NOTICE OF SCREENING

NMRIRB File Number: 125661

Date: July 19, 2023

PROJECT OVERVIEW

Charolotte Lamontagne, Director, CIRNAC "Akpatok Island Remediation"

Environmental Site Assessment activities have been undertaken at the site in 2020 and 2021. These assessments have identified the following environmental concerns at the site: 105 cubic metres of hazardous debris, 106 cubic metres of non-hazardous debris and 709 cubic metres of impacted soils. The objective of this project is to remove all hazardous and non-hazardous debris and the impacted soils from site and dispose of them safely in offsite facilities. The following details are based on work completed on similar sites in Northern Canada and known site conditions. Access to the site will be via sealift/barge and air. All material shipments to/from site will be via sealift/barge. A Barge landing area has been identified north of the project site. The mobilization of equipment/supplies and demobilization of equipment and waste will be completed within the same year. The site airstrip, located adjacent to the site, is suitable for use by small fixed-wing aircraft (i.e.,Twin Otter). The project team and smaller equipment/supplies will be flown-in using charter flights from Kuujjuaq and the other Nunavik communities, as required. A temporary camp will be set-up at the site for project personnel. Camp operations will meet all regulatory requirements and manage water, wastewater and waste management in an environmentally sound manner. Wildlife monitors, equipment operators and labourers will be sourced from local communities where possible. The site cleanup will require approximately 10-15 people to be on site completing the cleanup activities. Construction equipment with tracks or low ground-pressure tires will be used at the site. Minimum equipment requirements include, a small excavator, a small front-end loader, and a skid steer. Fuel anticipated to be stored on site includes drummed diesel and gasoline for equipment (~25,000 L), drummed aviation fuel, propane (for heating on-site facilities) and compressed gases for cutting metal. A Site-Specific Environmental Health and Safety Plan and

Management Plans will be developed for the project that will include: On-site Contingency and Emergency Response Plan; Spill Contingency Plan; Fire Safety Plan; Wildlife Management Plan; Fuel Management Plan; Historical, Archaeological and Cultural Resources Plan; Wildlife Protection Plan; Erosion Sediment and Drainage Control Plan; In Stream or Near Water Works Work Methodology Plan; Barge Landing Plan; Mobilization and Demobilization Plan; and Airstrip and Site Access Road and Upgrading and Maintenance Plan. The work is expected to be completed in a single field season and will involve:

• Mobilization of personnel, equipment, materials and support facilities, including fuel; Upgrading and maintenance of site roads and airstrip;

• Construction of a temporary camp;

• Construction/maintenance of travel routes on site connecting the barge landing area, temporary camp, airstrip, barge landing area and areas of interest;

• Excavation of impacted soils;

• Demolition of structures and buildings including removal and management of hazardous materials (e.g. asbestos shingles, lead based paints);

• Collection, cleaning and crushing of barrels;

• Collection and sorting of debris;

• Segregation, consolidation, packaging and containerization of all impacted soils, equipment, materials and debris (hazardous and non-hazardous);

• Excavation of borrow material (aggregate) and backfilling and grading of all excavated areas; Deconstruction of the temporary camp and packaging for removal;

• Demobilization of fuel, materials and equipment off site including transportation of containerized soil and hazardous/non-hazardous waste and debris and Disposal of all soil and waste materials at off-site facilities.

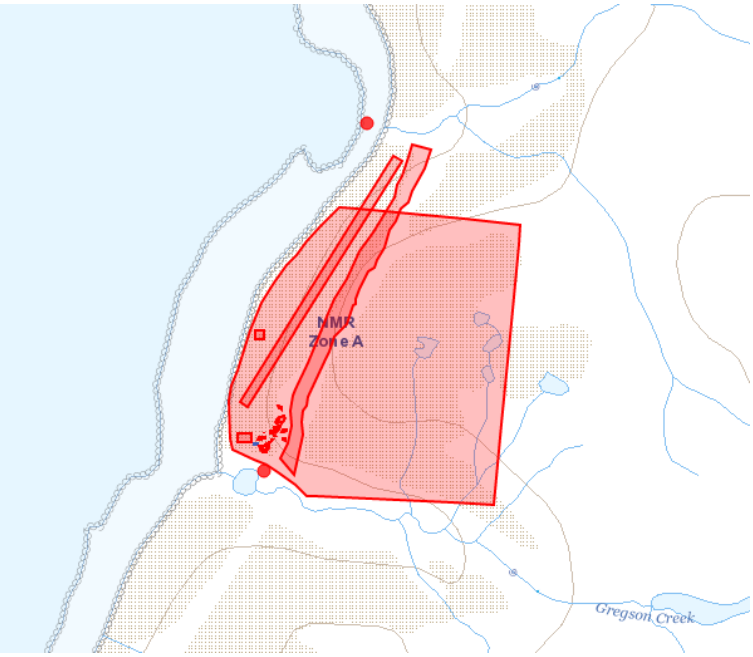
Please visit the NMRIRB Public Registry at
https://www.nmrirb.ca/portal/registry/default.aspx

For project related information, access the NMRIRB Public Registry, click the Projects menu and under a keyword search, use the NMRIRB file number. All project information, documents, maps and public comment submissions will be available.

