# APPENDIX 2

CONTWOYTO LAKE
REMEDIATION PROJECT

## NUNAVUT IMPACT REVIEW BOARD
## PART 2 FORM – PROJECT SPECIFIC INFORMATION REQUIREMENTS

# SCREENING PART 2 FORM
# PROJECT SPECIFIC INFORMATION REQUIREMENTS (PSIR)

## 1. SUBMISSIONS

The Proponent must submit all information pertaining to the Project as a whole. The information requirements below are designed for the purpose of environmental assessment and are not limited to the scope of a single permit or license application.

**IMPORTANT:** Please be advised of the following:

1. NIRB does not accept references to an ftp or web sites as a submission.

2. The Proponent must provide NIRB with 1 (one) electronic copy and 1 (one) hardcopy of the required information in English.

3. All maps should be shapefiles, be legible, and should include grids, be of appropriate scale, indicate the scale, include latitude and longitude references, NTS Maps numbers, title, legend and a north arrow. To the extent possible, avoid hand-drawn demarcations and faxed maps; and,

4. Please complete all required information in each section below. If the required information is not applicable to the project proposal, please indicate this in the response with "n/a". If the request has been provided in a different section or report, please note the section or report where the response can be found.

## 2. GENERAL PROJECT INFORMATION REQUIREMENTS

### Project Coordinates and Maps

1. The preferred method for submitting project coordinates information is through the use of a Geographic Information System (GIS) compatible digital file. Although an ESRI ArcView 3.x shape file (in decimal degrees) is the preferred interchange format, the NIRB has the capacity to receive over 100 GIS and CAD related formats, including MapInfo and AutoCAD, provided proper format and projection metadata is also submitted. The NIRB requires coordinates for the project proposal which reflect the entire project area as defined by:

    - Area/sites of investigation;
    - Boundaries of the foreseen land use permit/right-of-way area(s) to be applied for;
    - Location of any proposed infrastructure or activity(s); and,
    - Boundaries of the mineral claim block(s) where proposed activities will be undertaken.

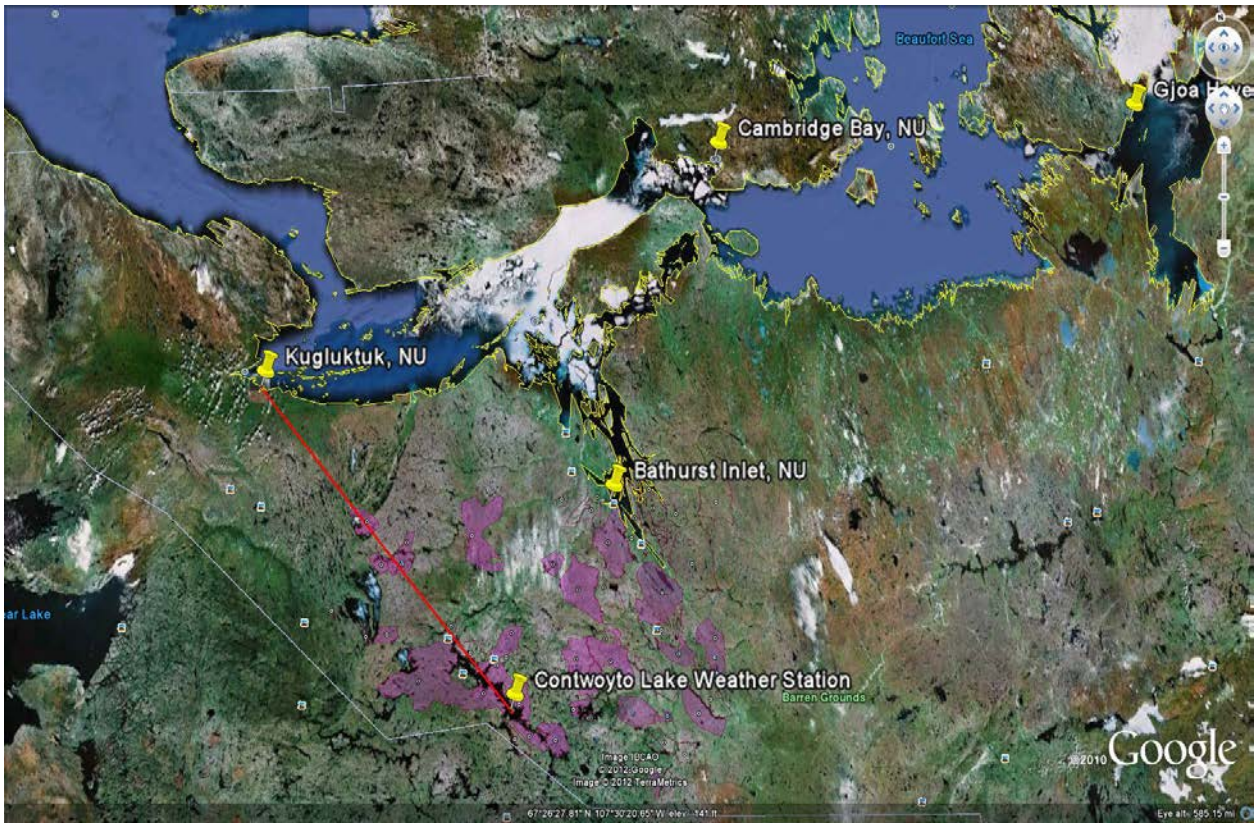
    **The Contwoyto Lake Weather Station site is located approximately 190 km Southwest of Bathurst Inlet at approximately 65° 29'06.09" N latitude and 110°223'32.69" W longitude . The nearest permanent community is Kugluktuk, which is 330 km northwest of the Contwoyto Lake Remediation Site. The proposed site activities will take place within the boundaries detailed below:**

    **NW: Latitude: (65°29'21.13"N) Longitude: (110°23'1.63" W)**
    **NE: Latitude: (65°29'21.13"N) Longitude: (110°21'8.18" W)**
    **SW: Latitude: (65°28'51.84"N) Longitude: (110°23'8.27" W)**
    **SE: Latitude: (65°28'51.84" N) Longitude: (110°21'14.60" W)**

    **Additional Site Maps and Drawings are provided in Appendix 5. Further details on site activities are available in the Remedial Action Plan (RAP) which can be found in Appendix 4.**

2. Map of the project site within a regional context indicating the distance to the closest communities.

    **The closest community to Contwoyto lake is Kugluktuk, approximately 330 kilometers to the Northwest. Bathurst Inlet is also nearby located approximately 190km North East of the site. See map below.**




3. Map of any camp site including locations of camp facilities.

**The proposed location of the camp facilities is on a pull-out section off an end of the airstrip on site (GPS Coordinates 65°28'58.34" N, 110°22'5.25" W). The approximate location is indicated in the figure below (see Appendix 5 for additional Site Maps and Drawings).**


4. Map of the project site indicating existing and/or proposed infrastructure, proximity to water bodies and proximity to wildlife and wildlife habitat.

**Detailed maps of the project site are provided in Appendix 5 and in the Remedial Action Plan (Appendix 4).**

**Project General Information**

5. Discuss the need and purpose of the proposed project.

**The purpose of the Contwoyto Lake Remediation Project is to eliminate/reduce the hazards (human health and environmental) associated with the former Weather Station site. The hazards at the site include PCB paint, Lead paint, heavy metals, petroleum hydrocarbons, and physical hazards associated with the site infrastructure and debris.**

6. Discuss alternatives to the project and alternative methods of carrying out the project, including the no-go alternative. Provide justification for the chosen option(s).

