



Scientific Research

Period of operation: from 2025-07-11 to 2027-08-01

ለፖስታ ማረጋገጫ:

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ፍጹሙ ስለሆነ ለጥራት ምርቶች ማግኘት ይቻላል።

▷ΔΑΝΩ: N/A.

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Inuinnaqtun: Havaarijakhaq tukiliutaa Inuinnaait PitquhitsuqatTukhiutiujq atia turaarutaata naunaitkutaq Max FriesenIliuqiniirnut Havagviata Iliharvigjuangat Toronto19 Ursula Franklin St.Toronto, ON M5S 2S2max.friesen@utoronto.ca416-978-4505Qaffiujut inuit unalu/uuminngaluuniit pulaaqtut munarijauniaqtut hamna atatalingnit 1 – Halikaaptap tingmialik 2 – Mabel Etegik, Inirnikhaq3 – Mary Kaotalok, Inirnikhaq4 – David Kaosoni, Inirnikhaq5 – Emily Angulalik, Tukimuaqti, PI/KHS6 – Darren Keith, Angajuqaanga Qaujihaqti, PI/KHS7 – Max Friesen, Ilihaijiqpaaq, Iliharvigjuangat Toronto(Ilihijakhatit: halikaapta inikhaat pigiarumik, atauhiq malrurnigluuniit nakhalaaqtavut Inirnit unipkaaliuqtingluuniit) Havaarijakhaq hulidjuhiit Una Inunnait Pitquhitsuqangit Havaarijakhaq havaarilluaqhimajaat havaqatigivlugit ukunanngat Pitquhirnikkut Ilihautiniq / Kitikmeot Ingilraatigut Katimajiit (PI/KHS) Iqaluktuuttiarmiit, ittarnitaliqijiillu algaktaqtuit nunami Iliharvigjuangat Torontomit, hivunigivlugit pitquhitsuqat qaujihaqtunut Nunavunmi. Havakhimaaqatigihimajaqut 1999 mitilluni, tiliurahaqhugu pitquhitsuqangit nunanganit Pitquhitsuqangit Qaujimajatuqangit Inirnikhallu Iqaluktuuttiarmiut, unalu ittarnitaliqiniq algaktaqtut. Hivulliqaangit hulidjuhingit tukhiutigijangit 2025 ukiunganit havaglugit iluani Ahiak Utiqtaqtut Tingmiaq Unaguiqhirvingat unipkaaliurluta pitquhitsuqangit qaffiujunit Inuinnaait Inirnikhat najurvigigaluangit inuuhuktuuvlutik tahamani. Una naunaitkutaq atuqtauhunngujuq