PROJECT MAP

Akpatok Island

Detailed Site Map



Id	Type	Location description
11612	polygon	Akpatok Island Remediation - Airstrip
11614	polygon	Akpatok Island Remediation - Camp Area
11615	polygon	Akpatok Island Remediation - Fuel Storage Area
11616	polygon	Akpatok Island Remediation - Remedial Areas
11617	polygon	Akpatok Island Remediation - Temporary Waste Storage Area
11618	polygon	Akpatok Island Remediation - Parcel Boundary
11624	polygon	Akpatok Island Remediation - Borrow Source
11622	point	Akpatok Island Remediation - Proposed Water Intake (exact location to be determined on site)
11626	point	Akpatok Island Remediation - Barge Landing Area

APPLICANT

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ACTIVITIES

8 activities were identified in the project application:

Activity 1: Camp Area

Activity Type: Camp

Land Status: Crown

Site History: Historically, small camps existed close by at Tullaq. Oil and gas exploration occurred on Site in 1969. It was abandoned the same year and all equipment and materials were abandoned in place. The site is uninhabited but used for hunting and gathering.

Archaeological or paleontological Value: There is one known archaeological site in the vicinity of the Site. Information is on file with the Proponent.

Proximity to nearest communities/protected areas: The nearest communities are Kangirsuk (80km southeast of Akpatok) and Quaqtaq (80km northwest of Akpatok). Akpatok Island has International Biological Program status, is a Canadian Important Bird Area (#NU007), and is a Key Migratory Bird Terrestrial Habitat site (NU Site 50). The distance to the Site is more than 20km.

Activity 2: Airstrip

Activity Type: Airstrip use or construction

Land Status: Crown

Site History: (Same as activity 1)

Archaeological or paleontological Value: (Same as activity 1)

Proximity to nearest communities/protected areas: (Same as activity 1)

Activity 3: Fuel Storage Area

Activity Type: Fuel and chemical Storage

Land Status: Crown

Site History: (Same as activity 1)

Archaeological or paleontological Value: (Same as activity 1)

Proximity to nearest communities/protected areas: (Same as activity 1)

Activity 4: Remedial Areas

Activity Type: Site cleanup / remediation

Land Status: Crown

Site History: (Same as activity 1)

Archaeological or paleontological Value: (Same as activity 1)

Proximity to nearest communities/protected areas: (Same as activity 1)

Activity 5: Temporary Waste Storage Area

Activity Type: other

Land Status: Crown

Site History: (Same as activity 1)

Archaeological or paleontological Value: (Same as activity 1)

Proximity to nearest communities/protected areas: (Same as activity 1)

Activity 6: Borrow Source

Activity Type: Other

Land Status: Crown

Site History: (Same as activity 1)

Archaeological or paleontological Value: (Same as activity 1)

Proximity to nearest communities/protected areas: (Same as activity 1)

Activity 7: Proposed water intake

Activity Type: Raw water intake for other use

Land Status: Nunavik Inuit Lands (NIL)

Site History: (Same as activity 1)

Archaeological or paleontological Value: (Same as activity 1)

Proximity to nearest communities/protected areas: (Same as activity 1)

Activity 8: Barge Landing Area

Activity Type: Other

Land Status: Nunavik Inuit Lands (NIL)

Site History: (Same as activity 1)

Archaeological or paleontological Value: (Same as activity 1)

Proximity to nearest communities/protected areas: (Same as activity 1)

COMMUNITY INVOLVEMENT

Contact was made on July 26, 2021 with the Makivvik Corporation and again on June 23, 2022 with Makivvik Corporation.

(The proponent will also require an entry and access permit from Makivvik Corporation)

AUTHORIZATIONS

There are 2 Authorizations identified by the Proponent for the Project (that trigger NMRIRB Screening)

1. Indigenous and Northern Affairs Canada – Land Use Permit (Applied Decision pending)

2. Indigenous and Northern Affairs Canada – Quarry Permit (Applied Decision pending)

There is 1 additional Authorization identified by the proponent

3. Makivvik Corporation – Entry and Access permit (Not yet applied)

DETAILS

Mode of transportation:

a) Air: Staff and smaller equipment will be mobilized and demobilized by small fixed wing aircraft.

b) Water: The project will largely be mobilized (camp, equipment, fuel) and demobilized (camp, equipment, waste) by sealift/barge.

c) Land: Staff will move around site using ATVs. A small front-end loader will be used to move material, wastes, etc. around site.

Accommodation: Temporary Camps

Personnel: 12 personnel on site, 47 days on site for a total of 564 person days.

Project Schedule: Operations phase from August 16 2023 to October 1 2023.

