# NIRB Uuktuutinga Ihivriuqhikhamut #125789

# Inuit Qaujisarnirmut Pilirijjutit on Arctic Shipping Risks in Inuit Nunangat

**Uuktuutinga Qanurittuq:** New

**Havaap Qanurittunia:** Scientific Research

**Uuktuutinga Ublua:** 4/5/2023 11:32:42 AM

**Period of operation:** from 0001-01-01 to 0001-01-01

**Piumayaat Angirutinga:** from 0001-01-01 to 0001-01-01

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# QANURITTUT

**Tukihiannaqtunik havaariyauyumayumik uqauhiuyun**

Qablunaatitut: Our project is focused on understanding risks from climate change and growth in shipping across Inuit Nunangat and to identify ways to manage these issues that support Inuit self-determined shipping and oceans governance. Our project objectives include to: 1. Analyse past and future ship traffic in Nunavut; 2. Model current and future underwater noise caused by ships; 3. Sample potential air and water pollution from ships; 4. Evaluate potential for non-indigenous species introduction from ships, and; 5. Develop risk maps and evidence-based recommendations. Fieldwork: We will opportunistically conduct water samples from on board ships (Amundsen, Ocean Endeavour, Fram), transiting Nunavut waters from July-September, 2023, and 2024. We will also opportunistically conduct water and sediment samples at shore locations along cruise ship routes (where appropriate). Shore locations may include Dundas Harbour, Fort Ross, Gjoa Haven, Beechey Island, Resolute, and Cambridge Bay. We will also conduct community-based sampling of air, water, and sediment, led by Inuit in Arviat and Pond Inlet from June – September, 2023 and 2024. Methods: Onboard the ships, we will sample seawater from the inlet in the hull and filter it through a mesh to collect plastic and other sediments. We will set up onboard air sampling arrays, where particles in the air will be collected on filters. We will take water samples for eDNA to identify any non-indigenous species upstream and downstream of the ship and at shore locations. At shore locations, we will take sediment samples (100g) in a metal bottles and take pictures of any plastic debris. Community-based sampling in Arviat and Pond Inlet will include setting up air sampling arrays near the communities, water sampling for plastic and eDNA by boat and Remotely Operated Vehicle (ROV) (Pond Inlet in 2023 and 2024, Arviat in 2024). Impacts: There are no expected impacts to the environment, wildlife, or people. Data Storage and Management: The research team follows all procedures for data management and storage that is outlined in the Tri-Council protocols and the National Inuit Strategy on Research. All data and samples are saved and/or stored in locked facilities and password protected computers/servers. Physical samples (air, water, and sediment) will be stored at locked facilities in Ottawa and Cambridge, UK. Nunavut residents involvement: Nunavut residents have been involved in the project since the beginning. We have partnered with Ikaarvik (Pond Inlet, NU) and Aqqiumavvik Society (Arviat, NU) to develop the original project proposal and research questions. In May, 2022 all southern team members attended training on Inuit Qaujimajatuqangit (IQ). In December, northern team members received training on how to collect acoustic data using hydrophones, and, in February, training on water and plastics sampling and analysis. In 2023-24, we plan to conduct similar community researcher sampling training and workshops.Results Sharing: Results validation and sharing workshops in Arviat and Pond Inlet are planned for 2025. These events will be co-led by Inuit Youth. Results will also be shared with Nunavut partners throughout the project.

