

INAC Contaminated Sites Program

Johnson Point:

Waste Fuel Incineration and Environmental Site Assessment

Application for Water Licence
Schedule III (subsection 6(1))



Submitted to:
Northwest Territories Water Board

Submitted by:
Contaminants and Remediation Directorate,
Indian and Northern Affairs Canada

April 2006

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2. Address of Head Office in Canada if Incorporated:

Same as above

3. Location of Undertaking

Johnson Point is located on Banks Island at the following co-ordinates:

Longitude: 72° 45' 10" **Latitude:** 118° 30' 00"

The site is located on the east side of Banks Island along the Prince of Wales Strait. In total, the footprint of the site covers approximately 2.5 km².

The site is an abandoned site originally developed in the late 1960's as a support and staging area for oil and gas exploration throughout Banks Island. There is an assortment of camp trailers and other equipment associated with Nodwell or cat-camps. In addition to the camp material, there is an assortment of construction supplies distributed around the site, 25 large bulk fuel tanks in or adjacent to the tank farm, and many other smaller fuel storage containers scattered around the site (2005 site inventory included 69 fuel storage containers with an estimated volume of approximately 90,000-L of petroleum products and approximately 25,000-L of sludge). It is now considered a contaminated site due to the presence of waste fuel, contaminated soil and hazardous building materials (including PCB, Lead-based paints, etc).

There is a small, shallow pond located in the eastern section of the site and two small, excavated ponds located in the central portion of the site. There is a small stream located along the western boundary of the tank farm with several small drainage channels located throughout the site. A small, un-named river bounding the site to the north, flows east into the Prince of Wales Strait.

Waste water generated by camp facilities or tank cleaning operations are to be released on to the tundra. The release point will be a minimum of 30 metres from natural drainage courses and 100 metres from fish bearing waters at location which will not interfere with site operations as determined by the Public Works and Government Services Canada (PWGSC) site engineer. An engineer will be on site to supervise all work on the site and ensure compliance with all regulatory requirements.

Maps indicating the general area of the site, large and small scale drainage, and relative location of site infrastructure at Johnson Point can be found in **Appendix 1** of the attached application to the Environmental Impact Screening Committee. Aerial photographs and photos of the current infrastructure at Johnson Point can be found in **Appendix 2** and **Appendix 3** of the Environment Impact Screening Committee (EISC) screening application. The EISC application is included as **Appendix 1** of this licence application.

4. Description of Undertaking

Johnson Point is an abandoned site at which there is concern about the integrity of fuel tanks currently storing waste fuel. The goals for the activities at Johnson Point proposed for 2006 are to address concerns about fuel storage at the site and to gather the necessary information to develop a remediation plan for the site. Proposed activities at Johnson Point for 2006 are as follows:

1. Incineration of waste fuel
2. Gather information for the Environmental Site Assessment (ESA)
3. Construction and decommissioning of a temporary camp to support first two activities.

The site was originally developed in the late 1960's as a support and staging area for oil and gas exploration throughout Banks Island. There is an assortment of camp trailers and other equipment associated with Nodwell or cat-camps. In addition to the camp material, there is an assortment of construction supplies distributed around the site, 25 large bulk fuel tanks in or adjacent to the tank farm, and many other smaller fuel storage containers scattered around the site (2005 site inventory included 69 fuel storage containers with an estimated volume of approximately 90,000-L of petroleum products and approximately 25,000-L of sludge). Samples from most tanks still containing products were collected and analysed by EnviroTest Labs and the Alberta Research Council to determine the composition of the contents (gasoline, diesel, etc.) as well as to determine the most suitable disposal method of the waste fuel. The sludge was in a solid state during the site visit (possibly a combination of sub-zero temperatures and the composition of the material) and the field crew was unable to collect samples.

The specifications, contracting, and supervision for the proposed tasks will be conducted by Public Works and Government Services Canada (PWGSC) who will

have an engineer on site throughout the proposed operations. The contracts for the proposed 2006 tasks at Johnson Point have been divided into two main contracts.

The first component of the site work at Johnson Point is incineration of the waste fuel remaining in the assorted tanks distributed throughout the site. This work will have two main parts: incineration and tank cleaning.

The successful contractor will be responsible for mobilizing an incinerator capable of completing the incineration during the summer field season. Fuel will be transferred from the source tanks into a feed-stock tank located near the incinerator. Transfer of the waste fuel will be completed manually and/or with powered transfer pumps depending on the volume of the fuel being transferred.