MATERIAL USE

Equipment Use

Equipment Type	Quantity	Dimensions	Use
Skid Steer	1	Kubota SVL75	Remediation – debris collection, transportation of fuel drums and camp supplies

Small Excavator	1	Komatsu PC220	Remediation – soil excavation, debris collection, demolition
Small front-end loader	1	Cat 950M	Remediation – loading borrow material, debris collection, transportation of soil bags
ATV	3	Honda TRX 420	On site transportation
Diesel generator	2	80 kW	Camp power/electrical heating and back-up
Water Pump	1	2 Honda water pumps	Non-potable water supply
Dual Chambered Incinerator	1	N/A	Incineration of food waste and combustible camp waste
Electric UL approved mobile fuel pump	2	N/A	Fuel Transfer

Fuel Use

Fuel Type	# Containers	Capacity	Total Amount	Units	Proposed Use
Diesel	125	205	25,625	Litres	Equipment fuel
Gasoline	12	205	2,460	Litres	ATV fuel

Hazardous Materials and Chemicals Use

Hazardous Material / Chemical	# Containers	Capacity	Total Amount	Units	
Hydraulic Oil	1	205	205	Litres	Equipment Maintenance
Motor Oil	1	205	205	Litres	Equipment Maintenance
Propane	1	45	45	Kg	Heating and cooling

WATER USE

The Proponent will obtain water for camp purposes. A pump with a 2-inch pipe will be connected directly to the camp storage tank. The pump is designed to contain leaks and the intake hose will have a mesh screen designed to prevent harm to fish. Water retrieval location is stipulated at Gregson Creek (specific site location to be determined but close to the proposed camp area). Daily intake of water will be approximately 1.2 cubic metres.

WASTE MANAGEMENT

Project Activity	Type of Waste	Projected Amount	Methods of Disposal	Additional Treatment Procedures
Camp	Combustible wastes	Unknown	Incineration in an on-site commercial incinerator; ash will be disposed of offsite in an approved landfill	N/A
Camp	Greywater	1.2 cubic metres per day X 47 days = 56.4 cubic metres	Discharge of greywater will be on-site. Greywater sump will be located greater than 30 m from watercourses and will be done in a manner that prevents erosion and sedimentation.	N/A
Site Cleanup / Remediation	Hazardous	105.1 cubic metres	Off-site disposal in an approved landfill	N/A
Camp	Non-Combustible wastes	Unknown	Off-site disposal in an approved landfill	N/A
Site Cleanup / Remediation	Non-combustible wastes	336.7 cubic metres	Off-site disposal in an approved landfill	N/A

ADDITIONAL INFORMATION

Description of Existing Environment: Physical Environment

For a Description of the Existing Environment: Physical Environment see Section 5 of the Environmental Impact Assessment Report (BluMetric 2023, UPLOADED on the online application)

Site Location and Dimensions: The Site is located on the western shore of Akpatok Island on a flat plateau approximately 25 meters above sea level (masl). It is about 500 m inland from Ungava Bay and less than 50 m from Gregson Creek. Akpatok Island is located in Ungava Bay, north of Quebec (60°25.589'N and 68°20.023'W) within the Qikiqtaaluk Region of Nunavut. The main exploration site is situated on the western shore of Akpatok Island

Climate: There is no weather station present on Akpatok Island. The closest weather station is the Environment Canada Station in Kangirsuk, Quebec approximately 85 km southwest of Site where daily average temperatures vary between -24˚C in January and 8˚C in August (data corresponding to the period from 2018 to 2020, (Government of Canada 2020). Daily average temperatures are above 0˚C during three months of the year (July - September). The average yearly precipitation has not been recorded but precipitation in the form of snow can occur at any time throughout the year, although it is less likely in July and August. The Site is exposed to strong winds, often greater than 60 km/hr and sometimes more than 100 km/h.

Geology and Hydrogeology: The sheer cliffs of the island are predominantly made of Ordovician Limestone. Soil is composed of sharp-edge limestone gravel with a small portion of sand and organic matter. The Site is located within a zone of continuous permafrost (90% - 100% of this zone is underlain by permafrost) (Heginbottom, J.A., 1995).
Soil and geological conditions were confirmed during the 2020 Site visit. Field staff recorded ground conditions as predominantly sand and gravel with cobbles. Trace organic material was also noted in the top 0-30cm of soil across the Site. No permafrost was encountered during the test pitting, completed to a maximum of 1 meter below ground surface (mbgs). Underlying geology was evident in sheer limestone cliffs observed bordering the eastern side of Site.

Hydrology: Local groundwater flow at the Site is expected to flow radially towards the Ungava Bay to the west and towards Gregson Creek to the south. No groundwater was observed in any of the test pits excavated during BluMetric's field investigation.
Permafrost in the area is classified as continuous with medium to low (<10% to 20%) ground ice content in the upper 10-20 m of the ground (Geological Survey of Canada (GSC), 1995). Neither permafrost nor bedrock was encountered in any of the test-pits dug at the Site. The permeability of the gravelly soils present at the Site is expected to be relatively high. Infiltrated surface water and groundwater is expected to readily flow through the active layer of these soils.

Description of Existing Environment: Biological Environment

For a Description of the Existing Environment: Biological Environment see Section 5 of the Environmental Impact Assessment Report (BluMetric 2023, UPLOADED on the online application)

Ecoregion: Akpatok Island is in the Northern Arctic Ecozone – Meta Incognita Peninsula Ecoregion. The Northern Arctic Ecozone has a harsh climate, with high winds and shallow soils resulting in sparse and dwarfed plant life. Herb and lichen dominated communities constitute the main vegetative cover. Lichen communities are associated with rock fields and hilly upland areas. Common herbs are purple saxifrage (*Saxifraga oppositifolia*), mountain avens (*Dryas octopetala*), and arctic poppy (*Papaver species*), often mixed with shrubs such as arctic willow

