



$\triangleright^{\mathfrak{b}} \subseteq \triangleright^{\mathfrak{c}}: 3435434318, \mathfrak{r} \mathfrak{b} \mathfrak{r}^{\mathfrak{b}} \mathfrak{d}^{\mathfrak{c}}:$

[illegible]

Operations Phase: from 2023-07-28 to 2023-08-12

$$\Lambda \subset \mathbb{N} \triangleleft \mathbb{N} \xrightarrow{\gamma} \sigma \triangleleft \mathbb{N}^{\mathbb{N}} \supset \mathbb{C}$$

ᐱᓚ	ᖃᓄᐃᑦᑐᓯᑦ ᐱᑕᓕᐃᖃᖅᐃᖃᑦ	ᓂᓇᓴᓪᓳᓂ	ᑐᔨᐅᒫᔭᖃᑦ ᓄᓇᐅᑦ ᖃᓄᖃᑦ ᐋᑐᒪᐅᑦᐅᖃᖅ ᓯᒫᔭᓕᐃᖃᖅᐃᓂᖃᑦ	ᐃᑦᔨᖅᑕᖃᖅᐱᐅᑦᑦᐅᑦᐅᑦ ᐃᓄᖃᓄᑦ ᓇᔨᖃᑕᐅᖃᑦᑕᖅᓲᓂᓴᑦ ᑕᐃᑦᓯᒫᓂᑐᖃᐅᑕᖅᑐᖃᑦ	ᖃᓂᓂᓂᖃᑦᑦᑦ ᓄᓇᑕᓯᒫᔭᐅᔨᖃᑦ ᐋᒫᒫᑦ ᔨᑐᔨᓯᖃᖅᐱᐅᑦᑦ ᓯᓇᓄᑦ
Proposed fieldwork area	Scientific/International Polar Year Research	Crown	N/A	We have been in contact with the Territorial Archaeologist and have filled a Site Data Request Form to obtain the position of known archeological site within our proposed field area. We are waiting to get the positions. All archeological sites will be avoided. If archaeological remains are found, all activity in the area will be ceased immediately and the territorial archaeologist will be contacted.	A part of our study area falls within the Thelon Wildlife Sanctuary. Our study area doesn't include Inuit Owned Lands. The closest community lands belong to Baker Lake and Arviat. Baker Lake is ~ 200 km and Arviat is ~320 km from the closest border of the proposed field area

[illegible]

ᐃᓇ ᑭᏚᔨ	ᐱᕈᖅ	ᑲᗬᐳᐸᐴᖆᐁᒋᒋᔩᖅ	ᖅᑯᖂᑐ ᗬᙶᖅᐁᑦᐹᑎᑦᐸᐄᖅᑭᖅ
ᐴᖅᐱᐴᖅ	Nicole Issakiark	Arviat Hunters and Trappers Organization	2023-02-10
ᐴᖅᐱᐴᖅ	Joe Savikataaq	Hamlet of Arviat	2023-02-10
ᐴᖅᐱᐴᖅ	Steve England	Hamlet of Arviat	2023-02-10
ᖅᑯᑮᖅ'ᗪᐴᖅ	Richard Awksawnee	Hamlet of Baker Lake	2023-02-10
ᖅᑯᑮᖅ'ᗪᐴᖅ	Sheldon Dory	Hamlet of Baker Lake	2023-02-10
ᖅᑯᑮᖅ'ᗪᐴᖅ	Brian Pudnak	Baker Lake Hunters and Trappers Organization	2023-02-10
ᑯᖅᑭᖅᑦᑫᖅ	Luis Manzo	Kivalliq Inuit Association	2023-02-10
ᐴᖅᑯᗬᐳᖅ'ᑭᐴᐴᖅ	Jorgan Aitaok	Nunavut Tunngavik Incorporated	2023-02-10

ሬፈላኦቶ ለጋራዊ ልምድ ልማት ምርምር

ሬፈላኦቶች ለሬፈላኦቶ ልምድ ልማት ምርምር:

Transboundary
Kivalliq

ሬፈላኦቶ ለጋራዊ ልምድ ልማት ምርምር

ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት	ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት	ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት	ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት	ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት
ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት	We applied for a scientific research licence for physical / natural sciences research	Applied, Decision Pending	2023-03-02	

Project transportation types

Transportation Type	ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት ፍጥነት/ፍጥነት	Length of Use
Air	Helicopter	

Project accomodation types

Permanent Camp

◀▷↳◀⁹⁶▷⁹⁶

Λ⁹d^c d^abΓ²Δ⁶ ΔD⁶C DσD⁴Δ²Δ⁶ Δc⁶bΓDΠ³Γ^c ΔjCΔ^c, Γ^c_{ΔP}Π^c, Δ⁶bLCj⁶, ΔeΓD^c dΓ^abΓ^c_Δ

ᐃᓕᓴᑦ ᐱᓪᐅᑦ ᐋᑐᒐᐅᑦ ᐋᓕᑐᓕ ᓕᓄᐃᑦᑐᑦ	ᓕᓴᓯᐅᑦ	ᐋᓴᓴᓴᓴ - ᐳᓕᓴᓴᓴ	ᓴᐱᑦ ᐋᑐᒐᐅᑦ ᐋᓕᑐᓕ
Shovels	3	1 m	Shovels will be use to dig holes to take soil sample daily.
Rocksaw	1	12 in	The rocksaw will be used to collect bedrock or boulder samples daily.
Helicopter	1	Exterior Height: 10 ft 4 in Wing Span: 35 ft 1 in Length: 35 ft 11 in diameter	One Astar 350B2 helicopter will be used daily access field sites.
Hammers	3	12 in	The hammers will be used to collect bedrock or boulder samples daily.
Chisels	3	12 in	The chisels will be used to collect bedrock or boulder samples daily.
Field tablets/computers	2	12 in	The field tablets will be used daily to collect data and navigate samples.
Compasses	4	3 in	The compasses will be used daily to collect orientation of ice movement indicators.
Digital Cameras	2	3 in	The digital cameras will be used daily to pictures of landscapes and samples.