**Alternative methods for carrying out the project are discussed in the Contwoyto Lake Remedial Action Plan (Appendix 4). The Remedial Action Plan also provides justification for the methods chosen based on eliminating/reducing the hazard and the associated costs.**

7. Provide a schedule for all project activities.

**A project schedule is provided in Appendix 7. The current plan is to begin mobilization in Feb/Mar/April of 2014 (Weather dependent). Remedial works will begin in the summer of 2014 and continue into the summer of 2015 only if required. Remediation will be completed during the summer of 2014 and the equipment and materials will be demobilized from the site in the winter of 2015 (unless another season of remediation is required). If another year of remediation is required, for the summer of 2015, demobilization from the site will be completed in the winter of 2016.**

8. List the acts, regulations and guidelines that apply to project activities.

**The project is being undertaken in accordance with the following federal and departmental regulations and policies:**

- **Nunavut Land Claim Agreement (Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada, 1993)**
- **Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health (CCME, 1999)**
- **Canadian Water Quality Guidelines for the Protection of Aquatic Life (CCME, 1999)**
- **Canadian Environmental Protection Act (EC, 1999)**
- **Nunavut Waters and Surface Rights Tribunal Act (2002)**
- **Nunavut Environmental Guideline for Waste Asbestos (2002)**
- **Contaminated Sites Management Policy (INAC, 2002)**
- **Northern Affairs Contaminated Sites Management Policy (INAC, 2002)**
- **A Federal Approach to Contaminated Sites (CSMWG, 2002)**
- **Risk Management Guidance Document (INAC, 2006)**
- **Contaminated Sites Cost Estimating Guide (AANDC, 2012)**
- **Treasury Board Policy on Management of Real Property (TB, 2006)**
- **Risk Management Tool & Reporting Tool User Guide (INAC, 2007)**
- **Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil (CCME, 2008)**
- **Environment, Health & Safety Management System Manual (AANDC, 2012)**
- **Environment, Health & Safety Standard Operating Procedures Manual (INAC, 2008)**
- **Environment, Health & Safety Control Framework, Northern Contaminated Sites Program (INAC, 2008)**
- **Environment, Health & Safety Audit Program Guide (INAC, 2008)**
- **Construction Project Safety Management Guide, 5th Edition (PWGSC, 2008)**
- **PCB Regulations (EC, 2008)**
- **Abandoned Military Site Remediation Protocol (INAC, 2009)**

9. List the approvals, permits and licenses required to conduct the project.

**The approvals, permits and licenses required include:**

- **Water Licence (Nunavut Water Board)**
- **Crown Land Use Permit (Aboriginal Affairs and Northern Development Canada)**
- **Crown Land Quarry Permits (Aboriginal Affairs and Northern Development Canada)**
- **Inuit Owned Land Exemption Certificate (Kitikmeot Inuit Association)**

**DFO Operational Statement (OS) Conformity**

10. Indicate whether any of the following Department of Fisheries and Oceans (DFO) Operational Statement (OS) activities apply to the project proposal:
    - Bridge Maintenance
      **- Not Applicable**
    - Clear Span Bridge
      **- Not Applicable**
    - Culvert Maintenance
      **- Yes**
    - Ice Bridge
      **- Not Applicable**
    - Routine Maintenance Dredging
      **- Not Applicable**
    - Installation of Moorings
      **- Not Applicable**

    Please see DFO's OS for specific definitions of these activities available from DFO's web-site at http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/index-eng.htm

11. If any of the DFO's OS apply to the project proposal, does the Proponent agree to meet the conditions and incorporate the measures to protect fish and fish habitat as outlined in the applicable OS? If yes, provide a signed statement of confirmation.

    **Aboriginal Affairs and Northern Development Canada agrees to meet the conditions and incorporate the measures to protect fish and fish habitat as outlined in the applicable Operational Statements.**

Natalie Plato
**Director – Contaminated Sites**

NOV. 18, 2013
**Date**

**Transportation**

12. Describe how the project site will be accessed and how supplies will be brought to site. Provide a map showing access route(s).

**For further details on the mobilization strategy please see Appendix 10.**

**Mobilization to site will utilize an airlift campaign supported by C130 Hercules, DHC5 Buffalo, Skyvan and twin Otter Aircraft. The mobilization will occur in April 2014 with aircraft utilizing an ice airstrip to land adjacent to the Contwoyto Lake Remediation Site (location to be determined by contractor).**

**Initially a twin otter on skis will supply two quads with plows, these machines will be used to clear a landing strip which is capable of accommodating the skyvan, 2500 feet in length. The skyvan will supply a skid steer on tracks which will be used to clear the 5500 foot runway allowing the Hercules to land and supply the larger equipment and supplies.**

**Hercules aircrafts have landed on Contwoyto Lake in the past without incident. April would be the optimum time to mobilize with the Hercules onto the ice, as the ice is at its maximum thickness (usually 59" of ice exists in the spring, on the lake) and also there will be more daylight hours for mobilization activities. An ice airstrip would be constructed that is about 1500 metres in length and 100 metres in width oriented due north (exact location to be determined by contractor).**

**Ice thickness will be monitored and ice flooding techniques can be utilized to build up the airstrip ice thickness, if required. Snow accumulation and temperatures would also need to be closely monitored. This would be possible with the use of the weather station at Lupin, to identify any unseasonably warm trends that may require earlier flooding to increase ice thickness to complete the airstrip.**

**Should thin ice and/or heavy snowfall prevent an ice airstrip mobilization option, a contingency plan of using a Hercules for air mobilization to the Lupin mine airstrip would be another option. Lupin has a 6000 foot airstrip and the Hercules has landed on this strip in the summer of 2013, so the grade is acceptable to accommodate the aircraft. Lupin has a site road that leads to the edge of Contwoyto Lake. This would allow the mobilization crew to cross the ice on Contwoyto Lake, in order to reach the Contwoyto Lake Remediation Site.**

**If weather presents a problem with Ice Airstrip mobilization another contingency plan of a winter road is a possibility (See Appendix 10 for figures and details).**

**The movement of crews and supplies to the site during the summer program will be completed using float planes. To support loading/offloading planes at the site, a floating dock will be temporarily installed. The dock will be 10' X 30' and will be anchored using concrete block. The dock will be removed at the end of each season (if another season is required) to protect the dock from ice damage.**

**Use of the emergency airstrip located on the esker at the site may be another option to supply the site in the summer; however the potential use of this will be assessed and determined by the contractor in the spring of 2014.**

**For further details please see Appendix 10.**

## 2.3 FUEL MANAGEMENT

**A total of 340 drums of arctic diesel (about 69,700 litres), 24 drums of Gasoline (about 4,920L), 10 drums of Aviation Fuel (about 2,050L) and 40 Cylinders of Propane (about 3,000L) will be delivered to the Contwoyto Lake Remediation Site via Hercules Aircraft. The drums will be strapped to and delivered on pallets. The Hercules can deliver 100 drums per trip. The drums will be offloaded from the Hercules by the loader and moved to the fuel storage facility.**
**The Diesel will be transferred from the drums into a fuel bladder contained in a lined structure utilizing a 12 volt fuel transfer pump. All fuel transferring will be completed within the lined facility. Empty fuel drums can be backhauled as required on the returning Hercules flights to prevent an excessive stockpile of empty fuel drums. The bladder in the lined facility will have a chain link fence constructed around the perimeter as additional protection from the elements and animals. Transfer from the bladder to equipment will be completed in the lined facility to ensure no spillage and discharge to the environment during fueling operations (See appendix 10 for further fuel details).**

**The 4,920L of gasoline will be delivered to the site exactly as the diesel; however it will be stored in the drums in a lined facility. Fueling operations will be completed in the lined facility during summer operations.**

13. If a previous airstrip is being used, provide a description of the type of airstrip (ice-strip/all-weather), including its location. Describe dust management procedures (if applicable) and provide a map showing location of airstrip.

**The Contwoyto Lake Remediation Project plans to Mobilize to site using an ice airstrip. However the contingency would be to use the nearby Airstrip at the Lupin Mine.**

**Mobilization to site will utilize an airlift campaign supported by C130 Hercules, DHC5 Buffalo, Skyvan and twin Otter Aircraft. The mobilization will occur in April**

**2014 with aircraft utilizing an ice airstrip to land adjacent to the Contwoyto Lake Remediation Site (location to be determined by contractor).**

**Initially a twin otter on skis will supply two quads with plows, these machines will be used to clear a landing strip which is capable of accommodating the skyvan, 2500 feet in length. The skyvan will supply a skid steer on tracks which will be used to clear the 5500 foot runway allowing the Hercules to land and supply the larger equipment and supplies (exact location to be determined by the contractor).**

**Hercules aircrafts have landed on Contwoyto Lake in the past without incident. April would be the optimum time to mobilize with the Hercules onto the ice, as the ice is at its maximum thickness (usually 59" of ice exists in the spring, on the lake) and also there will be more daylight hours for mobilization activities. An ice airstrip would be constructed that is about 5500 feet in length and 200 feet in width oriented due north (exact location to be determined by contractor).**

**Ice thickness will be monitored and ice flooding techniques can be utilized to build up the airstrip ice thickness, if required. Snow accumulation and temperatures would also need to be closely monitored. This would be possible with the use of the weather station at Lupin, to identify any unseasonably warm trends that may require earlier flooding to increase ice thickness to complete the airstrip.**

**Should thin ice and/or heavy snowfall prevent an ice airstrip mobilization option, a contingency plan of using a Hercules for air mobilization to the Lupin mine airstrip would be another option. Lupin has a 6000 foot airstrip and the Hercules has landed on this strip in the summer of 2013, so the grade is acceptable to accommodate the aircraft. Lupin has a site road that leads to the edge of Contwoyto Lake. This would allow the mobilization crew to cross the ice on Contwoyto Lake, in order to reach the Contwoyto Lake Remediation Site.**

**For on-site activities there is an emergency airstrip located on an esker that may be used for camp re-supply in the summer months. However an alternative option is to do this by float plane. This will be determined by the contractor at during the field season in 2014.**

**Please see Appendix 5 for approximate estimates of runway location (actual location to be determined by the contractor (Delta / Carter Ltd).**

**The use of the emergency airstrip located on the esker at the site may be another option to supply the site in the summer; however the potential use of this will be assessed and determined by the contractor in the spring of 2014.**

**Please see Appendix 10 for further details on Mobilization contingency plans and options.**

14. If an airstrip is being constructed, provide the following information:

a. Discuss design considerations for permafrost

**- If Ice Airstrip used, no Permafrost considerations.**

b. Discuss construction techniques

**- See above mobilization details or Appendix 10.**

c. Describe the construction materials, type and sources, and the acid rock drainage (ARD) and metal leaching (ML) characteristics (if rock material is required for airstrip bed).

**- Not Applicable**

d. Describe dust management procedures.

**- Not Applicable**

e. Provide a map showing location of proposed airstrip.

**- See Appendix 5.**

15. Describe expected flight altitudes, frequency of flights and anticipated flight routes.

**Flights will fly at a minimum altitude of 1,100 metres and maintain a minimum horizontal distance of 1,500 metres from concentrations of birds. Flights will fly between Yellowknife, Kugluktuk and the Contwoyto Lake Remediation Site.**

**Camp Site**

16. Describe all existing and proposed camp structures and infrastructure

**Existing infrastructure at the site includes:**

- **Five building structures**
- **Three above ground storage tanks (ASTs)**
- **Collapsed and sectioned radio tower**
- **Historical trails**
- **Five drum caches**
- **Two debris areas**

**All existing structures will be demolished as part of the remedial activities (Excluding one building structure the hunting Cabin Structures 01 located on the peninsula at the northwest corner of the site. This cabin belongs to the Hunters and Trappers Association and they would like it kept intact. However, all associated historical weather station debris will be removed).**

**Proposed infrastructure (to support remedial activities) includes:**

- **Temporary camp to be provided by NUNAVUT Expediting Services and will be set up for cold temperature operation (See Appendix 10 for Proposed camp layout).**
-

17. Describe the type of camp:
    a. Mobile
       **- Yes, camp will consist of mobile camp units transported to site**
    b. Temporary
       **- Yes, camp facility will be removed upon project completion**
    c. Seasonal
       **- Yes, camp will operate seasonally between June and October for the summer of 2014 (and potentially 2015 if required) and as required in the winter of 2014, 2015 and 2016 (if required), to support ice airstrip construction, mobilization and demobilization activities.**
    d. Permanent
       **- No**
    e. Other
       **- Not applicable**

18. Describe the maximum number of personnel expected on site, including the timing for those personnel involved with the project.

**The maximum number of personnel expected to be on site during winter or summer work is 15 persons. Site remediation activities will take place from June to October each year (Except for ice airstrip construction and mob/demob activities to take place in winter of 2014 & 2015 (2016 if required)). The number of Personnel on site will be lower at the beginning and end of each season as the camp is set-up/decommissioned/winterized.**

**Equipment**

19. Provide a list of equipment required for the project and discuss the uses for the equipment.

**The equipment required to complete the project includes:**

## Contwoyto Remediation Project - Equipment List

| | |
|---|---|
| 4 Wheel Drive Rock TruckCarmix D6 Dumper |  |

| | |
|---|---|
| D5K2 Dozer with Winch |  |
| 924K Loader |  |
| 312EL Excavator |  |
| 259B Skid Steer |  |
| Minute Man Drill | |

| | |
|---|---|
| BW 65 Packer |  |
| Bobcat 800 Side by Side |  |
| CanAm 1000 track mounted quad |  |
| CanAm 600 quad |  |

20. If possible, provide digital photos of equipment.

**See above table.**

**Water**

21. Describe the location of water source(s), the water intake methods, and all methods employed to prevent fish entrapment. Provide a map showing the water intake locations.

**Water will be sourced from the Freshwater Lake (Contwoyto Lake) located to the west of the site (GPS Coordinates 65°29'21.56"N, 110°22'36.37"W). Water will be pumped from the lake into a tank on either a truck or trailer. It will then be transported to the camp and pumped into the camp tank. The water intake hose (GPS Coordinates 65°29'11.57"N, 110°22'33.97"W) will be covered with a screen to ensure that no fish become trapped. The figure below shows the Freshwater Lake (Contwoyto Lake) and the estimated water intake location. Additional figures are provided in Appendix 5.**


22. Describe the estimated rate of water consumption (m³/day).

**Total water consumption is estimated to be ~ 1.5 cubic metres per day:**

- **75 litres/day x 15 people (max) = 1,125 litres/day X 150 days (with contingency for one season of remediation) = 168,750 L**
- **~169 cubic metres in total is estimated for the duration of the project.**

23. Describe how waste water will be managed. If relevant, provide detail regarding location of sumps, including capacity of sumps and monitoring.