(*Salix* spp.); the size of shrubs decreases rapidly toward the north (Ecofor 2020). The landscape is covered by nearly continuous shrub tundra vegetation, consisting of dwarf birch (*Betula nana*), willow, northern Labrador tea (*Rhododendron tomentosum*), *Dryas* spp. and *Vaccinium* spp.
Vegetation: Vegetation is sparse due to the aridity of the Site. The plants present at the Site are not typical of the Ecoregion, due to the broken limestone rock with little soil. The dry, poor soil, rocky nature of the landscape results in a discontinuous, scattered vegetation cover of native species, mostly grasses, sedges, mats of mountain avens, and a low number of other herbaceous plant species. No plant species at risk are reported in the project area.
Wildlife: The ecological importance of the island resides mostly in its use by breeding birds. The island is named for the akpak, the thick-billed murre (*Uria lomvia*), which breeds on ledges along the limestone cliffs surrounding the island. Two colonies of thick-billed murre are located in the southern and northern portions of the island (over 20km away from the Site). The island supports the largest number of breeding thick-billed murres in Canada, at more than 20% of the Canadian population (Latour *et al.* 2008). Akpatok Island has International Biological Program status, is a Canadian Important Bird Area (#NU007), and is a Key Migratory Bird Terrestrial Habitat site (NU Site 50).

In addition to the thick-billed murre, other notable breeding bird species include black guillemot (*Cepphus grylle*), peregrine falcon (*Falco peregrinus*), gyrfalcon (*Falco rusticolus*) and glaucous gull (*Larus hyperboreus*). Other reported species of birds include rock ptarmigan (*Lagopus muta*), Lapland longspur (or Lapland bunting; C*alcarius lapponicus*), snow bunting (*Plectrophenax nivalis*), horned lark (*Eremophila alpestris*), American golden plover (*Pluvialis dominica*) and snowy owl (*Bubo scandiacus*).

In addition to being important for colonial seabirds, the waters surrounding the island play host to many marine mammals including the Atlantic walrus (*Odobenus rosmarus rosmarus*), , and seals (*Phocidae* spp.) (IBA Canada 2020). The island is also thought to be an important summer retreat and possible maternity denning area for polar bears (*Ursus maritimus*) (Latour et al. 2008; IBA Canada 2020). Previous studies did not focus on fishes and fish habitat, although according to Fisheries and Oceans Canada species at risk distribution (Fisheries and Oceans Canada 2023), the spotted wolfish (*Anarhichas minor*) lives in the waters around the island. Terrestrial mammals present on the island are the arctic wolf (*Canis lupus arctos*), arctic fox (*Vulpes lagopus*) and caribou (*Rangifer tarandus*).

Five (5) species at risk are known to occur on the island and its surrounding marine habitats, while four (4) additional species could potentially occur on the island based on habitat suitability.

Protected Areas: Akpatok Island has International Biological Program status, is a Canadian Important Bird Area (#NU007), and is a Key Migratory Bird Terrestrial Habitat site (NU Site 50). Two colonies of thick-billed murre are located in the southern and northern portions of the island (away from the Site).

Description of Existing Environment: Socioeconomic Environment

For a Description of the Existing Environment: Socioeconomic Environment see Section 5 of the Environmental Impact Assessment Report (BluMetric 2023, UPLOADED on the online application)

Site Specific Land Use – Past: Pre-Inuit (c. 4500-900 yrs ago) occupations were confirmed at Tullaq and inferred in the large valley north of Nuvualuk, where they established small camps on raised beaches and accessed local resources, particularly walrus, murres and tan chert to manufacture tools. Inuit lived on the island from early pre-contact times up until the early 20th century. Archaeological information shows the importance of walrus hunting on the island. Oil and gas exploration was carried out on the Site in 1969, followed by its abandonment in the same year.

Site Specific Land Use – Current: Akpatok Island is uninhabited but is used by local Indigenous groups year-round for hunting and gathering. The island is an important hunting area for walrus and gathering murres' eggs, especially by residents from Quaqtaq, Kangirsuk, Kangiqsualujjuaq and Kuujjuaq (CIRNAC 2003). The Site can only be accessed by plane or boat during the summer months. With the exception of the Site, there are no other buildings or infrastructure on the island. Other than traditional uses, Akpatok Island is accessed infrequently for research and tourism.

Cultural Features: The Archaeological Assessment conducted by the Avataq Cultural Institute (ACI) in 2021 found that Akpatok Island holds strong archaeological potential. The Site is located in an area known as Tullaq which is located on the central west coast of the island and is the name given by Inuit to the creek there (Gregson Creek), which means 'Get to shore first'. It is an area that has been traditionally frequented by Inuit. On a cliff-faced coastline with limited access to the interior, it is the place where umiait (seal skin boats) would land upon their arrival from the mainland when over-wintering on the island (Vézinet, 1982). There are known archaeological resources in this area.
A field investigation by ACI in 2021 confirmed and documented (photographs, measurements) the precise location of the known archaeological feature and verified the presence/absence of other archaeological sites within the federal land parcel and along the coastline nearby.