Uiviititut: N/A

Inuktitut: ᐱᓕᓇᐊᒃᓴᑦ ᑐᖏᑕᖅᑐᖅ ᑐᑭᓯᐊᓕᓂᒋᑦ ᐅᓗᓇᐊᓇᖅᑐᓂᒃ ᓯᓚᐅᑦ ᐊᓯᔨᖅᕿᓪᓕᐊᓂᖏᓐᓄᑦ ᐊᒻᒪ ᐊᖅᑭᓪᓕᕐᓕᐊᓂᖏᓐᓄᑦ ᐅᒋᐊᖏᔪᓕᐊᓂᓂᕐᒧᑦ ᐃᓄᐃᑦ ᓄᓇᖏᓂ ᓇᓗᓇᐃᖅᓱᓂᒋᑎᓪᓗ ᖃᐅᖅ ᐊᐅᓚᑎᑐᓄᓕᕐᒪᖏᓐᓄᑦ ᐊᑲᐅᖅᓯᖅᑐᐅᑭᐅᓂᒃ ᐃᑲᐃᖅᓯᖅᑐᑦ ᐃᓄᐃᑦ ᓇᒻᒥᓂᐅᑭᑐᖅ ᐅᒋᐊᖏᔪᓕᐊᓂᓂᕐᒧᑦ ᐊᒻᒪ ᑕᓇᐅᖏᔪᐊᓂᒃ ᐊᐅᓚᑎᓂᕐᓂ. ᐱᓕᓇᐊᒃᓴᒧᑦ ᑐᖏᑕᓇᔪᖏᓐᓄᑦ ᐃᓚᖃᖅᖃᑦᑐᖅ:1.ᖃᐅᔨᓴᖏᓂᒥᑦ ᑭᖑᔪᓂᑎᖓᓂ ᐊᒻᒪ ᓯᖏᓂᒃᓴᒥᑦ ᐅᒋᐊᖏᔪᐊᑦ ᐃᖑᕐᖏᖑᕐᑐᑦ ᓄᓇᖏᒻᒪᑦ;2.ᐅᑦᑐᑎᑐᓂᑦ ᒪᓪᓇᐅᔨᖅ ᐊᒻᒪ ᓯᖏᓐᓄᒃᓴᒥᑦ ᐃᒪᐅᐟ ᐃᖅᖃᖑᓂ ᓂᐱᓴᖅᑐᐅᔨᑦ ᐅᒋᐊᖏᔪᐊᑦ ᐱᔨᔪᑎᑦᓂᓪᓕᑦ;3.ᖃᐅᔨᓴᖏᓂᒃᓴᓂᑦ ᐱᖃᑦᑕᖏᓪᓕᑎᓄᑦ ᐊᓂᓂᒥᑦ ᐊᒻᒪ ᐃᒪᖏᒥᑦ ᓯᑭᐸᓪᓕᐊᓂᓄᑦ ᐅᒋᐊᖏᔪᐊᖏᓂᑦ;4.ᖃᐅᔨᓴᖏᓂᒃᓴᓂᑦ ᐱᑕᖃᑐᐃᓪᓓᓇᐊᖃᖅᓂᖓᓂ ᑕᐃᖅᓴᐅᖅᑭᑦᑐᓂᓄᑦ ᐅᒪᔪᓂᓄᑦ ᑎᑭᐅᔨᓴᐅᔨᓂᒃᓴᓄᑦ ᐅᒋᐊᖏᔪᐊᖏᓂᒃ, ᐊᒻᒪ;5.ᐊᖅᑭᑦᓯᐊᓗᑎᓄᑦ ᐅᓗᓇᐊᓇᖅᑐᓂᑦ ᓄᓇᖅᔭᒧᐊᓂᑦ ᐊᒻᒪ ᖃᐅᔨᓴᐅᔨᓂᒋᔪᓕᑦ ᑐᖅᓴᓕᖏᓐᓄᑦ ᐊᑐᓂᔪᓴᐅᔨᓄᑦ.ᐱᓕᓇᓴᐃᐅᔨᒥᑦᑕ: ᐱᐃᖏᓐᓇᓕᑕᐃᔭᑦᑕ ᐃᒪᖏᑦᑕ ᖃᑭᒪᔨᓴᐅᔨᓂᒃ ᐱᖃᑦᑕᖏᓂᐊᖅᑐᓂᒃ ᐅᒋᐊᖏᔪᐊᖏᓂᑦ (Amundsen, Ocean Endeavour, Fram), ᐃᖅᑭᖏᓕᔨᓄᑦ ᓄᓇᕐᓂᑦ ᐃᒪᔪᑎᖅᑭᓄᑦ ᔨᓪᐃᒥᑦ ᓱᑎᐱᓚᓇᒧᑦ, 2023, ᐊᒻᒪ 2024. ᐱᐃᖃᓕᖏᓐᓄᑦ ᐃᒪᖏᑦ ᐊᒻᒪ ᖃᑭᒪᔨᓄᑦ ᖃᐅᔨᓴᖏᓂᒃᓴᓂᑦ ᐱᖃᑦᑕᖏᓂᐊᖅᑐᓂᒃ ᓱᓴᖏᑦ ᑲᐅᔨᓴᖏᓂᒃᓴᓂᑦ ᐅᒋᐊᖏᔪᐊᑦ ᐊᖅᔪᑎᑎᓯᑕᖅᑭᑎᓄᑦ (ᑕᐃᒧᒃ ᓇᒻᒪᑎᓐᓂᔪᑐ). ᓱᓴᐅᐟ ᐃᓄᑭᖃᔨᐅᑎᑐᐃᓪᓓᖅᑕᖅᑭᑦ ᑕᐢᑦᓵ ᐄᐊᐳ, ᐃᐊᑦ ᖁᓵ, ᐅᖅᓱᖅᑐᖅ, ᐊᑦᓯ ᖃᑭᖅᑕᖅ, ᖃᐅᔨᓱᐃᑦᑐᖅ, ᐊᒻᒪ ᐃᖃᓗᐅᑎᐊᖅ. ᐱᓕᓇᓄᐊᖃᒻᒪᔪᑦ ᓄᓇᕐᓂᐢᓄᓂ ᑐᙵᓚᐃᖃᖅᓗᓂᑦ ᖃᐅᔨᓴᖏᓂᒃᓴᓂᑦ ᐊᓄᓄᓂᑦ, ᐃᒪᖏᑦ, ᐊᒻᒪ ᖃᑭᒪᔨᓄᑦ, ᓯᑐᓕᖅᑎᖃᖅᑐᓄᑦ ᐃᓄᐢᓄᑦ ᐊᖅᐃᐊᓄ ᐊᒻᒪ ᒥᑎᒪᑕᓇᒥ ᔨᓄᒥᑦ – ᓱᑎᐱᓚᓇᒧᑦ, 2023 ᐊᒻᒪ 2024.ᐱᓕᓇᓵᔨᓯᑦ: ᐅᒋᐊᖏᔪᐊᖏᑎᑎᓪᓗᑦ, ᖃᐅᔨᓴᖏᓂᒃᓴᒋᓴᖅᑐᑦ ᑕᓇᐅᖏᒥᑦ ᑲᖑᑎᓂᕐᒥᑦ ᐅᒋᐊᖏᔪᐊᑦ ᐊᑕᓄ ᐊᒻᒪ ᓴᓗᒪᓚᖅᓴᖅᑕᐅᓗᑎᓄᑦ ᒪᑦᑎᑕᐅᑎᓪᓗᓴᓗᓄ ᓄᐊᑎᑎᓄᑦ ᐊᐅᑦᑕᔨᓄᑦ ᐊᓯᖑᓄᓪᓓᑦ ᐊᐅᑦᑕᔨᓄᑦ ᓴᑭᒪᔪᓄᑦ. ᔨᓄᖅᑭᓯᐊᓗᑕ ᐅᒋᐊᖏᔪᐊᖏᒥᑦ ᐊᓄᖏᓂ ᖃᐅᔨᓴᖏᓂᒃᓴᑕᐢᓕᖅᑐᓄᑦ, ᐊᓄᖏᓂᒋᑦᑐᑦ ᓄᐊᑕᐅᓗᑎᓄᑦ ᓴᓗᒪᓚᖅᓴᐅᓄᑦ. ᐃᒪᖏᑦ ᖃᐅᔨᓴᖏᓂᒃᓴᓂᑦ ᐱᓭᖅᑐᒧᑦ ᓴᓭᓯᒪᓂᑦ (eDNA) ᓇᓗᓇᐃᖅᓯᖏᓂᒋᑦ ᑕᒪᖅᓴᐅᓄᓪᓓᖅᑐᓂᑐᓄᑦ ᐅᒪᔪᓄᑦ ᓯᑐᓂᐊᓄ ᐊᒻᒪ ᑐᓄᐊᓄ ᐃᒋᐊᖏᔪᐊᑦ ᐊᒻᒪ ᓯᓚᐅᑦ. ᓯᓚᐅᑦ, ᖁᓵᒪᔪᓂᑦ ᖃᐅᔨᓴᖏᓂᒃᓴᓂᑦ ᐱᓭᖅᑐᒧᑦ (100 ᔪᕆᒪ) ᓴᐃᓴᓄᓂᑦ ᐃᒋᖅᑕᐅᑎᓂᑦ ᐊᐅᑦᑕᔨᓇᓗᑎᓗ ᐊᐅᑦᑕᔨᓂᒃ ᓴᓂᓂᑦ. ᓄᓇᕐᓂᑦ ᑐᙵᓚᐃᖃᖅᓗᓂᑦ ᖃᐅᔨᓴᖏᓂᒃᓴᑕᐢᓕᖅᑐᓂᑦ ᐊᖅᐃᐊᓄ ᐊᒻᒪ ᒥᑎᒪᑕᓇᒥ ᐃᓭᖃᓗᐅᑎᓪᓗ ᐊᖅᑭᑦᓯᐊᓗᑕ ᐃᒋᐊᖏᔪᐊᖏᒥᑦ ᐊᓄᖏᓂ ᖃᐅᔨᓴᖏᓂᒃᓴᑕᐢᓕᖅᑐᓄᑦ