**Camp Grey Water Management**

**Grey water generated from the camp operation will be processed through a bio-barrier membrane (See Appendix 10 for supplemental Information) and transferred to containment bladders. The bladders capacity is 20,000 liters (They are constructed with 30 mil HDPE liners and are rated for UV protection and cold weather conditions) and will be tested and treated until the treated water meets applicable criteria. Biodegradable detergents and soaps will be supplied to the camp to reduce the impacts of the camp operation on the local environment.**

**The Bio Barrier Membrane Bioreactor treatment system is accredited under the National Standards of Canada. It treats water to effluent test results to the below criteria.**

**Effluent Test Results**
**(Standards Council of Canada)**
**BOD5 < 2 mg/l**
**TSS < 2 mg/l**
**Fecal Coliform <2 CFU / 100ml**

**Discharged treated grey water will be discharged at a rate less than 1 liter per second onto sandy or granular natural local deposits located more than 100 meters from any water body. It is expected that the camp will generate approximately 1500 liters of grey water per day.**

**Black Water Management**

**Human waste will be collected from pacto toilets daily and incinerated in the CY14CA Dual Chamber Incinerator (See Appendix 10 for details). The waste will be completely incinerated by following the suppliers recommended incineration durations. Ash will be collected, containerized in over-pack containers and shipped off site for disposal.**

**It is expected that incineration 7.5 liters of ash from human waste incineration will be generated on a daily basis.**

**See Appendix 5 & 9 for additional details on the Wastewater management using the bio barrier membrane**

24. If applicable, discuss how surface water and underground water will be managed and monitored.

**- Not applicable**

**Waste Water (Grey water, Sewage, Other)**

25. Describe the quantities, treatment, storage, transportation, and disposal methods for the following (where relevant):
    - Sewage

**Sewage will be collected from pacto toilets daily and incinerated in the CY14CA Dual Chamber Incinerator (See Appendix 10 for further details). The quantity of sewage (black water) that will be generated is estimated to be 5 litres per day of ash after incineration:**

- **7.5 litres/day of ash**

- Camp grey water

**The quantity of camp grey water that will be generated is estimated to be 1.5 cubic metres per day:**

- **1500 litres/day**

**The camp grey water will be directed into the bio-barrier membrane and transferred to containment bladders. The bladders capacity is 20,000 liters (They are constructed with 30 mil HDPE liners and are rated for UV protection and cold weather conditions) and will be tested to meet applicable criteria prior to discharge. Biodegradable detergents and soaps will be supplied to the camp to reduce the impacts of the camp operation on the local environment.**

**The Bio Barrier Membrane Bioreactor treatment system (See Appendix 10 for more details) is accredited under the National Standards of Canada. It treats water to effluent test results to the below criteria.**

**Effluent Test Results**
**(Standards Council of Canada)**
**BOD5 < 2 mg/l**
**TSS < 2 mg/l**
**Fecal Coliform <2 CFU / 100ml**

**Discharged treated grey water will be discharged at a rate less than 1 liter per second onto sandy or granular natural local deposits located more than 100 meters from any water body. It is expected that the camp will generate approximately 1500 liters of grey water per day.**

- Combustible solid waste

**Combustible solid waste generated from camp operations will be incinerated in an on-site incinerator (Dual Chamber CY14CA See details in Appendix 10).**

- Non-combustible solid waste, including bulky items/scrap metal

**Non-combustible solid waste collected around the site and generated during site operations will be compacted and packaged for transportation off-site.**

- Hazardous waste or oil

**All hazardous wastes and oil will be packaged as per Transportation of Dangerous Goods (TDG) requirements and shipped south to a facility licenced to dispose of the hazardous materials.**

- Contaminated soils/snow

**Contaminated soils will be handled as described in the Remedial Action Plan (Appendix 4). To summarize:**

- **Tier II soil (~50 cubic metres) – packaged and transported south to a licenced disposal facility.**
- **Type B (hydrocarbons) soil (~1,142 cubic metres) – to be treated in an on-site Soil Treatment Area.**

- Empty barrels/ fuel drums

**Empty barrels/fuel drums on-site will be transported off-site for processing and disposal in an appropriately licensed disposal facility.**

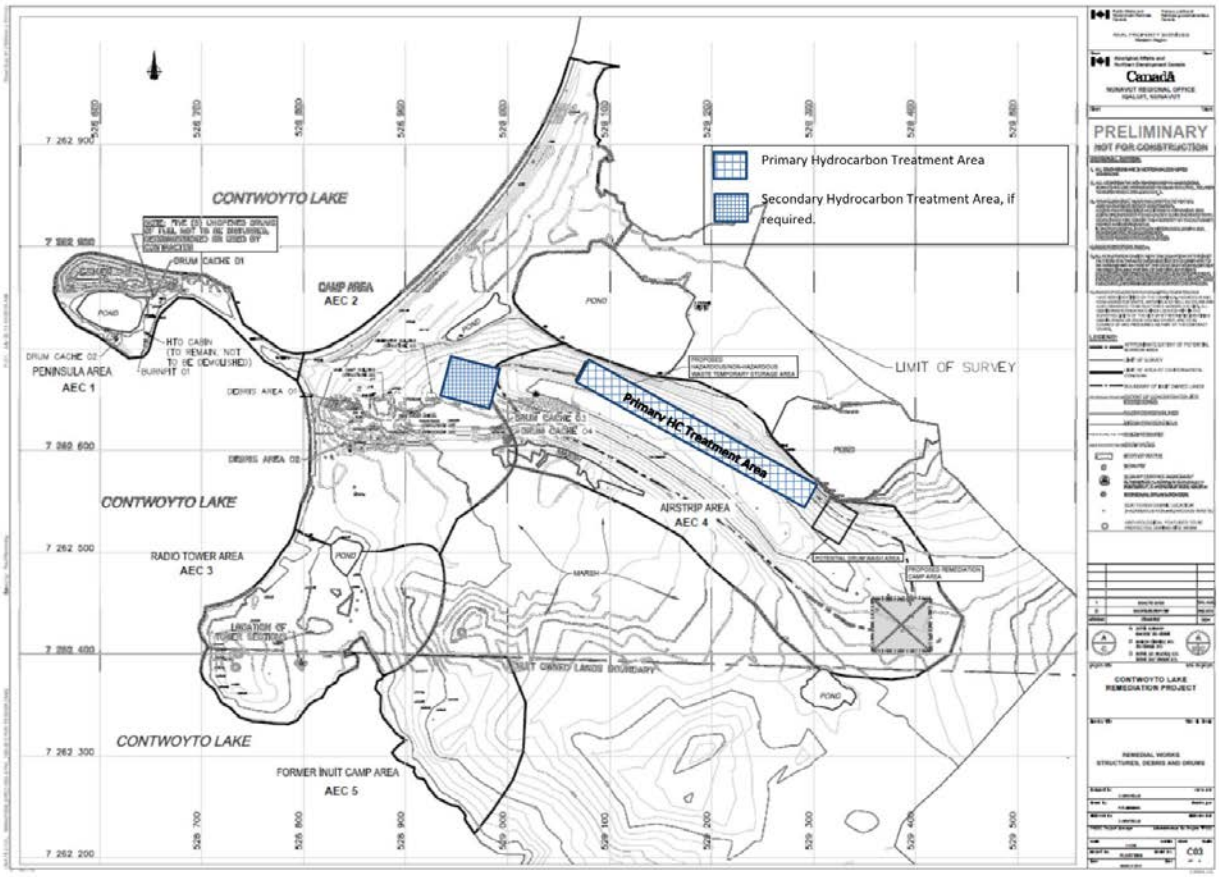
- Any other waste produced

**- None identified at this time (See Appendix 10 for further details).**

26. If the project proposal includes a landfill or landfarm, indicate the locations on a map, provide the conceptual design parameters, and discuss waste management and contact-water management procedures.