Cumulative Effects

Adapted from Section 9 of the Environmental Impact Assessment Report (BluMetric 2023, UPLOADED on the online application)

Past and Existing Stressors: Most of the perimeter of the island consists of cliffs with limited places to land a boat and camp. Although the island has been occupied in the past and was a site for overwintering, it has been unoccupied since the early to mid-1900s. While there has been exploration of mineral deposits in the region, there has been limited activity on the island. In 1969, Premium Iron Ore undertook exploration at the site for natural gas. One well was drilled. The site was subsequently abandoned the same year, leaving buildings and debris. There are no known Mineral Rights claims on Akpatok Island. The island is Identified as an Important Bird Area due to the presence of large population of Thick-billed Murre that use the islands cliffs for

nesting sites. The island is also known to host healthy populations of arctic walrus and polar bear and continues to be a popular seasonal site for hunting and gathering. The only other land use appears to be periodic visits related to tourism and research (ecological, archaeological). Other than traditional land use, there has been relatively little human impact historically and current use is very limited. Resulting Contribution: This project involves the complete removal of all impacted soils and debris from site, including any equipment and materials used to support the remedial plan. The intent is to remove or significantly reduce long term impacts and enhance the quality of habitats and wildlife on the island. Effects on Renewable Resources: While natural resources will be used (e.g., borrow, water) and impacted (e.g., borrow sources, wildlife, vegetation) during the course of work, the impacts will be limited to the six-week duration of the project. Further, the intent of the project is to improve the natural environment and thus is anticipated to have a positive long term effect on habitat and species. With proper mitigation measures in place, no negative cumulative impacts are anticipated to natural resources. Effects on Heritage Values: The archaeological site identified will be protected during the course of work. The site was previously investigated in 1974 and all surface artifacts were collected; in the case of increased seasonal activity at the site following remediation, it is considered to be of low potential for further information. No impacts are anticipated. For the duration of the project, public access to this small area will be restricted. However, the intent of the project is to remove contaminants and health and safety risks, thereby improving the environment for future visitors. It is also intended to improve the natural environment and is anticipated to have a positive long-term effect on habitat and species and opportunities for traditional land use such hunting and gathering. With proper mitigation measures in place, no negative cumulative impacts are anticipated to heritage resources. Mitigation Measures: No negative cumulative impacts have been identified and no unique mitigation measures have been developed to address cumulative impacts.

Miscellaneous Information

The following supporting documents have been uploaded to the online tool: Photographs, Human Health and Ecological Risk Assessment (BluMetric 2022), Remedial Action Plan (BluMetric 2022), Emergency Response Plan (CIRNAC 2023), Spill Prevention Plan (CIRNAC 2023), Waste Management Plan (CIRNAC 2023), Wildlife Management Plan (CIRNAC 2023)

Pits

The proposed borrow area is on Federal Lands. A full Geotechnical Borrow Source Assessment was completed and an application for a CIRNAC Quarry Permit has been submitted. As per the quarry permit application, it is estimated that less than 800 m3 of sand/gravel borrow will be collected from the scree slopes adjacent to the project site. There is no overburden to be removed as the material is readily available at the base of the slopes. No erosion, sedimentation or flooding is anticipated as the borrow area is not near a watercourse, and the material is sand/gravel. If dust suppression is required, the materials will be wetted with water. At the

completion of the borrow collection, the area will be recontoured to allow for positive drainage and prevent ponding. There is currently minimal vegetation at the borrow areas.

Site Cleanup

The remediation areas are located on Federal Lands. A Phase III and Supplemental Phase III Environmental Site Assessment (ESA) was completed to identify and quantify contamination on site. The Site contains abandoned buildings, equipment, and debris. Soil contamination was identified, but no impacts were found in sediment, surface water or groundwater. Details can be found in the Phase III ESA and Supplemental Phase III ESA. A Human Health and Ecological Risk Assessment (HHERA) assessed the impacted soils in the context of the unique site conditions and land use to identify any unacceptable risks. Details can be found in the HHERA (BluMetric 2022, UPLOADED).The Phase III ESA, HHERA and community engagement informed the final decisions regarding clean up and remediation, which are documented in the Remedial Action Plan (RAP). Materials to be cleaned up and/or remediated include hazardous and non-hazardous debris, surface debris, asbestos building materials, lead based paint and impacted soils. There are no existing landfills or dumps on site and no salvageable equipment or infrastructure. All debris will be packaged and containerized and removed from site and disposed of in an approved, off-site landfill. Contaminated soils are grouped into stained soils, soils with elevated polyaromatic hydrocarbons (PAHs) and petroleum hydrocarbons (PHCs) and those that exceed ecological component values (Lead: 70 mg/kg) from the CCME Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health for agricultural land use (CCME 1999) including co-mingled soils (lead/PHCs/PAHs/staining) for removal. All impacted soils will be packaged and containerized and removed from site and disposed of in an approved, off-site landfill. Details including maps showing the location of the debris and contaminated soils, tables summarizing the material requiring remediation can be found in RAP (BluMetric 2022, UPLOADED). The Environmental Impact Assessment Report (EIA Report) describes the project including project elements, impacts and mitigation measures (BluMetric 2023, UPLOADED on the online application).

IMPACTS

Identification of Impacts and Proposed Mitigation Measures

For Impacts and Proposed Mitigation Measures see Section 6 of the Environmental Impact Assessment Report (BluMetric 2023, UPLOADED on the online application)

Climate

Anticipated Impacts

Although emissions of air contaminants (i.e., greenhouse gases) from Project activities have the potential to affect human health and climate change, the use of an on-Site camp to reduce travel emissions and the short timeframe of this project results in negligible impacts.