Sludge material may be mixed with waste fuel and incinerated, shipped off site, or if 'sludge' is actually frozen water, it will be treated and released. Sludge material will be consolidated and processed through an oily water separator. Water separated out will then be passed through granular activated carbon (GAC) filters to allow the waste water to meet the criteria proposed in the water licence. The tanks will then be steam-cleaned to remove any residual hydrocarbon product and the wash-water will be treated with the oily water separator and GAC filters. The release point for waste water generated by the above activities will be a minimum of 30 metres from natural drainage courses and 100 metres from fish bearing waters at location which will not interfere with site operations as determined by the PWGSC site engineer. These procedures may be modified slightly by the successful contractor. If significant changes are proposed, an amendment will be requested.

The second component of the proposed field work at Johnson Point is the completion of a Phase III – Detailed Environmental Site Assessment (ESA) of the site. A series of test pits will be completed in selected areas based on proximity to hydrocarbon sources and/or suspected garbage dump locations. Timing of this work should allow for test pits to be completed when the active layer (depth to permafrost is at its greatest).

In addition to soil sampling completed throughout the site, water samples from the water-bodies and any watercourses with water present at the time of the site visit will also be collected. Background water and soil samples may also be collected at locations selected by the contractor completing the ESA and approved by the PWGSC site engineer. The ESA will also involve completion of a detailed materials inventory at the site including materials sampling to determine the approximate volumes of hazardous and non-hazardous waste at the site. Results from the 2005 environmental site assessment indicate that PCB-containing paint is present on some site buildings and tanks and a sample of asbestos was also collected from one trailer at the site.

5. Type of Undertaking

The activities proposed for 2006 at Johnson Point would be classified as miscellaneous tasks for Care and Maintenance and Remediation Planning. They include incineration of waste fuel, cleaning of petroleum storage tanks, and environmental assessment activities. These activities are to be conducted to eliminate the potential for future release of contaminants into the environment and to gather the necessary information to develop a remediation plan for the site.

6. Water Use

The proposed activities would obtain water for two main purposes: camp use and tank steam-cleaning activities but the water use itself does not trigger a water licence ($<100\text{m}^3/\text{day}$).

7. Quantity of Water Involved

The proposed activities will require up to fifteen (15) persons on site for 4 to 6 weeks. Assuming water usage of 200 L/day/person, a maximum of 3000-L of water per day (3 cubic metres) would be required by the camp and will not trigger a water licence application. Tank steam-cleaning activities will require a maximum of 500-L/day for approximately 4 weeks. The proposed activities are expected to use a maximum of 140,000-L (140 cubic meters) of water (126000-L (126 cubic metres) for camp use and 14000-L (14 cubic metres) for tank steam-cleaning). None of the water is expected to be returned to its source.

As the camp is only expected to be operational for 4 to 6 weeks, one report documenting water use, to be submitted one month following completion of site activities, is proposed.

8. Waste Deposited

As indicated below, there will be two sources of waste water released from the proposed activities:

- Gray water and black water from the camp.
 - A maximum of approximately 3000-L/day (3 cubic metres) will be generated by the camp operations. This water will be disposed in a small excavated sump near the camp at a location approved by the PWGSC engineer.
- Waste water from sludge consolidation and tank cleaning operations
 - A total of 25,000-L (25 cubic metres) of waste water may be collected during sludge consolidation operations prior to tank cleaning.

- In addition, a maximum of 500-L/day (0.5 cubic metres) of waste water is expected to be generated by the tank steam-cleaning operations at Johnson Point.
- These are considered conservative estimates as there is uncertainty associated with waste water volumes in the tanks and the type of steam cleaner that will be used.

Treatment of the waste water from operations at Johnson Point will involve a combination of an oily water separator followed by granular activated carbon (GAC) filters. Treated water will be held in a containment tank on site and samples will be collected and sent to an accredited laboratory for testing. CARD has proposed the following water quality criteria for waste water discharge at Johnson Point:

Table #1 – Proposed Waste Water Discharge for Johnson Point

Parameter	Proposed Discharge Criteria ^a
Oil and Grease	5 mg/L and none visible ^b
Benzene	370 µg/L
Toluene	2.0 µg/L
Ethylbenzene	90 µg/L
Xylene	No Criteria

^a – criteria based on the CCME Protection of Freshwater Aquatic Life

^b – standard for other water licences

Following treatment, the waste water will be discharged at a location that is a minimum of 30 metres from natural drainage courses and 100 metres from fish bearing waters. The contractor will select the discharge site at a location that will not interfere with site operations and the site will be approved by the PWGSC on-site engineer.