ᓄᓇᓕᑦ ᖃᓄᑭᔾᖃᖅᓂᓄ, ᐃᒪᖏᑦ ᖃᐅᔨᓴᖅᓴᒋᓄᖏᑦ ᐊᒃᑕᐃᓇᓄᑦ ᐊᒪᒪ ᐊᐸᑎᒧᑦ ᓴᓇᓯᒪᓂᖅᓴᓇᑦ ᐅᒥᐊᒃᓂᑦ ᐊᒪᒪ ᐃᖅᑭᑎᖅᓂᑦ (ROV) (ᒥᑦᑎᒪᒡᓕᖅᒥᑦ 2023-ᒥᑦ ᐊᒪᒪ 2024-ᒥᑦ, ᐊᖏᕕᐊᓂ 2024-ᒥᑦ).ᐊᒃᑐᐃᓂᐅᔨᓪᑦ: ᓂᓚᐅᑭᓴᖃᖅᓯᑦᑐᑦ ᐊᒃᑐᐃᓂᐅᑉᓴᖅᑐᓂᒃ ᐊᐸᑎᒧᑦ, ᐅᒪᔨᓇᓄᑦ, ᐅᕐᓯᓗᓐᓂᑦ ᐃᓄᖅᓄᑦ.ᖃᐅᔨᓴᐅᕐᓯᒡᓕᐊᔨᓂᒃ ᑐᖅᑯᐃᓂᖏᑦ ᐊᒪᒪ ᐊᐅᓪᓚᑎᓂᖏᑦ: ᖃᐅᔨᓴᖅᑎᐅᖅᖃᖅᑎᑦᓯᑦ ᒪᓂᑦᑎᐊᓯᑦ ᐱᓚᓇᔨᓯᓚᐃᓂᑦ ᖃᐅᔨᓴᐅᕐᓯᒡᓕᐊᔨᓂᒃ ᐊᐅᓪᓚᑎᓂᖏᒧᑦ ᐊᒪᒪ ᑐᖅᑯᐃᓂᖏᒧᑦ ᓇᓗᓇᐃᖅᑕᐅᔨᓂᒃ ᐱᖅᓯᓚᐃᓂᖏᑦ ᓄᓇᕗᑦ-ᑲᑎᒪᔨᓄᑦ ᒪᓕᖏᔪᐅᔨᓂᒃ ᐊᒪᒪ ᑲᓇᒋᐅᔨᓂᒃ ᐃᓄᐃᓄᑦ ᕿᖏᓇᑎᓂᖅ ᖃᐅᔨᓴᖅᑎᓯᓕᐊᓂᒃ ᐊᒪᒪ/ᐅᕐᓯᓗᓐᓂᑦ ᑐᖅᑯᖅᑕᐅᔨᓯᓂᑦ ᑭᒃᓯᒪᔨᓂᒃ ᐃᓂᐅᔨᓂᒃ ᐊᒪᒪ ᐃᔨᑭᑎᖏᓪᓕᐊᓕᖅᓂᓄᑦ ᖃᖏᓴᐅᔪᖏᓄᑦᕈᖏᓴᐅᔪᓕᓇᔭᐸᑎᓄᑦ. ᐱᓪᓕᑦᒋᔭᖏᑦ ᖃᐅᔨᓴᖅᑎᓴᑦ (ᐊᓂᖏᓂ, ᐃᒪᖅ, ᐊᒪᒪ ᖁᑭᒪᔪᑦ) ᑐᖅᑯᖅᓯᒪᓕᖅᑐᑦ ᑭᒃᓯᒪᔨᓂᒃ ᐃᓂᐅᔨᓂᒃ ᐋᑐᐋᒥᑦ ᐊᒪᒪ ᑲᐃᒪᓕᔭᓂᔪ, ᔨᓕᐃᑕᑦ ᑭᖅᑕᒥᒥ.ᓄᓇᕐᒪᒥᐅᑕᑦ ᐱᖏᑕᐅᓂᖅᑎᑦ: ᓄᓇᕐᒪᒥᐅᑕᑦ ᐱᖏᑕᐅᓯᒪᔨᑦ ᑕᐃᒪᓐᓄᓂ ᐱᓚᓂᓂᐅᑕᐅᓂᖅᓴᓂᒃ. ᑲᑐᔾᔨᑦ ᖃᐅᔨᓴᖅᓴᓴᑦ (ᐊᓂᓐᓂ, ᐃᒪᖅ, ᐊᒪᒪ ᖁᑭᒪᔪᑦ) ᐱᓚᓇᔨᓯᓚᐃᓂᑦ ᐅᓂᐅᔨᓂᒃ ᐋᒃᑐᐃᒥᑦ ᐊᒪᒪ ᑲᐃᒪᓕᔭᓂᔪ, ᔨᓕᐃᑕᑦ ᑭᖅᑕᒥᒥ.ᓄᓇᕐᒪᒥᐅᑕᑦ ᐱᖏᑕᐅᓂᖅᑎᑦ: ᓄᓇᕐᒪᒥᐅᑕᑦ ᐱᖏᑕᐅᓯᒪᔨᑦ ᑕᐃᒪᓐᓄᓂ ᐱᓚᓂᓂᐅᑕᐅᓂᖅᓴᓂᒃ ᐃᓄᐃᓄᑦ ᖃᐅᔨᓴᖅᑎᓴᑦ ᐊᒪᒪ ᐊᐸᑎᒧᑦ ᐃᓄᐃᓄ