Soils and Landforms

Anticipated Impacts

The Project may impact soils through loss of soil or reduced soil quality through mixing resulting from the transfer of soil for regrading and soil compaction related to equipment use on site. Soil compaction and disturbance is likely to have occurred previously when the site was operational.
Contamination by onsite hazardous waste and spills during equipment refueling and maintenance, or through equipment leaks can affect soil pH and contaminant levels, and in turn reduce overall soil quality. Potential sources of spills include equipment malfunctions or operator error, resulting in contamination of the soils. Impacts to soils as a result of the Project are expected to limited to the Site's relatively small footprint. Any impacts are expected to be on a local scale, and occurrence is expected to be low with mitigation measures in place.
Although the excavation of contaminated soils and borrow will impact the landscape, the area impacted will be relatively small.

Proposed Mitigation Measures

An access route along the airstrip runway is expected to be developed using the on-site material. The access route will be graded and compacted to provide a service route for equipment travel during mobilization, demobilization ATVs and equipment travel will be restricted wherever possible to the developed route, and equipment will be equipped with low pressure tires or tracks to traverse the undeveloped areas on site. Additional portable rig mats or pads may be required.
A Spill Response Plan including Fuel Management Plan, Near Water Works and other related plans will be developed and implemented prior to commencing work. These plans will work together to proactively prevent spills and, where spills do occur, manage them quickly and efficiently to minimize impacts. Key elements of these management plans include:

- The proponent's representative (Departmental Representative or "DR") will inspect equipment prior to use on site. If there are signs of leaks, the equipment will be restricted to the landing site until they are fixed.
- The fuel storage area will be lined with an oil-resistant membrane and protected by either geotextile or plywood.
- Berms will be built around the perimeter of the storage area for secondary containment.
- Drums containing fuel will be stored in an elevated position, either on their side with bungs facing 9 and 3 o'clock position, or on pallets, upright, and banded.
- When not in use, drums will be covered with tarpaulins to prevent water from pooling.
- Refuelling and fuel transfer will be done only by qualified personnel.
- An electric ULC-approved mobile fuel pump with an automatic shut-off will be used for refuelling heavy machinery directly from the drums.
- The refuelling will not be permitted within 30m of a watercourse.

- Drip pans, and spill kits (booms and pads) will be present during refuelling activities.
- Excavations will be backfilled using sand/gravel borrow collected from the scree slopes adjacent to the Project site and graded to match the surrounding landscape.

Permafrost, Surface Water and Groundwater

Anticipated Impacts to Permafrost

Information collected during the Phase III Environmental Site Investigations indicate the near surface soils at the site consist of well-drained gravel. Test pits were excavated at the former camp and drill sites as part of the environmental program, as well as at locations along the runway and on the edges of the north and south fluvial terraces. No permafrost was encountered in any testpits, the deepest of which were a little over a meter deep, which is consistent with the maximum anticipated depth of soil excavation. Based on this information, there will be no anticipated impacts to permafrost at the site.

Anticipated Impacts to Surface Water (Fresh and Marine) and Groundwater

Overall, positive impacts are expected with regards to water resources as the removal of contamination and debris from the Site will improve habitat and address health and safety risks associated with the Site.

During the course of work, the potential exists for contamination from onsite hazardous waste and spills during equipment refueling and maintenance, or through equipment leaks can migrate to surface and groundwater impacting water quality.

Disturbance of soil, on Site transportation routes, and excavation of impacted soils and borrow can result in sediment migrating to local surface water and marine environments resulting in impacts to water quality and habitat.

The Site has a relatively small footprint, so these impacts are anticipated to occur on a local scale, and occurrence is expected to be low with mitigation measures in place.

Proposed Mitigation Measures

A Spill Response Plan including Fuel Management Plan, Near Water Works and other related plans will be developed and implemented prior to commencing work. These plans will work together to proactively prevent spills and, where spills do occur, manage them quickly and efficiently to minimize impacts.

An Erosion and Sediment Control plan will be developed and implemented prior to commencing work. This will outline where and how erosion and sediment control will be erected and requirements for maintenance and monitoring.

Vegetation

Anticipated Impacts to Vegetation

Since vegetation is sparse due to the aridity of the site, minimal impact to the local flora is to be expected during the course of work. A loss of biomass will occur in areas used for surface vehicle travel, borrow source excavation and remediation work, but its magnitude should be insignificant compared to the overall biomass of the island. Since soil conditions should remain similar due to the local sourcing of borrow material, plant communities are expected to slowly grow back. No long-term impact is anticipated.

As with any work, including the use of heavy machinery and the creation of bare ground, there is a risk of introduction of invasive plants. These exotic species are highly competitive, can quickly colonize disturbed soils and then dominate habitats, which can lead to the extirpation of local flora. This can be especially damageable for sensitive island habitats, where the introduction of invasive species can significantly alter species composition in natural plant communities.

Anticipated Impacts to Protected Species

Due to the small area and scarcity of vegetation cover on the Site, the potential for floristic species at risk is relatively low. However, if an occurrence of a species at risk is present within the project area, the remediation work will endanger its survival if no mitigation measures are taken.