**The Contaminant Treatment Areas (CTA – PHC Soil Treatment Areas), the primary Hydrocarbon treatment area will be located in the area identified as CTA in the Remedial Action Plan (Appendix 4) or also located from the Final Contract documents in Appendix 5. The Primary CTA is located on the esker (GPS Coordinates 65° 29'4.77"N, 110°22'12.53"W) and is indicated in the figure below. The CTA falls on Crown Land. Additional maps showing the CTA can be found in Appendix 5.**

**The Secondary CTA will be located as referenced in Appendix 10 and below will only be used if required. It will be constructed identically except with regards to size as the Primary CTA.**




This figure is also available in Appendix 10.

**The Hydrocarbon Soil Treatment Area will be bermed. The berms will be a minimum of 0.5 meters high and will be used limit access and spillage during treatment.**

**The number of cells required will be a function of the quantity of material excavated and number of cells required for soil treatment, but we estimate that a total of 250 linear meters of cells 11 meters wide will be required.**

**The cells will be constructed with a 1% interior slope, with a sump at the end to collect the water. This will assist with controlling water which may collect in the cells of the Soil Treatment Facility. Water within the cells can be collected in tanks and transported to a holding tank (bladder) for testing. If it does not achieve discharge criteria, the water will be treated prior to discharge.**

**If there are periods of excessive rainfall (greater than 20mm precipitation), the soil piles will be tarped to prevent water from contacting the soil.**

- **Monitoring wells will be installed prior to placing any material in the Landfarm**
- **Material will be placed in the Landfarm to a maximum loose thickness of 300 mm**
- **All granular fill is to be placed in an unfrozen state. Fill material to be free from debris, snow and ice. Do not place granular fill if the outside air temperature is below 0°C, unless otherwise directed by Departmental Representative.**
- **Nutrients will be added to the Landfarm as required**
- **The moisture content of the Landfarm will be maintained at approximately 5%**
- **Tilling will be completed once every 10 days. During extended warm, dry periods the frequency will be increased to once every 5 days**
- **Tilling and irrigation will be suspended if the average daily temperature is below 0°C for a period over 5 days**
- **The perimeter water collection system will be inspected weekly and after any precipitation event to ensure it does not overflow**
- **Contact water collected will be tested, treated as required, and discharged once Water Licence discharge criteria are met**
- **When operations are complete the Landfarm will be closed by taking confirmatory samples, removing the perimeter berms, regrading the area to fill in ditches and prevent ponding, and decommissioning of the monitoring wells.**

**Fuel**

27. Describe the types of fuel, quantities (number of containers, type of containers and capacity of containers), method of storage and containment. Indicate the location on a map where fuel is to be stored, and method of transportation of fuel to project site.

**The table below provides a summary of the fuel types, quantities, container types and storage methods that we anticipate using:**

| FUEL TYPE* | QUANTITY (Estimated)* | CONTAINER (Type / # / Capacity)* | METHOD OF STORAGE* |
|---|---|---|---|
| Diesel | 69,700 litres | Drums/ 340/ 205 L transfer to Fuel Bladder / 1/ 189,300L | On pallets, 4 drums each, strapped transfer to Arctic King Fuel Bladder |
| Gasoline | 4,920 litres | Drums / 24 / 205 litres | On pallets, 4 drums each, strapped |
| Aviation Fuel | 2,050 litres | Drums / 10 / 205 litres | On pallets, 4 drums each, strapped |
| Propane | 3,000 litres | Cylinders / 40 / 75 litres | Upright banded together |

**The fuel will be flown to site via Hercules Aircraft. The fuel will be stored near the camp but at least 100 metres from the camp facilities. See the Fuel Storage location indicated in the map provided for question 3 or Appendix 5.**

28. Describe any secondary containment measures to be employed, including the type of material or system used. If no secondary containment is to be employed, please provide justification.

**All fuel will be stored in a lined facility constructed on-site. Liners and "pop-up" insta berm containment facilities will be constructed for storage of barrels. The barrels will be strapped to pallets and stacked two high in the containment area. Drums will be stored together. The storage area will be inspected daily. Spill kits and empty drums or tanks will be kept near the storage area so that any spills can be contained and cleaned up (See Appendix 5 for proposed Fuel Storage Location).**

29. Describe the method of fuel transfer and the method of refuelling.

**All fuels will be transferred from the barrels and into equipment with the use of 12 volt fuel transfer pumps. The barrels will remain within the containment facility during fuel transfer and the barrels will remain in the containment area after they have been drained. Empty drums will be staked and stored for demobilization when the project is completed. All fuel transfers will be supervised and spill kits will be readily available to address any spills.**

30. Describe spill control measures in place.

**All fuel transfers will be supervised and spill kits will be readily available to address any spills.**

Please refer to Environment Canada's fuel storage tank system regulations (*Storage Tank System for Petroleum and Allied Petroleum Products*) website at http://www.ec.gc.ca/st-rs/ for details on fuel storage requirements.

**Chemicals and Hazardous Materials***

**included but not limited to oils, greases, drill mud, antifreeze, calcium or sodium chloride salt, lead acid batteries and cleaners*

31. Describe the types, quantities (number of containers, the type of container and capacity of containers), method of storage and containment. Indicate the location on a map where material is to be stored, and method of transportation of materials to project site.

**A small amount of oil and grease will be brought to site to complete the maintenance requirements for the equipment on site. These will be transported as per the requirements of the Transportation of Dangerous Goods (TDG) Act & Regulations. The oil and grease will be stored in the fuel storage area until**

**used. Used oil and grease will be collected and shipped off site for disposal at a licenced disposal facility.**

**Oils/hydraulics/antifreeze will be stored in the lined hydrocarbon storage facility - total quantity 100 liters of each in 20 liter plastic buckets. Batteries will be stored in the fuel storage facility on wooden crates - total 4 - 12 volt batteries.**

**Fertilizer or Nutrients will be stored near the camp on pallets. The exact quantities of these will be determined once a contractor is hired.**

32. Describe any secondary containment measures to be employed, including the type of material or system used.

    **The secondary containment that will be employed are insta-berms (or similar) for the products that are in use. The lined facility will be lined with a 10mil poly liner or equivalent.**

33. Describe the method of chemical transfer.

    **Not applicable**

34. Describe spill control measures in place.

    **Spill kits will be readily available on all equipment and in areas that the oil and grease and chemicals are being used. The exact location and contents of the spill kits will be determined once a contractor is hired.**

**Workforce and Human Resources/Socio-Economic Impacts**

35. Discuss opportunities for training and employment of local Inuit beneficiaries.

    **The contract for remedial activities will contain an Aboriginal Opportunities Considerations (AOC) clause that requires the contractor to maintain a target level of Inuit employment on the project (and applies a penalty if the contractor fails to meet the target level). On past similar projects the Inuit employment level in the AOC has been in the range of 50-70%. The AOC also sets a target level of Inuit subcontracting. Past similar projects have had minimum Inuit subcontracting levels of 60-80%.**

    **The contract will also contain a training fund that will allow the contractor access to up to 2% of the contract value, to a maximum of $200,000, to provide training programs to local Inuit beneficiaries.**

36. Discuss workforce mobilization and schedule, including the duration of work and rotation length, and the transportation of workers to site.