9. Other Persons or Properties Affected By This Undertaking

CARD has been working closely with the Inuvialuit Regional Corporation (IRC) to identify groups or individuals within the Inuvialuit Settlement Region (ISR) that may be affected by the proposed activities at Johnson Point.

At the recommendation of IRC, CARD has consulted with the Sachs Harbour Hunters and Trappers Committee (HTC) and the Inuvialuit Game Council (IGC) and updated IRC prior to commencing consultation activities with the affected groups within the ISR.

On December 2005, CARD attended the IGC quarterly meeting in Inuvik at the invitation of the IGC. CARD presented information on the Contaminated Sites Program, reviewed the assessment activities that had been completed at Johnson Point during 2005, and summarized the activities that are proposed for 2006.

In April 2006, CARD initiated a Traditional Knowledge/Community survey in Sachs Harbour regarding Johnson Point and the surrounding area. The survey was contracted to the Sachs Harbour HTC and is presently being conducted by Joey Carpenter, an elder from Sachs Harbour. CARD and the Sachs Harbour HTC prepared the survey to collect information about how Johnson Point is used by the community of Sachs Harbour (both past and present), how the site was used by industry, what animals are found at the site at different times in the year. The survey is expected to be completed by the end of May 2006.

In addition to the survey, CARD visited Sachs Harbour from April 24-27, 2006. CARD attended an HTC Special Members Meeting at the invitation of the Sachs Harbour HTC on April 25, 2006 to present an update on Johnson Point. During this presentation, information was provided about the process of evaluation and selection of sites for the Contaminated Sites Program, the tasks completed at Johnson Point in 2005 and a summary of the work proposed to be completed in 2006.

Following the presentation, CARD held a question answer/period to gather information about community concerns. The minutes of the community meeting are included in **Appendix 1** of this application (**Appendix 4** of the EISC application). Fifteen Sachs Harbour HTC members were in attendance including three directors on the HTC Board.

CARD also visited the Inualthuyak School in Sachs Harbour on April 26, 2006 and gave a short demonstration about how contaminants travel in the environment and why we need to be concerned about cleaning up sites and protecting the environment. The students participated in two short science experiments led by CARD.

CARD is planning on conducting a site visit to Johnson Point by elders and some members of the Sachs Harbour HTC during the summer of 2006. Comments from elders and HTC members during the tour of the site will be used by CARD to direct further testing for contamination at Johnson Point and to help avoid sites of cultural importance.

The site may also be used by Diamonds North and CARD is in contact with them.

Socio-economic Benefits Package will form part of the requirements for proposals as per the contracting process. This will ensure that this project provides benefits to the Inuvialuit.

Contact information for the affected groups are provided below:

- **Inuvialuit Regional Corporation (IRC)**
107 Mackenzie Road

P.O. Box 2120
Inuvik, NT
X0E 0T0
Phone - (867) 777-2737
Fax - (867) 777-2135
Email - info@irc.inuvialuit.com
Attention – Roger Connelly

- **Inuvialuit Game Council (IGC)**
107 Mackenzie Road
P.O. Box 2120
Inuvik, NT
X0E 0T0
Phone – (867)777-2828
Fax – (867)777-2610
Email - igc-tech@jointsec.nt.ca
Attention - Nelson Perry
- **Sachs Harbour Hunters and Trappers Committee (HTC)**
PO Box 79
Sachs Harbour, NT
X0E 0Z0
Phone – (867) 690-3028
Fax - (867)690-4905
Attention - David Haogak, Chairperson
- **Diamonds North Resources Ltd.**
510-510 Burrard St.
Vancouver, BC
V6C 3A8
Phone - (604) 689-2010

10. Predicted Environmental Impacts Of Undertaking And Proposed Mitigation

The project in itself is mitigation to existing environmental impacts and hydrocarbon contamination. The most significant potential environmental effect, therefore, would be if this project did not go ahead or if there were delays in its completion. The proposed timing, duration and location of the activities on the site should address any other potential environmental impacts.

Periods of heavy rain could limit access to the site to smaller aircraft and poor visibility or limited aircraft availability could delay re-supply flights to the site operations. The proposed activities are scheduled early in the field season to allow the operation to be completed before weather conditions prevent completion of the field work.

Also, no equipment will be operated within the un-named river to prevent negative impacts to aquatic habitats. Hunting and harassment of wildlife in the area by staff on site will not be permitted.