hamna Pitquhirnikkut Ilihautiniq/ Kitikmeot Ingilraatigut Katimajiit ilihautikhangit. Havaarijakhat najugaat Ahiak Utiqtaqtut Tingmiaq Unaguqhirvingat. Ikittunik unipkaaliurumajavut tununnganit Kuugjuaq, uvanilu Innakhagvik (Perry Island). Takulugu nunaujannguaq iluani. Tukhiutihimajaat uplungani pulaarlugu uvani hapummijaujunut nunangaTaaqhivalirvia 11 unalu 12, 2025. Hamna 2025 havaarijakhaq naammagijaukpat, utirnarungnaqhijugut aippaagunnguqtumik aujani 2026 uvvaluuniit 2027 mi. Hukkuat agjaqtauunnguquq(t) Halikaapta. Parnaijarumajaqqut ahiakut malruk upluinnaaniit aullaarluta Iqaluktuuttiarmi. Uplunganit, tallimanit ikaarnikkut pulaanginnarumajugut Ahiak Utiqtaqtunut Tingmianit Unaguqhirvia iluani. Una halikaapta tingmihainnarniaqtuq nutqaqattarlutik, kihimi ingniqutaa qaminngainnaqhimaluni. Nainaaqhimajuq hulidjuhingit tunngavingalu Malruk uplunganit, halikaapta inuqarlunilu 4-5 inungnit (tingmialik, 1-2 Inirnikhat, 1-2 PI/KHS qaujihaqtit) tingmilutik Ahiarmut. Pingahuinnarnit najugainnut Inirnikhat unipkaaliurlutik. Inirnikhat humiliqaak unipkaarumagumik, nunaujanuami tikkuqaqhiinahuaqtut humiliqaak initurliminiit ihivriunginnarahuaqtangit hauhimaittumik. Imaatut, tingmianit qalgi takujumagumiuk piruminiillu haniani CWS najugaat – nipiliurnahuaqtavut naammagijaugumik. Kihiani, Inirnikhat unipkaaqtut hivulliutauluni. Iqqakuut Tahapkuat upluinnaaniit utiqattaqhutik, tamaita iqqakuut agjaqattaqhunnguqaat Iqaluktuuttiamut. Halumaittumik imat hiamittailinahuarlugillu. Halikaapta uqhuruangit tutquumaniaaraat uvani Tingmiaqhiuqtiit Munarijangit CWS Kuugjuaq aujiivingit, aahiit halikaapta uqhuruangit parnautigijangit tingmiaqhiuqtiit munarijangit auladjutijangit. Imaiqhimaajut qattarjut ahivaqtauunngujut aujaq nunganit. Ihumagijakhaq avatiliqiniq ihuuluutauniagut ingattaqtailinikhagut maliktakhangit Hamna ilitquhingit ihumagijakhaq avatiliqiniq ihuuluutauniagut taamna aktuqtauningit kuinginnarningit tingmianut halikaapta tingmijunut. Naiglinahuarlugit taimaa malikhimainnarniaqtavut tamaat Kanata Uumajunut Maligautangit tingmijunut, ilagivluniuk pittailinahuarlugit tingmidjanut ivajunut najugait. Tingmiqattalimaittugut Ahiak nunanganiiitilluta; una halikaapta tingmiinnarahuaqtut unipkaaliurniarumik kihiani, ingniqutaa umikhimainnarniaqtuq unipkaaliurniarumik. Kihiani, halikaapta tingmialiglu aturvikhaat uvanngat Ukiuqtaqtumi Qaujihaiviit Havaarijakhaq; una halikaapta aallaunngittuq atuqtauvagaat hapkuat Kanata Uumajuliqijit Havaktiit tingmianut atataqtaunigut uvani Ahiarmi, una halikaapta tingmialiglu ilihimattiaqtangit malittiaqtakhaat maligautainut uvani Ahiarmi. Maligautait aktuqtailiniagut uumajunut maligautAktuqtailinahuaqtavut malikhimalugit, akhaqarnirumigluuniit. Akhat takukhaugumik tingmitillutik, mittalimaittugut tahamani. Niqit tutquqtaulimaittut halikaapta hilataani. Hiqqunmik parnautiginiiaqtavut tamaat, atuqtaulaitturluuniit, parnautigiinnaqtukhaq. Nunalingni katimaniq unalu ilagijaujuqUna havaarijakhaq havaarijangit hapkuat Pitquhirnikkut Ilihautiniq / Kitikmeot Ingilraatigut Katimajiit (PI/KHS) Iqaluktuuttiarmi, ilagilugillu Inuinnait qaujiharnigut hivulliutigijangit. Qangaraaluk ukiunganit, unipkaat kititiqhimaajauq Pitquhiutigut Unipkaangit Inirnikhat Kuugjuarmiuttat, kihimi Kuugjuaq hivulliutigijaat. Amihut Inirnikhat nunagivagaat Kuugjuaq, itquamajamingnillu unipkaarumavlugit. Amihut inuit halikaaptakkuuqtut Inuinnait Iqaluktuuttiarmiutaujut. Hamna Qaujimajatuqangit unipkaaqtait tutquumaniaqtait uvani PI/KHS Iqaluktuuttiarmi, kitunuliqaak ilihautikhangit. Hivunngani parnautikhangit iluani hapummijaujuq nunangani Hivunigijaqqut malruk upluinnaangit 2025 ukiunganit. Kihimi, naammagijaukpat utiffaarunnaqhijugut malruk upluinnaangit uvani 2026 uvaniluuniit 2027. Talvanngat tukhiutigijavut 3 nit ukiunganit tukhiutikhangit.

