



ᑭᓇᐱᕐ ᐃᑦᑎᑦᑲᐅᐅᑦ ᑲᑎᒪᐅᐅᑦᑎᑯᑦ ᑐᔭᕈᖅᑐᑦ ᕿᑦᑭᕈᕐᕐᕐ #125895

Biogeochemical characterization of saline and glacial systems on Axel Heiberg Island

[illegible]

Period of operation: from 2024-03-27 to 2024-06-01

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ኖፌል^cጋበሎ^b ለሮቢንሰን^a የተሰጠው ድምር

▷Δ&NDS: Des chercheurs de la Montana State University, dont des étudiants en fin de cycle universitaire, proposent un projet pour caractériser les propriétés géochimiques et biologiques d'un réseau de saumure et d'un écoulement glaciaire sur l'île Axel Heiberg, au Nunavut. L'étude sur l'île Axel Heiberg impliquerait de prélever des échantillons d'eau, de glace, de neige, de saumure, de sel et de sédiments de l'intrusion diapirique de Stolz dans la baie de Whitsunday et d'un glacier qui alimente le fjord Skaare. Il est envisagé d'installer un camp temporaire sur le terrain pendant environ dix jours sur chacun des deux sites, pouvant accueillir jusqu'à cinq personnes. Le transport vers le camp se ferait via des avions Twin Otter depuis les installations du programme du plateau continental polaire, près de Resolute Bay. Le transport aux emplacements des camps sera assuré par motoneige et à pied. Les données chimiques et biologiques recueillies fourniront des informations permettant de mieux comprendre si ces environnements froids et salés constituent de bons habitats microbiologiques. Le projet se déroulerait de fin avril à fin mai 2024.

[illegible]

Operations Phase: from 2024-03-27 to 2024-06-01

Λ Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω

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Fieldwork location - Whitsunday Bay	Scientific/International Polar Year Research	Crown	Previously visited for research by Wayne Pollard in 2012/2013	N/A	310 km from Grise Fiord and 525 km from Resolute Bay
Fieldwork location - Skaare Fiord	Scientific/International Polar Year Research	Crown	Previously visited for research by Wayne Pollard in 2004	N/A	310 km from Grise Fiord and 500 km from Resolute Bay

[illegible]

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ᑦᐅᐱᐃᐅᑦ ᑦᑦᑦᑦ	Nancy Amarualik	Resolute Bay HTA	2024-03-15
ᑦᐅᐱᐃᐅᑦ ᑦᑦᑦᑦ	Ian Dudla	Hamlet of Resolute Bay	2024-03-15
ᐃᐅᐱᐃᐅᑦ	Marty Kuluguqtuq	Hamlet of Grise Fiord	2024-03-15
ᐃᐅᐱᐃᐅᑦ	Jimmie Qaapik	Arctic College	2024-03-15
ᐃᐅᐱᐃᐅᑦ	Grise Fiord HTA	Grise Fiord HTA	2024-03-15

$\subset \Delta^{\text{eq}}_j \wedge J_{\alpha} \models \dot{n} \triangleleft^{\text{eq}} r^{\text{eq}} \subset \triangleright / L \text{ } ^c$

Project transportation types

Transportation Type	How to Access	Length of Use
Air	Twin Otter from Resolute Bay to each field site, Whitsunday Bay and Skaare Fiord	
Land	By foot or by snowmobile from the field camp to the field sampling site	

Project accomodation types

Temporary Camp

אבגהכזחט

A^aD^c A^brA^b A^bC^bD^bσD^bA^b ΔL^brD^bN^br^c ΔjCΔ^c, Γ^cΔP^cN^c, ^bL^bC^bj^b, σrD^c A^br^cΔ

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Snowmobile	2	300 cc	Transport at the field research site from the field camp to sampling sites
Twin Otter	1	Aircraft	Transfer from Polar Continental Shelf Program facility in Resolute Bay to fieldwork locations and return to Resolute Bay
Generator	2	2kW	To provide electrical power for the field camp

[illegible]

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Propane	fuel	6	20	120	Lbs	Cooking and heating in the field camp
Gasoline	fuel	5	20	100	Liters	Fuel for the snowmobiles and generators

ΔL^{ϕb} ◁^{ϕb} C▷^{ϕb} ↯^{ϕb} L^{ϕb} ▷^{ϕb}

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0	Snowpack or glacier ice melt	Adjacent to the field camp locations in Whitsunday Bay and Skaare Fiord

$$\Delta^b C d r n \sigma \Delta^c \sigma^c$$

◀◁▷▶C♯^cD^c ◀^bD^{♭b}C▷F^LF^c

The temporary field camps are small but may result in some localized minor compaction of the soil and possibly vegetation beneath tent sites. This impact would be limited due to the relatively short duration of the camps. We will have a fuel spill kit on site in case of any minor fuel spills from refueling snowmobiles or generators. All food will be stored in sealed containers to prevent access by wildlife. We will generate sewage, waste water from cooking, and a small amount of non-combustible waste. Sewage will be stored in (sealed) buckets and returned to PCSP in Resolute Bay for disposal. Cooking water will be strained, solids added to the non-combustible waste and strained water put into a sump. The non-combustible waste will be stored in sealed buckets and returned to PCSP in Resolute Bay for disposal.

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

[illegible]

Both field locations are in terrain that has been glaciated. However, there is currently no glacier at the Whitsunday Bay location.

[illegible]

There is minimal vegetation at the two field locations, and any vegetation will be under snow cover/not growing given the timeframe of the fieldwork.

[illegible]

The field locations are more than 300 km from Grise Fiord and 500 km from Resolute Bay.

Miscellaneous Project Information

Not applicable

[illegible]

The temporary field camps are small but may result in some localized minor compaction of the soil and possibly vegetation beneath tent sites. This impact would be limited due to the relatively short duration of the camps.

Cumulative Effects

No cumulative effects are anticipated.

Impacts

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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																

($P = \langle b \rangle \dot{a} p \cap \dot{a} a^{\infty} \supset^C$, $N = \langle b \rangle \dot{a}^{\infty} \dot{r} \langle \dot{a} \dot{a}^{\infty} \supset^C \langle \dot{a} \dot{a} \dot{r} \dot{a}^{\infty} \supset^C \langle \dot{a} \dot{a} \dot{r} \dot{a}^{\infty} \supset^C$, $M = \langle b \rangle \dot{a}^{\infty} \dot{r} \langle \dot{a} \dot{a}^{\infty} \supset^C \langle \dot{a} \dot{a} \dot{r} \dot{a}^{\infty} \supset^C \langle \dot{a} \dot{a} \dot{r} \dot{a}^{\infty} \supset^C$, $U = \dot{a} \dot{a} \dot{r} \dot{a}^{\infty} \supset^C$)

1	polygon	Fieldwork location - Whitsunday Bay
2	polygon	Fieldwork location - Skaare Fiord