**The workforce will be mobilized to site from Kugluktuk or Yellowknife, via charter aircraft. Work will take place during June to October in the first year and possibly between June and September of the second year (if required). The exact schedule will depend on the weather and the contractor's schedule. Workers will work on a rotational schedule to be determined by the contractor.**

37. Discuss, where relevant, any specific hiring policies for Inuit beneficiaries.

**Not applicable**

**Public Involvement/ Traditional Knowledge**

38. Indicate which communities, groups, or organizations would be affected by this project proposal.

**This project is closest to the community of Kugluktuk. Residents of Kugluktuk will be informed of the project's progress throughout the project life. The project will also remove hazardous materials from the environment; this will benefit human and environmental health in the area.**

39. Describe any consultation with interested Parties which has occurred regarding the development of the project proposal.

**A community consultation was held in Kugluktuk, in January 2013 to discuss the draft Remedial Action Plan (RAP) prior to it being finalized. The HTO from Kugluktuk has also been consulted with regards to their clean up preferences since activities are occurring near an active HTO cabin on Contwoyto Lake.**

40. Provide a summary of public involvement measures, a summary of concerns expressed, and strategies employed to address any concerns.

**A community consultation was held in Kugluktuk, in January 2013 to discuss the draft Remedial Action Plan (RAP) prior to it being finalized. No community concerns with respect to our remedial work were raised during the community consultation meeting in Kuglutkuk.**
**The HTO from Kugluktuk has also been consulted with regards to their clean up preferences since activities are occurring near an active HTO cabin on Contwoyto Lake. The HTO is in full support of clean – up activities.**

41. Describe how traditional knowledge was obtained, and how it has been integrated into the project.

**Traditional knowledge was obtained through the community consultation that took place in Kugluktuk. Many comments were recorded during the community consultation (Many personal stories dating back to the 60s-80s during the active weather station times). The traditional knowledge provided has allowed a better remediation plan to be developed.**

**The overall experience in Kugluktuk was a positive one and everyone seemed to enjoy the event.**

42. Discuss future consultation plans.

**Additional community meetings will be held in Kugluktuk.**
**The community consultation meeting in Kugluktuk will be in the winter of 2014 to tell people about the plan for the winter mobilization and summer work and associated potential employment/training and sub-contracting opportunities. There will also be an inter-season meeting held prior to the 2015 summer activities (May/June 2015) if the remediation project require two field seasons. Also one community consultation will be held in Kugluktuk at the conclusion of the work in either winter of 2015 or early 2016 (depending on work seasons required). The purpose of the final meeting will be to let the communities know the results of the work.**

## 3. PROJECT SPECIFIC INFORMATION

The following table identifies the project types identified in Section 3 of the NIRB, Part 1 Form. Please complete all relevant sections.

It is the proponent's responsibility to review all sections in addition to the required sections to ensure a complete application form.

**Table 1: Project Type and Information Required**

| Project Type | Type of Project Proposal | Information Request |
|---|---|---|
| **1** | All-Weather Road/Access Trail | Section A-1 and Section A-2 |
| **2** | Winter Road/Winter Trail | Section A-1 and Section A-3 |
| **3** | Mineral Exploration | Section B-1 through Section B-4 |
| **4** | Advanced Mineral Exploration | Section B-1 through Section B-8 |
| **5** | Mine Development/Bulk Sampling | Section B-1 through Section B-12 |
| **6** | Pits and Quarries | Section C |
| **7** | Offshore Infrastructure(port, break water, dock) | Section D |
| **8** | Seismic Survey | Section E |
| **9** | Site Cleanup/Remediation | Section F |
| **10** | Oil and Natural Gas Exploration/Activities | Section B-3 and Section G |

| | | |
|---|---|---|
| **11** | Marine Based Activities | Section H |
| **12** | Municipal and Industrial Development | Section I |

## SECTION A: Roads/Trails

### A-1. Project Information

1. Describe any field investigations and the results of field investigations used in selecting the proposed route (e.g. geotechnical, snow pack)

   **Not applicable. Only pre-existing roads/trails on site will be used.**

2. Provide a conceptual plan of the road, including example road cross-sections and water crossings.

   **Not applicable. Only pre-existing roads/trails on site will be used. See Appendix 5 Site Maps and Drawings for additional details.**

3. Discuss the type and volume of traffic using the road/trail (i.e. type of vehicles and cargo and number of trips annually).

   **The pre-existing roads/trails on site will be used during the field season (June-October).**

4. Discuss public access to the road.

   **Public access will not be permitted.**

5. Describe maintenance procedures.

   **Maintenance will be performed as required and include the addition of material, compaction, and culvert installation and replacement.**

### A-2. All-Weather Road/Access Trail

6. Discuss road design considerations for permafrost.

   **Not applicable. Only pre-existing roads/trails on site will be used.**

7. Describe the construction materials (type and sources for materials), and the acid rock drainage (ARD) and metal leaching characteristics of the construction materials.

   **Not applicable. Only pre-existing roads/trails on site will be used.**

8. Discuss construction techniques, including timing for construction activities.

   **Not applicable. Only pre-existing roads/trails on site will be used.**

9. Indicate on a map the locations of designated refuelling areas, water crossings, culverts, and quarries/borrow sources.

   **See Appendix 5 - Site Maps and Drawings.**

10. Identify the proposed traffic speed and measures employed to ensure public safety.

    **Speed limit will be 30 kilometres per hour. No public access permitted.**

11. Describe dust management procedures.

    **None planned. If necessary, dust will be suppressed by adding water to the roads.**

### A-3. Winter Road/Trail

12. Describe the surface preparation, including the use of snow berms or compaction, and any flooding. If flooding is to be used, provide the location of the water source on a map.

    **Not applicable. No winter road construction planned.**

13. Describe the operating time period.

    **Not applicable. No winter road construction planned.**

14. Identify the proposed traffic speed and measures employed to ensure public safety.

    **Not applicable. No winter road construction planned.**

15. Discuss whether the selected route traverses any fish-bearing water bodies.

    **Not applicable. No winter road construction planned.**

## SECTION B: Mineral Exploration /Advanced Exploration /Development

### B-5 Stripping/ Trenching/ Pit Excavation

1. Discuss methods employed. (i.e. mechanical, manual, hydraulic, blasting, other)

   **Mechanical, excavations will be completed with an excavator.**

2. Describe expected dimensions of excavation(s) including depth(s).

   **Borrow excavations are expected to be limited to a 2 meter depth over an area of 200 meter length and 10 meter width.**

**Hydrocarbon excavation dimensions vary in location and size (See Appendix 5 for figures).The excavations are expected to be less than 3 meters in depth.**

3. Indicate the locations on a map.

   **See Appendix 5 - Site Maps and Drawings.**

4. Discuss the expected volume material to be removed.

   **The expected volume of material to be removed for the Landfarm is ~ 500 $m^3$ and 1000 $m^3$ for backfill excavations. Therefore a total of ~ 1500 $m^3$ is anticipated to be sourced from the esker/airstrip on-site (See Appendix**

   **Further details on the material requirements can be found in Appendix 10.**

5. Discuss methods used to determine acid rock drainage (ARD) and metal leaching potential and results.

   **If the borrow material is suspected of having acid rock drainage and metal leaching potential then it will be sampled. This is unlikely as the material used will be from the surface/near surface and no blasting will occur.**

**SECTION C: Pits and Quarries**

1. Describe all activities included in this project.
   - Pitting

     **None**

   - Quarrying

     **See Section B-5 above**

   - Overburden removal

     **None**

   - Road use and/or construction (please complete Section A)