Personnel

Personnel on site: 5

Days on site: 4

Total Person days: 20

Operations Phase: from 2025-07-11 to 2027-08-01

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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ᓄᓇᑦᑎᙳᖅ	ᐱᑏᑦ	ᕐᑩᔭᐱᓐᑎᑏᑦᖅ	ᖅᓴᓴ ᑩᖅᑎᑕᐅᓴᐅᓴᐱᐱᓐᑦᓂᖅ
ᐃᖅᑩᑩᑦᑕᐱᖅ	Emily Angulalik	Pitquhirnikkut Ilihautiniq / Kitikmeot Heritage Society	2025-01-09

ᑕᐃᑦᑭᑦ ᐱᑭᑦᐃᑦ ᐊᑦᑦᑕᐃᑦᑭᑦ

ᐊᑦᑦᑕᐃᑦᑭᑦ ᐱᑕᑦᐃᑦᐃᑦᐃᑦᐃᑦᐃᑦ ᐱᐱᑦᑭᑦᑭᑦ:

ᑕᐃᑦᑭᑦ ᐱᑭᑦᐃᑦ ᐊᑦᑦᑕᐃᑦᑭᑦ

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ᐊᑦᑦᑕᐃᑦᑭᑦ ᐊᑦᑦᑕᐃᑦᑭᑦ	Migratory Bird Sanctuary Permit.	Applied, Decision Pending		
Government of Nunavut, Department of Culture, Language, Elders, and Youth	Archaeology Permit	Applied, Decision Pending		
ᐊᑦᑦᑕᐃᑦᑭᑦ ᐊᑦᑦᑕᐃᑦᑭᑦ ᐊᑦᑦᑕᐃᑦᑭᑦ ᐊᑦᑦᑕᐃᑦᑭᑦ	Land Use License Exemption	Applied, Decision Pending		

Project transportation types






Transportation Type	ᐊᑦᑦᑕᐃᑦᑭᑦ ᐊᑦᑦᑕᐃᑦᑭᑦ	Length of Use
Air	Helicopter	

Project accomodation types

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◀▷σ◀^{q_b}▷^{q_b}

[illegible]

		 - 	
Bell 206L Helicopter	1	2 x 8 metres	Two Flights from Cambridge Bay to Ahiak Migratory Bird Sanctuary.

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[illegible]

ΔL^{ϕb} ◁^{ϕb} C▷^{ϕb} ↯^{ϕb} ≍^{ϕb}

ᐅᑦᓴ ᐱᐢᑦᓴ ᐃᑦᓴᐅᑦᓴᐅᑦᓴᐅᑦᓴ	ᑦᓴᓴ ᐃᑦᓴᐅᑦᓴᐅᑦᓴᐅᑦᓴᐅᑦᓴ	ᐱᑦᓴ ᐃᑦᓴᐅᑦᓴᐅᑦᓴᐅᑦᓴᐅᑦᓴ
0	Please note: these are day trips, and we will be bringing drinking water from Cambridge Bay.	

$$\Delta^b C d \zeta \rho \sigma \Delta^c \sigma^{\zeta b}$$

ᐱᓕᑦᐸᑦᐳᑦᐳᑦᐳᑦ ᐱᓕᑦᐸᑦᐳᑦᐳᑦᐳᑦ	ᑭᓂᐸᑦᐳᑦ ᐸᑦᐸᑦᐳᑦ	ᑭᓂᐸᑦᐳᑦ ᐸᑦᐸᑦᐳᑦ ᑭᓂᐸᑦᐳᑦᐳᑦᐳᑦᐳᑦ	ᑭᓂᐸᑦᐳᑦ ᐸᑦᐸᑦᐳᑦᐳᑦᐳᑦ	ᑭᓂᐸᑦᐳᑦᐳᑦᐳᑦᐳᑦᐳᑦ
Scientific/International Polar Year Research	ᐸᑦᐸᑦᐳᑦ ᐸᑦᐸᑦᐳᑦᐳᑦᐳᑦᐳᑦ	2 kg	This amount refers to waste from lunches. All waste will be returned to Cambridge Bay daily for disposal in town.	n/a