Proposed Mitigation Measures

A pre-mobilization visit will take place in July 2023. The DR will visit all areas of the site and identify vegetated areas to ensure that transportation routes, staging and storage areas, borrow areas and the camp avoid these areas, where possible. Upon return to site in August 2023, the DR will ensure that appropriate buffers are applied to minimize impacts to vegetated areas, if required.

Vehicles will be confined to existing infrastructure as much as possible to avoid disturbing vegetated areas, and travel on steep slopes will be avoided when traveling into borrow sources. The areal extent of the borrow areas will be limited to the extent possible to reduce damage to vegetation cover. Borrow source vegetated surface material will be stockpiled, where present, and replaced after excavation is complete.

Terrestrial Mammals

Anticipated Impacts to Mammals

Overall, positive impacts are expected with regards to terrestrial mammals with the removal of contamination and debris from the Site.

During the course of work, sensory disturbance from project activities (e.g., noise and human presence) has the potential to temporarily displace terrestrial mammals from their preferred habitats. However, after the end of the project, no lasting impact on terrestrial habitats or species is anticipated.

Anticipated Impacts to Protected Species

Disturbance of terrestrial mammals at risk (polar bear, artic wolf and caribou) could occur if individuals are located within the Site or its surroundings while remediation work is conducted. However, individuals of these species are known to have quite large home ranges, which would enable them to relocate towards remote areas to avoid the source of disturbance. This could be detrimental if this causes them to move to less suitable habitats. However, the disturbance is temporary, and therefore no long-term impacts are anticipated.

Proposed Mitigation Measures

While there is a small potential for harm to wildlife resulting from interactions with humans (i.e., protecting workers from problem wildlife), staff training will reduce the risk of encounters and minimize this potential for harm to wildlife. A Wildlife Management Plan will be developed and implemented that will detail mitigation measures. Some key elements of that plan include:

- Engaging a wildlife monitor for the duration of the project. The wildlife monitor's role will include assessing the presence of wildlife in or near the project area during project activities and advising on appropriate actions to reduce interactions. Work will cease if polar bears are spotted.

- The management of wildlife attractants i.e., food and garbage. All attractants will be removed from project area. Wildlife-proof containers will be used to temporarily store food, attractants, and waste prior to removal.Staff training will be required including bear awareness and wildlife encounters. No hunting, feeding or harassment of wildlife will be permitted.

Avian Species

Anticipated Impacts to Avian Species

Overall, positive impacts are expected with regards to avian species with the removal of contamination and debris from the Site.

During the course of work, sensory disturbance from project activities (e.g., noise and human presence) has the potential to temporarily displace birds from their preferred breeding habitats. Disturbance can also lead to behaviour alteration in response to stress (alert and vigilance behaviours). However, no impacts on migration patterns are expected.

The project mobilization will occur at the end of breeding bird season and the remediation work will be conducted outside breeding bird season (late May to mid-August). The risk of impacts to breeding birds is low, however, not eliminated. Ground nesting birds are well camouflaged and there is the potential that nests, eggs and young of ground-nesting migratory birds may be impacted during remedial work and borrow source development and occupied nests on the Site may be abandoned due to disturbance. After the end of the project, no lasting impact on breeding bird habitat is anticipated.

Anticipated Impacts to Protected Species

No bird species at risk are reported on the island. However, nests and eggs of migratory birds native to or naturally occurring in Canada are protected under the *Migratory Bird Convention Act*.

The mobilization will occur at the end of breeding bird season and the remediation work will be conducted outside breeding bird season (late May to mid-August) so the risk of impacts to breeding birds is low. Additionally, the Site is located over 20 km away from both the northern and southern colonies of thick-billed murre, the main species of interest. These colonies should not be impacted by the work as most thick-billed murres feed within 16 km of their colony.

Proposed Mitigation and Monitoring Measures

The project will adhere to restrictions outlined in the *Migratory Bird Convention Act* and the *Migratory Birds Regulations* (1994).

A pre-mobilization visit will take place in July 2023. The proponent's representative (DR) will make observations of evidence of birds nesting during the visit. If any occupied nests are observed, their location will be documented (GPS coordinates) and photographs taken. Information will be shared with a qualified biologist to identify the species and appropriate

buffers if possible. Some nests may be missed (especially ground nesting birds) since the fieldwork will not be conducted by an ornithologist.

Upon return to site in August 2023, the DR will ensure that all areas where nests were observed in July are revisited to confirm presence/absence of nesting birds. If nests are occupied, a buffer will be applied and marked, and staff will be informed that no work may occur in these areas until the birds leave the nest permanently. Avoidance will be the primary method of mitigation.

The Contractor's staff and smaller equipment will be mobilized by small aircraft. Flights will avoid flying over Thick billed Murre colonies.

Freshwater Species

Anticipated Impacts to Fish and Fish Habitats

Fish habitats could be modified by sedimentation in freshwater waters caused by disturbance of the shoreline by equipment use or contamination by spills. If habitats are altered, there is the potential for long-term impact in reproductive success and survival rate of local fish populations.
Freshwater will be drawn from Gregson Creek for personal hygiene and dust suppression and fish could be impacted by the water intake for the camp.

Proposed Mitigation and Monitoring Measures

Spill Response Plan including Fuel Management Plan, Near Water Works, Erosion and Sedimentation Plan and other related plans will be developed and implemented prior to commencing work to reduce the risk of impacts from the onset and ensure there is clear guidance on identifying and addressing issues during the course of work.