በበፍጥረቱ ስራ ላይ ለሚገኙት ሰራተኞች ምርጫ ስራ ላይ ለሚገኙት ሰራተኞች

[illegible]

					<p> caches (5-7 containers each) will be placed by fixed wing airplane outside the Thelon Wildlife Sanctuary in NU. An electrical pump supplied by the helicopter contractor will be used for the transfer of Jet A aviation fuel. Spill kits will be carried at all times in the helicopter and will be available at the lodge. </p>
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ΔL ၆၆ ၇၁၆၆C၉၃၃၆၆၆

၃< ၁ CL ၆၆ ၇၁၆၆C၉၃၃၆၆၆	၆၆၆၆ Δ၇၆၆၆၆၆၆၆၆၆၆၆	၆၆၆ Δ၇၆၆၆၆၆၆၆၆၆၆၆
0		

$\triangleleft^b C d^c$
$$\Delta^b C d_c n \sigma \Delta^a \sigma^a$$
[illegible]

$\Delta^{\circ} \text{NFD}(\bar{c})^{\circ} \Delta^{\circ} \Delta^{\flat} \Delta^{\natural} \Delta^{\circ}$

Impacts on the physical environment are likely to be localized, of low-magnitude, reversible and restricted to the short period of the proposed project activities, the cumulative effect will therefore be minimal. While we will be shoveling small hole (and refilling them) and collecting small rock sample we believe that our work will provide baseline environmental data for surface and bedrock geology as well as sediment and soil quality, that will be available for decision making. In the same way, our work will report unique glacial landscapes that could be used to preserve sites of scientific/environmental value. To avoid any possible disturbance of lacustrine habitat and for safety reasons, we won't fly over the lakes. Holes where samples will be taken will be filled back before leaving the sites. The helicopter will fly high (> 1,000 ft) to keep noise levels low and to avoid disturbance of wildlife. If wildlife is present at a site of interest, the helicopter will not land and will go to the next planned site. If this occurs, planned sites will be revisited at a latter date if wildlife has left the area. While on the ground, the crew will avoid disturbance of vegetation. The exception will be the immediate site of the sample hole. The crew will avoid working in fragile environments (wetlands). The crew will report sightings of species at risks. The crew will keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times. A field assistant or wildlife monitor from one of the communities is proposed if available.

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 11: Municipal Development

[illegible]

See Keewatin Glacial Dynamics – Additional information (KGD_nirb_additional_info.pdf) section 3.

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See Keewatin Glacial Dynamics – Additional information (KGD_nirb_additional_info.pdf) section 4.

ᐱᓪᑲ ᐃᑦᐅᐅᑦ ᖃᓄᐃᑦ)ᑦᑕᑎᐅᓂᖃ: ᐃᓄᑕᑎᓂᖅᐅᖃᐳᑦ-ᐱᑦᑕᐃᑕᑎᓂᖅᐅᖃᐳᑦ

See Keewatin Glacial Dynamics – Additional information (KGD_nirb_additional_info.pdf) section 5.

Miscellaneous Project Information

Previous work related to this project has been screened by NIRB in 2018 (NIRB application ID 18YN005). This activity is related to projects J. Campbell 2018 Nunavut research license 01 009 17N-A, and I. McMartin, 2017 Nunavut research license 03 009 17N-A. With respect our request to work within the Thelon Wildlife Sanctuary, in 2018 we were given permission by NPC, NRIB, NRI and the Kitikmeot Inuit Association to conduct this type of research within the Sanctuary, respecting the wildlife and birds' avoidance and disturbance restrictions.

[illegible]

See Keewatin Glacial Dynamics – Additional information (KGD_nirb_additional_info.pdf) section 10.

Cumulative Effects

See Keewatin Glacial Dynamics – Additional information (KGD nirb additional info.pdf) section 9.

Impacts

$\mathcal{L}(\mathcal{A}) \subseteq \mathcal{L}(\mathcal{B})$

[illegible]
$$(P = \langle b \rangle_{\Delta} p \cap r^{\perp} q^{\perp})^c, N = \langle b \rangle_{\Delta} r^{\perp} \langle D \rangle_{\Delta} q^{\perp})^c \langle C \rangle_{\Gamma} \langle r^{\perp} \rangle^q \langle D \rangle_{\Delta} q^{\perp})^c, M = \langle b \rangle_{\Delta} r^{\perp} \langle D \rangle_{\Delta} q^{\perp})^c \\ \langle C \rangle_{\Gamma} \langle r^{\perp} \rangle^q \langle D \rangle_{\Delta} q^{\perp})^c, U = \langle b \rangle_{\Delta} L^{\perp} q^{\perp})^q)$$

1	polygon	Proposed fieldwork area
2	point	Tukto Lodge

- | | | |
|---|---------|-------------------------|
| 1 | polygon | Proposed fieldwork area |
| 2 | point | Tukto Lodge |