ᐃᑭᐅᓂᓄᓇᓂᓄᓇ ᐃᑦᑐᓂᓄᓇᓂᓄᓇ

We anticipate very few environmental impacts. All waste will be removed daily, we will not impact the water, and helicopter fuel will be stored with other fuel used by the CWS goose banding operation, with empty drums removed at the end of the summer. We are very aware of the sensitive environment, particularly relating to goose nesting and caribou calving, and will follow all CWS guidelines for avoiding activities and areas that will disturb these species. For example, if we see an area with many geese we will fly around it and not land there. Our pilot and the helicopter company are the same ones that the CWS uses for their annual goose banding, so will be experienced in working in this region. Below, I have answered "unknown" for several categories of impact since I am not sure if there will be an impact. For example, under "biological - birds" there would only be a small negative impact if there were actually nesting geese close to where we would land, but we plan to avoid nesting sites, so it is unknown, but unlikely, that we would have any negative impact. Please note that we have applied to the Canadian Wildlife Service for a permit to do this work in Ahik Migratory Bird Sanctuary, and it will not go ahead unless we receive this permit. Below, I have indicated "positive impacts" on the socioeconomic side. For community wellness, many Elders associated with the PI/KHS have wanted to go to Perry River for many years, but it was too difficult. We believe that this will be a highly positive experience to travel there, and that their knowledge is important to record soon. For archaeology, the area is currently poorly known, and this project will allow preliminary information to be recorded.

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

Please see next page. The main possible adverse effects will relate to disturbance from helicopter flights. To reduce our impacts we will follow all CWS guidelines for helicopter flights, including avoiding areas with dense nesting sites and avoiding caribou. We will fly as little as possible while in Ahiak; the helicopter will be used to fly between interview locations, but will be shut down for most of the time. Also, our helicopter and pilot will be supplied by the Polar Continental Shelf Project; this helicopter will be the same one used for Canadian Wildlife Service annual goose banding at Ahiak, so the helicopter company and pilot will be aware of special procedures to be used in Ahiak. We believe our project will have positive impacts in two areas: community wellness (it is considered very important to record Oral Histories of Elders very soon; the results will be used for community programming), and archaeology (if time permits, we will be able to make an initial assessment of the kinds of archaeological sites in the area, and their condition).

Cumulative Effects

We do not anticipate cumulative effects.

Impacts

$\mathbb{A}^{\mathfrak{b}} \mathbb{C} \triangleright \sigma^{\mathfrak{a}} \mathfrak{r}^{\mathfrak{c}} \triangleleft \mathfrak{e} \mathfrak{n} \mathfrak{r} \triangleright \mathbb{C} \dot{\sigma}^{\mathfrak{c}} \mathfrak{d}^{\mathfrak{c}} \triangleleft \mathfrak{b} \mathfrak{d}^{\mathfrak{b}} \mathbb{C} \triangleright \mathfrak{l} \mathfrak{r}^{\mathfrak{c}}$

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															

($P = \langle b \rangle_{\Delta, \mathcal{P} \cap \mathcal{A}^{\leq C}}$, $N = \langle b \rangle_{\mathcal{A}^{\leq C} \cap \mathcal{C} \cap \mathcal{A}^{\leq C}} \leq \langle \mathcal{C} \cap \mathcal{A}^{\leq C} \rangle_{\mathcal{A}^{\leq C} \cap \mathcal{C} \cap \mathcal{A}^{\leq C}}$, $M = \langle b \rangle_{\mathcal{A}^{\leq C} \cap \mathcal{C} \cap \mathcal{A}^{\leq C}} \leq \langle \mathcal{C} \cap \mathcal{A}^{\leq C} \rangle_{\mathcal{A}^{\leq C} \cap \mathcal{C} \cap \mathcal{A}^{\leq C}}$, $U = \langle b \rangle_{\mathcal{A}^{\leq C} \cap \mathcal{C} \cap \mathcal{A}^{\leq C}}$)

1 polygon Oral history recording area. Please note this is within Ahiak Migratory Bird Sanctuary.

1 polygon

Oral history recording area. Please note this is within Ahiaik Migratory Bird Sanctuary.