While positioned at the creek, the pump will be contained within a rigid containment unit made of HDLPE liner to contain any leaks that could originate from the pump. The 2-inch intake house will feature a mesh screen specifically designed to prevent fish from being drawn into the pump during pumping operations.

Marine Species

Anticipated Impacts to Fish and Fish Habitats

Direct disturbance of fish species is expected to be minimal. However, fish habitats could be modified by sedimentation in marine waters caused by disturbance of the shoreline by equipment use or contamination by spills. If habitats are altered, there is the potential for long-term impact in reproductive success and survival rate of local fish populations, including to the spotted wolffish, a threatened species.

Anticipated Impacts to Marine Mammals

Direct disturbance of marine mammals, including species at risk, can occur during barge operations but it is expected to be minimal. Potential effects on marine mammals that may be caused by the Project include sensory disturbance and habitat alteration or destruction, which may result in habitat avoidance or reduced reproductive success; or human encounters with animals, which could result in mortality. No long-term impacts are anticipated.

Proposed Mitigation and Monitoring Measures

Spill Response Plan including Fuel Management Plan, Near Water Works, Erosion and Sedimentation Plan and other related plans will be developed and implemented prior to commencing work to reduce the risk of impacts from the onset and ensure there is clear guidance on identifying and addressing issues during the course of work.

In addition, appropriate avoidance techniques will be implemented during marine transport when marine mammals are present, and no fishing will be permitted by people working on the Project.

Cultural Features

Anticipated Impacts to Cultural Sites and Special Features

The precise location of the known archaeological feature was verified and documented during the 2021 investigations. It was precisely georeferenced and a protective perimeter was securely marked-out to facilitate its protection during the upcoming remedial work.

Anticipated Impacts on Traditional Users

Overall, positive impacts are expected with regards to traditional use with the removal of contamination and debris from the Site.

Short term negative impacts in the form of limited access and disturbance of target species are expected to negatively impact hunting, fishing, and other traditional land use in the vicinity of the remedial project. These impacts are limited to the relatively small footprint of the project and the immediate area and will last for only for a six-week period.

Proposed Mitigation and Monitoring Measures

Prior to commencing work, the existing archaeological site will be clearly marked out with a visual perimeter and employees working in the clean-up operation be informed and instructed to maintain a minimum distance of 5 m from the site.

Communities will be notified of the work and schedule prior to commencement of the project. Wildlife monitors will be involved in the project and will assist with ensuring the project team are aware of the presence of wildlife in the area and advise on the prevention or minimization of impacts to them.

With proper measures in place, no long-term impacts are expected to the land, water or natural resources that support traditional land use.

Socio-economic Impacts

Economic Effects

It is anticipated that there will be short term positive impacts to local communities. As part of the contract, a Nunavik Inuit Participation Plan was developed. The contractor is planning on hiring local Nunavik Inuit labour and utilizing local Nunavik Inuit companies, where possible to complete the work. This may include positions of Heavy Equipment Operators, Wildlife Monitors and Labourers. Potential local Nunavik Subcontractors include, transportation, camp resupply, and HR support. There are also proposed training opportunities associated with the project including Emergency response, First Aid, TDG, Fire Safety, Asbestos, Lead paint and Mould abatement and skid steer operator training.

Potential Public Health and Safety Issues

In the short term, there is the potential for risks to public health if members of the public visit the site during the planned work. However, the remedial work planned will reduce the risk of impacts to members of the public in the long term by removing chemical hazards (impacted soil, hazardous debris) and physical health and safety risks (hazardous and non-hazardous debris) from the Site.

Proposed Mitigation and Monitoring Measures

In order to mitigate public health and safety risks, communities will be notified of the anticipated project schedule and discouraged from visiting. Staff will be informed that visitors must be approved and signed in with the Site Superintendent upon arrival.

REQUEST FOR COMMENTS

You are invited to provide the NMRIRB with your comments regarding whether the proposed project:

- May have significant adverse effects on the ecosystem, wildlife habitat or Nunavik Inuit harvesting activities;
- May have significant adverse socio-economic effects on northerners;
- Will cause significant public concern;
- Involves technological innovations for which the effects are unknown.

Parties are also invited to recommend any specific mitigation measures they feel would be appropriate, and to bring any other matter of importance related to this project proposal to the NMRIRB's attention. Parties may also indicate support for or against the Project Proposal, request additional information, or recommend potential terms and conditions for the NMRIRB to consider.

As per the NMRIRB screening process, the Board provides 15 days of consultation period for commenting.

THE DEADLINE FOR SUBMITTING COMMENTS IS: **August 9, 2023**

Comments can be submitted on the attached comment form or by using the online comment form in the NMRIRB Public Registry. Navigate to www.nmrirb.ca, click the "Public Registry" button at the top right of the page. Click the Projects link at the top of the Registry and conduct a keyword search for the project. Search using the assigned project number "125661". Click Find Projects and click the hyperlink "NMRIRB 125661" to load the project. The comment form will be available in the Project Dashboard.

CONTACT INFORMATION

You are invited to provide comments via email or using the accompanying comment form.

The NMRIRB can be reached at:

Email: info@nmrirb.ca

Phone: 514-449-3473