     **See Section A above**

   - Explosives transportation and storage

     **None**

   - Work within navigable waters

**None**

- Blasting

  **None**

- Stockpiling

  **None**

- Crushing

  **None**

- Washing

  **None**

- Other

  **None**

2. Describe any field investigations and the results of field investigations used in determining new extraction sites.

   **A geotechnical assessment was completed in 2012. The Remedial Action Plan (Appendix 4) summarizes the identified borrow areas.**

3. Identify any carving stone deposits.

   **None identified**

4. Provide a conceptual design including footprint.

   **See Appendix 5 - Site Maps and Drawings**

5. Describe the type and volume of material to be extracted.

   **See Section B-5 above**

6. Describe the depth of overburden.

   **None**

7. Describe any existing and potential for thermokarst development and any thermokarst prevention measures.

   **None**

8. Describe any existing or potential for flooding and any flood control measures.

   **None**

9. Describe any existing or potential for erosion and any erosion control measures.

   **Borrow areas will be re-graded and sloped to prevent erosion.**

10. Describe any existing or potential for sedimentation and any sedimentation control measures.

    **None, if any identified then silt fences will be installed as required.**

11. Describe any existing or potential for slumping and any slump control measures.

    **None**

12. Describe the moisture content of the ground.

    **Well drained**

13. Describe any evidence of ice lenses.

    **None**

14. If blasting, describe methods employed.

    **Not applicable**

15. Describe the explosive type(s), hazard class, volumes, uses, location of storage (show on map), and method of storage.

    **Not applicable**

16. Discuss methods used to determine acid rock drainage (ARD) and metal leaching (ML) potential and results.

    **If the borrow material is suspected of having acid rock drainage and metal leaching potential then it will be sampled. This is unlikely as the material used will be from the surface/near surface and no blasting will occur.**

17. Discuss safety measures for the workforce and the public.

    **A Site Specific Health and Safety Plan (SSHSP) is included in Appendix 11. Public access is prohibited.**

**SECTION F: Site Cleanup/Remediation**

1. Describe the location, content, and condition of any existing landfills and dumps (indicate locations on a map).

   **There are no existing dumps or landfills at the Contwoyto Lake Remediation site. During the Phase III work, the site was investigated. The contents of debris areas were investigated at the surface only. However are suspected to only contain non-hazardous debris. Further information on the debris areas can be found in the Remedial Action Plan (RAP) in Appendix 4. The site Maps and Drawings in Appendix 5 show the locations of the debris areas.**

2. Identify salvageable equipment, infrastructure and/or supplies.

   **None**

3. Provide a list of all contaminants to be cleaned up, anticipated volumes and a map delineating contaminated areas. This includes buildings, equipment, scrap metal and debris, and barrels as well as soil, water (surface and groundwater) and sediment.

   **The contaminants to be cleaned up include:**
   - **Hazardous materials (includes PCB paint, lead paint, Heavy Metals, Batteries, Compressed gas cylinders, etc.)**
     - **13.5 cubic metres solid materials**
     - **279 drums**
     - **2,100 L of drum contents**
   - **Non-hazardous materials**
     - **~123 cubic metres solid material ~ 13 cubic metres of untreated wood to open burn on-site.**
   - **Contaminated soils**
     - **Tier II**
       - **~50 cubic metres**
     - **Type B Hydrocarbons**
       - **~ 1142 cubic metres**

   **Maps delineating the contaminated areas can be found in the Remedial Action Plan (RAP) (Appendix 4) and the Site Maps and Drawings (Appendix 5).**

4. Describe the degree of pollution/contamination, and list the contaminants and toxicity.

   **The degree of pollution/contamination is low to moderate.**

5. Describe technologies used for clean-up and/or disposal of contaminated materials. Include a list of all the physical, chemical and biological cleanup/ remediation methods, operational procedures, and the dosage/frequency of reagents and bacterial medium.

**Only proven methods/technologies will be used. See the Remedial Action Plan (Appendix 4) for the clean-up plans.**

6. Identify and describe all materials to be disposed of off site, including the proposed off site facilities, method of transport and containment measures.

   **All hazardous materials will be shipped off-site for disposal. Hazardous and Non-Hazardous materials will be transported to appropriately licensed disposal facilities (exact facilities to be determined). See the Remedial Action Plan (Appendix 4) for further details.**

7. Discuss the viability of landfarming, given site specific climate and geographic conditions.

   **Landfarming has proven to be a viable option for the treatment of hydrocarbons on other Distant Early Warning (DEW) Line sites. This technique is most effective on lighter end hydrocarbons and typically requires a couple of seasons to reduce contaminant levels to below criteria. Building the landfarm(s) and starting treatment on the ~1,142 cubic metres of hydrocarbon contaminated soil will be the first priority for the contractor on this project. Completing this task first will allow for the maximum amount of treatment time.**

8. Describe the explosive types, hazard classes, volumes, uses, location of storage (indicate on a map), and method of storage (if applicable).

   **None**

9. If blasting, describe the methods employed.

   **Not applicable**

10. Describe all methods of erosion control, dust suppression, and contouring and re-vegetation of lands.

    **None required**

11. Describe **all** activities included in this project.
    - Excavation (please complete Section B-5)

      **See Section B-5**

    - Road use and/or construction (please complete Section A)

      **See Section A**

    - Airstrip use and/or construction

      **See Part 2 – Transportation Questions 12-15.**

- Camp use and/or construction

  **See Part 2 – Camp Site Transportation Questions 16-18.**

- Stockpiling of contaminated material

  **Contaminated materials will be consolidated and packaged for transportation. They will be stored at a staging area until they are loaded onto the barge/sealift for removal from site. Confirmatory samples will be taken from the staging area once the materials are removed to confirm that the area is not contaminated.**

- Pit and/or quarry (please complete Section C)

  **See Section C**

- Work within navigable waters (please complete Section H)

  **Not applicable**

- Barrel crushing

  **See Part 2 – Waste Water Questions 25. No barrel crushing will take place on-site. Empty barrels will be shipped off-site.**

- Building Demolition

  **Existing infrastructure at the site includes:**
  - **5 dilapidated buildings**
  - **Several upright and downed antennas**
  - **3 above ground storage tanks (ASTs)**
  - **An unmaintained airstrip**
  - **Trails**
  - **4 drum caches**
  - **Debris areas**

  **All existing structures will be demolished as part of the remedial activities. See Appendix 4 for additional details.**

- Other

  **None**

## 4. DESCRIPTION OF THE EXISTING ENVIRONMENT

Describe the existing environment, including physical, biological and socioeconomic aspects. Where appropriate, identify local study areas (LSA) and regional study areas (RSA).

Please note that the detail provided in the description of the existing environment should be appropriate for the type of project proposal and its scope.

The following is intended as a guide only.