# Hulilukaarutit

| Inigiya | Hulilukaarut Qanurittuq | Nunannga Qanurittaakhaanik | Initurlinga qanuritpa | Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannguqtut akhuurninnga | Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtailiyainnit nuna |
|---|---|---|---|---|---|
| Arctic Bay (potential shore location) | Sampling sites | Municipal | N/A | N/A | We will be sampling the shoreline within or near the community depending on where the ship goes. |
| Gjoa Haven (potential shore location) | Sampling sites | Municipal | N/A | N/A | We will be sampling the shoreline within or near the community depending on where the ship goes. |
| Cambridge Bay (potential shore location) | Sampling sites | Municipal | N/A | N/A | We will be sampling the shoreline within or near the community depending on where the ship goes. |
| Resolute Bay (potential shore location) | Sampling sites | Municipal | N/A | N/A | We will be sampling the shoreline within or near the community depending on where the ship goes. |
| Dundas Harbour (potential shore location) | Sampling sites | Crown | N/A | N/A | N/A |
| King William Island (potential shore location) | Sampling sites | Crown | N/A | N/A | N/A |
| Fort Ross (potential shore location) | Sampling sites | Crown | N/A | N/A | N/A |
| Devon Island (potential shore location) | Sampling sites | Crown | N/A | N/A | N/A |
| Prince Leopold Island (potential shore location) | Sampling sites | Crown | N/A | N/A | N/A |
| Pond Inlet - community-based sampling | Sampling sites | Crown | N/A | N/A | We will be working with community members to locate sampling sites near the community on crown land, in a location that does not disrupt any local activities. |