The incinerator used in the operation is required to provide a smokeless burn and therefore will not impact air quality. The contractor supplying the incinerator will have to provide supporting documentation on the operation of the incinerator and other equipment on site. To mitigate any effects of fuel, there will be proper fuel handling techniques used, a spill contingency plan in place as well as spill kits at fuel transfer locations.

Water and soil samples will be collected throughout the environmental site assessment phase of the 2006 field season. This information will be used to determine the extent of existing contamination but no additional negative impacts are anticipated from the proposed activities.

This area has been used previously by industry. No new areas will be disturbed, no vegetation will be removed, and there are existing access routes over the site.

The camp for the proposed activities will have a perimeter defence around the camp to address wildlife concerns. This will be dismantled at the conclusion of the work. Also, waste generated on site will be incinerated daily and managed properly to reduce the potential of wildlife attraction.

The contractor supplying and operating the camp will establish camp rules covering items such as property damage, smoking, use of alcoholic beverages, drugs, firearms, security, nuisance, and any other matters to ensure the camp is operated in an orderly manner. The contract itself will be managed through federal PWGSC and they will have an engineer on site at all times to ensure these measures are adhered to and that there is compliance with all regulatory approvals and legislation.

11. Contractor and Sub-contractors

The contractor for the proposed work has yet to be determined. A tender for the work is currently posted on MERX. Once the contract for the work has been awarded, contact information will be provided to the Inspector. It will be up to the successful contractor to determine the size of camp and how long the camp will be operational at site.

12. Studies Undertaken To Date

Two previous reports have been completed on Johnson Point and a third report documenting activities completed in 2005 is in the process of being finalized.

- In 1992, through the Action on Waste program, the DIAND North Mackenzie

District Office co-ordinated the consolidation of debris, burning of clean wood, and the development of a preliminary inventory of construction materials, buildings, and equipment abandoned on the site.

- In 2002, Parks Canada visited the site at the request of the Sachs Harbour HTC to evaluate the potential for environmental contamination from the site. The report found indications that several of the large bulk storage tanks may be leaking.

- In 2005, CARD contracted IEG Environmental to conduct a Phase I/II Environmental Site Assessment (ESA) at Johnson Point and to develop a detailed inventory of materials. The ESA involved collection and analysis of soil samples collected throughout the site at locations with potential sources of hydrocarbons. The materials inventory involved collection of paint samples from selected buildings and storage tanks and estimation of waste fuel stored on site. The results from these testing programs are being used to direct the 2006 sampling program and to assist with the development of the incineration plan. The report is currently in draft format.

13. Proposed Time Schedule

The project is proposed to begin as soon as possible (activities on site for 2006 expected to commence in mid-July). Current estimates for the activities planned for 2006 are approximately 10 to 15 people for approximately 4 to 6 weeks with on-site activities concluding by the end August with completion of site remediation activities in 3 or more years. Time requirements for individual components are as follows:

- Incineration – 4 to 6 weeks
- Tank Sludge Consolidation and Steam Cleaning – approximately 4 weeks
- ESA Field Work – approximately 2 weeks

These three components are expected to be completed concurrently as determined by the contractor and the PWGSC on-site engineer.

If sit or weather conditions lead to delays in obtaining sufficient information for the ESA, or if further contaminant issues are discovered, some work may be required in the summer of 2007 or even 2008. We therefore request a permit for a period of 3 years. When a remediation plan for the site has been completed, a new water licence or an amendment will be applied for as necessary.

Appendices

Appendix 1 – Johnson Point EISC Application For Screening

INAC Contaminated Sites Program

Johnson Point:

Waste Fuel Incineration and Environmental Site Assessment

Application for Environmental Impact Screening



Submitted to:
The Environmental Impact Screening Committee

Submitted by:
Contaminants and Remediation Directorate,
Indian and Northern Affairs Canada

April 2006

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Executive Summary

Johnson Point is an abandoned support and staging facility established in the late 1960's for oil and gas exploration throughout the northern region of Banks Island. The site was used by several different companies with drilling activities occurring from 1971 to 1982 with eleven wells completed but it has been abandoned since the early 1980's when exploration was completed. The site is located approximately 270 kilometres northeast of Sachs Harbour. The site is bounded to the east by the Prince of Wales Strait, to the north by a small, un-named river, and to the west and south by open tundra.

