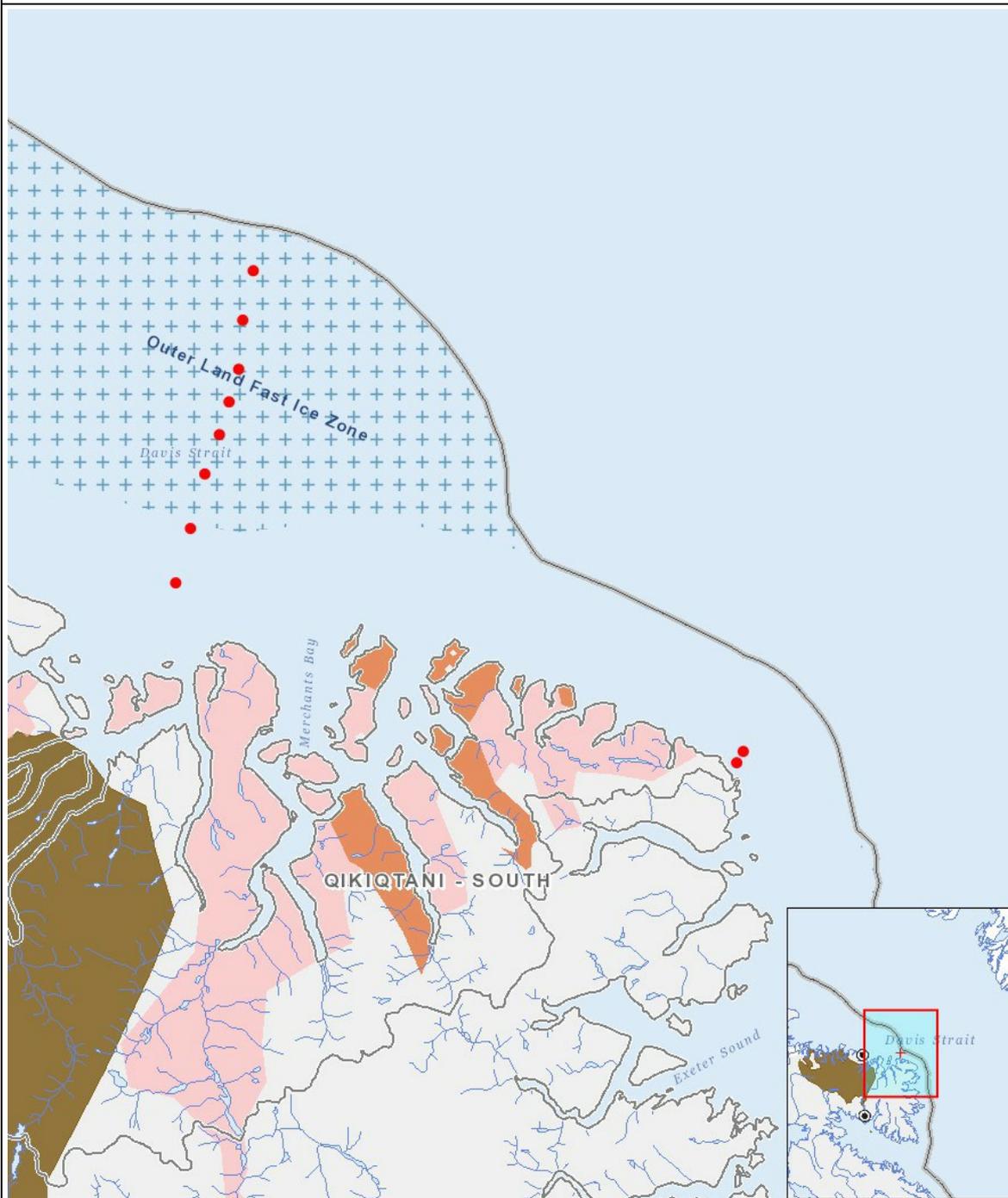
Impacts

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																									
Marine Based Activities	-	-	-	-	-	-	-	-	-	-	-	N	-	-	M	-	-	-	-	-	-	-	-	-	-
Operation																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decommissioning																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Project Location



List of Project Geometries

1	point	BI2 mooring location and CTD station
2	point	SML01 CTD station
3	point	NL01 CTD station
4	point	NL02 CTD station
5	point	NL03 CTD station
6	point	NL04 CTD station
7	point	NL05 CTD station
8	point	NL06 CTD station
9	point	NL07 CTD station
10	point	NL08 CTD station
11	point	BI4 mooring location and CTD station