| | | | | | |
|---|---|---|---|---|---|
| Arviat - community-based sampling | Sampling sites | Crown | N/A | N/A | We will be working with community members to locate sampling sites near the community on crown land, in a location that does not disrupt any local activities. |

**Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun**

| Nunauyuq | Atia | Timiuyuq | Upluani Uqaqatigiyaungmata |
|---|---|---|---|
| Mittimatalik | Eric Soloman | Ikaarvik | 2021-07-27 |
| Mittimatalik | Shelly Elverum | Ikaarvik | 2021-07-27 |
| Mittimatalik | Justin Milton | Ikaarvik | 2021-07-27 |
| Mittimatalik | Michael Milton | Ikaarvik | 2023-02-24 |
| Arviat | Kukik Baker | Aqqiumavvik Society | 2021-07-27 |
| Arviat | Shirley Tagalik | Aqqiumavvik Society | 2021-07-27 |
| Mittimatalik | Peter Inootik | N/A | 2023-02-16 |
| Mittimatalik | Jamie Enook | ECCC | 2022-09-20 |
| Arviat | Jimmy Muckpah | Aqqiumavvik Society | 2023-02-10 |
| Arviat | Zachariah Owingayak | Aqqiumavvik Society | 2023-02-10 |

# Angiuttauvaktunik

**Naunaiqlugu nunanga talvani havauhikhaq ittuq:**

Transboundary
Kitikmeot
Kivalliq
North Baffin

**Angiuttauvaktunik**

| Munariniqmut Ayuittiaqtuq | Angirutinga Qanurittuq | Tadja Qanurittaakhaanik | Ublua Tuniyauyuq/Uuktuqtuq | Umikvikhaa Ublua |
|---|---|---|---|---|
| Qikiqtani Inuit Katimayiit | QIA Land Use Exemption Certificate– QX-2210 (Jennifer Provencher) | Active | 2022-06-01 | 2025-12-31 |
| Nunavut Kavamanga, Nunavunmi Ihivriuqniqmut Timiqutigiyanga | NRI Scientific Research License – 03 014 22R-M (Jennifer Provencher). Renewal pending. | Active | 2022-06-01 | 2022-12-31 |
| Nunavut Kavamanga, Nunavunmi Ihivriuqniqmut Timiqutigiyanga | NRI Scientific Research License | Applied, Decision Pending | | |

**Project transportation types**

| Transportation Type | Qanuq Atuqtauniarmangaa | Length of Use |
|---|---|---|
| Water | Ship and local boats | |

**Project accomodation types**

Alaanut,

# Ihuaqutivaluin Atuqtauyukhan

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

| Hanalrutit Qanurittuq | Qaffiuyut | Aktikkulaanga – Qanurittullu | Qanuq Atuqtauniarmangaa |
|---|---|---|---|
| Air sampling array | 4 | <1m | Optical particle counters, air filtration units and depositional dust gauges to quantify the concentration and size distribution of particulates and allowing for the assessment of black carbon concentration. |
| Water filters | 4 | 0.5m | Customised filtration system which sample a ship's uncontaminated sea water supply (ambient near-surface waters pumped through the hull). The filtration system has an inline flow meter to record the volume of water filtered and three sequential filters (i.e., mesh size 300, 100 and 50 microns). |
| Manta net | 2 | 2m x 0.6m | Sampling using manta nets to identify and quantify the concentration of anthropogenic particulates and microplastics in surface waters. |
| Niskin water sampler | 4 | 0.6m | Collect small water samples (50mL) for environmental DNA(eDNA) meta-barcoding. |
| Remotely Operated Vehicle (ROV) | 2 | 0.5m x 0.4m | Take surface water samples using syringe sampler and take underwater photographs vessel hulls to determine the extent of biofouling. |

**Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga**

| Qanurittuq urhuqyuaq hunavaluit aturninnga: | Urhuqyuaq Qanurittuq | Qaffiuyut qattaryut | Qattaryuk Aktikkulaanga | Atauttimut Qaffiuyut | Ilanga | Qanuq Atuqtauniarmangaa |
|---|---|---|---|---|---|---|
| Information is not available | | | | | | |

**Imaqmik Aturninnga**

| Ubluq qanuraaluk (m3) | Aturumayain imavaluin utiqtittagaani qanuq | Atulirumayain imavaluin utiqtittagani humi |
|---|---|---|
| 0 | | |

# Iqqakuq

**Ikkakunik Munakgiyauyunik**

| Havauhikhaq Hulilukaarut | Qanurittuq Iqqakut | Ihumagiyauyuq Qanuraaluktut Atuqtait | Qanuq Iqqakuurniarmangaa | Halummaqtirarnirutikhan piyutin |
|---|---|---|---|---|
| Information is not available | | | | |

**Avatiliriniqmut Ayurhautingit:**

Waste: We expect waste to be minimal, limited to small amounts of garbage from sampling equipment. Sampling equipment will be unpacked in the South to reduce waste brought to Nunavut. Any waste produced while sampling will be packed out and transported South for disposal. Wildlife disturbance: All sampling activities will be accompanied by local residents and/or vessel operators trained in the local marine and terrestrial wildlife, in order to reduce any potential disturbances. Environmental disturbance: All research staff are trained in sampling protocols in order to minimize any potential disturbance to the environment. Physical samples taken will be small, and we will not be taking more than is needed for laboratory analysis. Local residents: Our research is being conducted in partnership with local organizations and relies on IQ in order to be of maximum benefit to local residents. Before any research activities are undertaken, we will consult with our Inuit partners, local hunters, and local residents to ensure our activities will not disrupt any traditional practices (e.g. hunting activities).

# 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**

**Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga**

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

**Miscellaneous Project Information**

**Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit**

Waste: We expect waste to be minimal, limited to small amounts of garbage from sampling equipment. Sampling equipment will be unpacked in the South to reduce waste brought to Nunavut. Any waste produced while sampling will be packed out and transported South for disposal. Wildlife disturbance: All sampling activities will be accompanied by local residents and/or vessel operators trained in the local marine and terrestrial wildlife, in order to reduce any potential disturbances. Environmental disturbance: All research staff are trained in sampling protocols in order to minimize any potential disturbance to the environment. Physical samples taken will be small, and we will not be taking more than is needed for laboratory analysis.Local residents: Our research is being conducted in partnership with local organizations and relies on IQ in order to be of maximum benefit to local residents. Before any research activities are undertaken, we will consult with our Inuit partners, local hunters, and local residents to ensure our activities will not disrupt any traditional practices (e.g. hunting activities).

**Tamatkiumayunik Ihuikgutivaktunik**

# 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** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampling sites | | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | | - | P | P | - | - |
| **Piiqtauniq** | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - |

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

Havaariyauyukhamut Nayugaa


List of Project Geometries

| | | |
|---|---|---|
| 1 | polyline | Potential ship route |
| 2 | point | Pond Inlet - community-based sampling |
| 3 | point | Arviat - community-based sampling |
| 4 | point | Dundas Harbour (potential shore location) |
| 5 | point | King William Island (potential shore location) |
| 6 | point | Arctic Bay (potential shore location) |
| 7 | point | Gjoa Haven (potential shore location) |
| 8 | point | Cambridge Bay (potential shore location) |
| 9 | point | Fort Ross (potential shore location) |
| 10 | point | Resolute Bay (potential shore location) |

| | | |
|---|---|---|
| 11 | point | Devon Island (potential shore location) |
| 12 | point | Prince Leopold Island (potential shore location) |