Activities proposed for the 2006 field season include the incineration of waste fuel stored on site, steam-cleaning of storage tanks, completion of a detailed inventory of the materials on site, and a detailed Environment Site Assessment testing program to determine the extend of the contamination at Johnson Point. There is the possibility that further assessment work may be required in the summer of 2007 to develop a remediation plan for the site.

1. Title

Johnson Point Waste Fuel Incineration and Environmental Site Assessment

2. Contact Name and Address

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3. Regulatory Approvals

This Project requires the following regulatory approvals in addition to screening by the Environmental Impact Screening Committee:

- INAC Land Use Permit
INAC North Mackenzie District Office

PO BOX 2100
86 Duck Lake, Inuvik, NT
X0E 0T0
Telephone – (867) 777-3361

Conrad Baetz, Area Manager
E-mail - BaetzC@inac-ainc.gc.ca

- NWT Water Board Water Licence
Northwest Territories Water Board
P.O. Box 1326 4916-47 Street, 2nd Floor, Goga Cho Building
Yellowknife, NT
X1A 2N9
Telephone - (867) 765-0106
Fax - (867) 765-0114
E-mail - info@nwtwb.com

4. Location

Johnson Point, on the east shore of Banks Island, is located at a longitude of 72 45' 10" and 118 30' 00". The following maps found in **Appendix 1** have been provided to supplement this application:

- **Map #1** - *Johnson Point and Surrounding Communities*
- **Map #2** – *Johnson Point and Surrounding Area (Banks Island and Victoria Island)* (both Maps 1 & 2) show the location of the Site at a large scale.
- **Map #3** – *Johnson Point and Surrounding Area* displays the project area at a smaller scale. The proposed flight corridors for the project, shown as a 5-km buffer zone surrounding the Site with the proposed exit direction for flights to Inuvik, Sachs Harbour, and Ulukhaktok are shown.
- **Map #4** – *Johnson Point Detailed Site Plan* (IEG Figure 13) has been extracted from the *Johnson Point Draft Phase I/II ESA* conducted by IEG Environmental in September 2005. This map shows specific locations of site infrastructure.

5. Development Summary

INAC is focussed on accelerating the remediation of contaminated sites in the North to protect the health and safety of Aboriginal people, Northerners and the integrity of the environment under the Federal Contaminated Sites Action Program (FCSAP). The work proposed for Johnson Point is a direct response to community concerns regarding the waste fuel stored at site from the Sachs Harbour Hunters and Trappers Committee (HTC). The proposed work therefore focuses on eliminating this source of contamination.

The purpose of the proposed activities at Johnson Point during the summer of 2006 therefore has two main components:

1. Address concerns from the fuel storage at the site.

2. Determine the scale and scope of contaminated on site and collect the necessary information to develop remediation options.

Following the fieldwork during the summer of 2006, INAC will consult with the IRC and the local Hunters and Trappers Committee to produce a remediation plan. Once this plan is developed and finalized, it will be submitted for screening and regulatory approvals.

During 2005, 69 fuel storage containers, ranging in size from 205-L barrels to large bulk fuel tanks in and around the tank farm, were inventoried and waste fuel samples were collected. Characteristics of the waste fuel were examined to determine the composition of the waste fuel (whether the contents are diesel, gasoline, etc.) and the suitability of incineration for fuel disposal. A total of approximately 90,000-L of hydrocarbons and approximately 25,000-L of sludge material are currently estimated on site at Johnson Point.

The first component, addressing fuel storage issues at the site, will involve mobilization of a crew and an incinerator to the site by air. The waste fuel is to be incinerated, sludge on the tank bottoms will be consolidated, and tanks will be steam-cleaned. Water collected during sledge consolidation and steam-cleaning of the tanks will be treated, tested, and discharged onto the tundra under licence criteria proposed to the NWT Water Board. The water will be discharged onto the ground at a location that is a minimum of 30 metres from natural drainage courses and 100 metres from fish bearing waters.

The second component includes an environmental site assessment at Johnson Point. This assessment will include soil sampling program with test pits excavated to permafrost to delineate the extent of hydrocarbon contamination. Water samples will also be collected and a detailed inventory of all hazardous and non-hazardous materials on site will be conducted.

The 2006 incineration activities at Johnson Point are to be conducted through a contract tendered using evaluation criteria developed by CARD/ Public Works and Government Services (PWGSC) with consultation with IRC to ensure Inuvialuit involvement. The work would include the aforementioned tasks as well as a small camp to house the workers.

The contracts for the 2006 site activities at Johnson Point have not yet been awarded. The incineration activities are proposed to be initiated in early to mid-July with the environmental assessment activities to commence in late July to early August when the depth of the active layer (depth to permafrost) is greatest.