**The existing environment is described in the "Environmental Screening Assessment of the Proposed Remediation of the Contwoyto Former Weather Station Contwoyto Lake, Nunavut" Prepared by SENES in October 2013. This report can be found in Appendix 6.**

### Physical Environment

*Please note that a description of the physical environment is intended to cover all components of a project, including roads/trails, marine routes, etc. that are in existence at present time.*

- Proximity to protected areas, including:
  i. designated environmental areas, including parks;
  ii. heritage sites;
  iii. sensitive areas, including all sensitive marine habitat areas;
  iv. recreational areas;
  v. sport and commercial fishing areas;
  vi. breeding, spawning and nursery areas;
  vii. known migration routes of terrestrial and marine species;
  viii. marine resources;
  ix. areas of natural beauty, cultural or historical history;
  x. protected wildlife areas; and
  xi. other protected areas.
- Eskers and other unique landscapes (e.g. sand hills, marshes, wetlands, floodplains).
- Evidence of ground, slope or rock instability, seismicity.
- Evidence of thermokarsts.
- Evidence of ice lenses.
- Surface and bedrock geology.
- Topography.
- Permafrost (e.g. stability, depth, thickness, continuity, taliks).
- Sediment and soil quality.
- Hydrology/ limnology (e.g. watershed boundaries, lakes, streams, sediment geochemistry, surface water flow, groundwater flow, flood zones).
- Tidal processes and bathymetry in the project area (if applicable).
- Water quality and quantity.
- Air quality.
- Climate conditions and predicted future climate trends.
- Noise levels.

- Other physical Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review.

**Biological Environment**

- Vegetation (terrestrial as well as freshwater and marine where applicable).
- Wildlife, including habitat and migration patterns.
- Birds, including habitat and migration patterns.
- Species of concern as identified by federal or territorial agencies, including any wildlife species listed under the *Species at Risk Act (SARA)*, its critical habitat or the residences of individuals of the species.
- Aquatic (freshwater and marine) species, including habitat and migration/spawning patterns.
- Other biological Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review.

**Socioeconomic Environment**

- Proximity to communities.
- Archaeological and culturally significant sites (e.g. pingos, soap stone quarries) in the project (Local Study Area) and adjacent area (Regional Study Area).
- Palaeontological component of surface and bedrock geology.
- Land and resource use in the area, including subsistence harvesting, tourism, trapping and guiding operations.
- Local and regional traffic patterns.
- Human Health, broadly defined as a complete state of wellbeing (including physical, social, psychological, and spiritual aspects).
- Other Valued Socioeconomic Components (VSEC) as determined through community consultation and/or literature review.

## 5. IDENTIFICATION OF IMPACTS AND PROPOSED MITIGATION MEASURES

**The identification of impacts and proposed mitigation measures are described in the "Environmental Screening Assessment of the Proposed Remediation of the Contwoyto Former Weather Station Contwoyto Lake, Nunavut" Prepared by SENES in October 2013. This report can be found in Appendix 6.**

1. Please complete the attached Table 1 – Identification of Environmental Impacts, taking into consideration the components/activities and project phase(s) identified in Section 4 of this document. Identify impacts in Table 1 as either positive (P), negative and mitigable (M), negative and non- mitigable (N), or unknown (U).

   **See Table 1 below.**

2. Discuss the impacts identified in the above table.

**See Section 7.0 page 39- 50, which includes various tables with discussion of impacts in the "Environmental Screening Assessment of the Proposed Remediation of the Contwoyto Former Weather Station Contwoyto Lake, Nunavut" Prepared by SENES in October 2013. This report can be found in Appendix 6.**

3. Discuss potential socioeconomic impacts, including human health.

**See the "Environmental Screening Assessment of the Proposed Remediation of the Contwoyto Former Weather Station Contwoyto Lake, Nunavut" Prepared by SENES in October 2013. This report can be found in Appendix 6.**

4. Discuss potential for transboundary effects related to the project.

   **None**

5. Identify any potentially adverse effects of the project proposal on species listed under the *Species at Risk Act (SARA)* and their critical habitats or residences, what measures will be taken to avoid or lessen those effects and how the effects will be monitored.

**See the "Environmental Screening Assessment of the Proposed Remediation of the Contwoyto Former Weather Station Contwoyto Lake, Nunavut" Prepared by SENES in October 2013. This report can be found in Appendix 6.**

6. Discuss proposed measures to mitigate all identified negative impacts.

**See the "Environmental Screening Assessment of the Proposed Remediation of the Contwoyto Former Weather Station Contwoyto Lake, Nunavut" Prepared by SENES in October 2013. This report can be found in Appendix 6.**

## 6. CUMULATIVE EFFECTS

Discuss how the effects of this project interact with the effects of relevant past, present and reasonably foreseeable projects in a regional context.

**The cumulative effects of this project are discussed in the "Environmental Screening Assessment of the Proposed Remediation of the Contwoyto Former Weather Station Contwoyto Lake, Nunavut" Prepared by SENES in October 2013. This report can be found in Appendix 6.**

## 7. SUPPORTING DOCUMENTS

Where relevant, provide the following supporting documents:

- Abandonment and Decommissioning Plan

**See Remedial Action Plan in Appendix 4.**

- Existing site photos with descriptions

**Site photos are available in the Remedial Action Plan in Appendix 4 (Appendix C).**

- Emergency Response Plan

**See Site Specific Health and Safety Plan appendix 11.**

- Comprehensive Spill Prevention/Plan (must consider hazardous waste and fuel handling, storage, disposal, spill prevention measures, staff training and emergency contacts)

**See Spill Contingency Plan Appendix 12**

- Waste Management Plan/Program

**Not available, will be completed prior to mobilizing to site.**

- Monitoring and Management Plans (e.g. water quality, air pollution, noise control and wildlife protection etc.)

**Not available, will be completed prior to mobilizing to site.**

- If project activities are located within Caribou Protection Areas or Schedule 1 Species at Risk known locations, please provide a Wildlife Mitigation and Monitoring Plan

**Not applicable**

In addition, for Project Type 9 (Site Cleanup/Remediation), please provide the following additional supporting documents:

- Remediation Plan including cleanup criteria and how the criteria were derived.

**See Appendix 4.**

- Human Health Risk Assessment of the contaminants at the site.

**Not necessary to complete for this site.**

# TABLE 1 - IDENTIFICATION OF ENVIRONMENTAL IMPACTS

| | | ENVIRONMENTAL COMPONENTS | PHYSICAL | designated environmental areas (ie. Parks, Wildlife Protected 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 | other VEC: Archaeological | other VEC: Aesthetics | other VEC: | BIOLOGICAL | vegetation | wildlife, including habitat and migration patterns | birds, including habitat and migration patterns | aquatic species, incl. habitat and migration/spawning | wildlife protected areas | other VEC: | other VEC: | other VEC: | SOCIO-ECONOMIC | archaeological and cultural historic sites | employment | community wellness | community infrastructure | human health | other VSEC Land Use |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PROJECT ACTIVITIES** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONSTRUCTION | Site grading & borrow development | | | | M | | | M | | | | | | M | | | | | | | M | M | M | | | | | | | | | | |
| | Dump closure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Site re-grading | | | | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Facility demolition | | | | | | | | | | | | | | | | | | | | M | M | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OPERATION | Hydrocarbon contaminated soil removal & landfarming | | | | | | | | | | | | | N | | | | | | | | | | | | | | | | | | P | |
| | Vehicle etc emissions | | | | | | | | | | | | | M | | | | | | | | | | | | | | | | | | | |
| | Contaminated soil removal | | | | M | | | P | | | | P | | P | | | | | | | P | P | P/M | | | | | | | | | P | |
| | Transportation of hazardous goods | | | | | | | M | | | | M | | | | | | | | | | | | | | | | | | | | | |
| | Camp operation | | | | M | | | M | | | | M | | | | | | | | | | | | | | | | | | | | | |
| | General activities | | | | | | | | | | | | | | | M | P | | | | M | M | | | | | | | | P | | | M |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DECOMMISSIONING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Note: Please indicate in the matrix cell whether the interaction causes an impact and whether the impact is

P = Positive
N = Negative and non-mitigatable
M = Negative and mitigatable
U = Unknown

If no impact is expected please leave the cell blank