6. Development Timetable

The schedule proposed for the planned activities at Johnson Point in 2006 are found below in **Table 1**:

Table 1 – Proposed Timeline For Activities At Johnson Point

	Activity Description
End of April	Post tender packages on MERX website as a request for proposals (RFP) .
End of May	Award contract of the proposed work on site.
Mid July	Contractor to mobilize equipment and camp into Johnson Point by air to begin incineration and tank cleaning
End of July	Environmental site assessment contractor to begin onsite work.
End of August	Completion of all on-site work for 2006 field season.

A tender for the work is currently being developed and will be posted on MERX. It will be up to the successful contractor to determine the size of the camp and how long the camp and supported activities will be operational at site; current estimates are 4-6 weeks with 6 to 10 people. Once the contracts for the work have been awarded, contact information will be provided to the Environmental Impact Screening Committee.

7. New Technology

The specifications developed for the proposed activities during 2006 include only proven technology. Proposals which include unproven or innovative ideas will require supporting documentation of the suitability of the proposed technology. Once the contract for the work has been awarded, this information will be provided to the Inspector as required under the Land Use Permit.

8. Alternatives

The only component within the proposed site work planned for 2006 with potential alternative is the disposal of the remaining waste fuel. The inventory conducted in 2005 indicated that the fuel quality is poor due to its age and that the integrity of the storage tanks uncertain. Also, the remote location of Johnson Point and the distribution of the waste fuel storage throughout the site limit the viability of options involving transportation of the waste fuel to other locations for disposal.

Incineration of the waste fuel on site is considered to be the most effective method to address the environmental concerns regarding the continued storage of waste fuel at Johnson Point.

9. Traditional and Other Land Uses

Johnson Point is located within the boundaries of the Sachs Harbour Planning Area as defined in the *Sachs Harbour Community Conservation Plan* (SHCCP) and is also on the boundary of the Holman Planning Area as defined in the *Olokhaktomiut Community*

Conservation Plan (OCCP). These publications define the following designated land use categories and are summarized in **Table 2**:

Table 2 – Designated Land Use Categories

	Definition
Category A	Lands where there are no known significant and sensitive cultural or renewable resources. Lands shall be managed according to current regulatory practices.
Category B	Lands where there are cultural or renewable resources of some significance and sensitivity but where terms and conditions associated with permits and leases shall assure the conservation of these resources.
Category C	Lands and waters where cultural or renewable resources are of particular significance and sensitivity during specific times of the year. These lands and waters shall be managed so as to eliminate, to the greatest extent possible, potential damage and disruption.
Category D	Lands and waters where cultural or renewable resources are of particular significance and sensitivity throughout the year. As with Category C, these areas shall be managed so as to eliminate, to the greatest extent possible, potential damage and disruption.
Category E	Lands and waters where cultural or renewable resources are of extreme significance and sensitivity. There shall be no development on these areas. These lands and waters shall be managed to eliminate, to the greatest extent possible, potential damage and disruption. This category recommends the highest degree of protection in this document.

Johnson Point is located within or in close proximity to the designated land use areas listed in **Table 3**:

Table 3 – Johnson Point and Associated Designated Land Use Areas

Designated Land Use Status	Proximity to Site	Description of Sensitive Cultural and/or Ecological Components (information from SHCCP)
Class C - 734C Prince of Wales Strait (SHCCP and OCCP)	Site is located on the Strait, on the boundary of this management area.	The route is used for travel between Sachs Harbour and Holman and has been used for past and present subsistence harvesting of ringed seals, bearded seals and polar bears. The area is considered an important marine environment due to ocean currents and upwellings. The Strait is also an important beluga whale migration area (June to September), year round bearded seal habitat (seal pupping season from January to May) and used by denning polar bears (November to April). The SHCCP identifies potential increases in marine traffic through the Strait as

		potentially harmful to the marine life in the area and states that marine traffic through the area should be restricted and additional marine ecosystem research should be conducted.
Class C – 615C Banksland Coastal Waters (Charr) (SHCCP)	Site is located on the Strait, on the boundary of this management area.	Feeding of anadromous Arctic charr in open water.
Class D - 614D Banksland Rivers (SHCCP)	The site is located within the boundary of this management area.	Both anadromous and non-anadromous forms of Arctic charr stocks are found in this management area. At Johnson Point and Headwater Lake (which feeds the unnamed river that flows into the Prince of Wales Strait at Johnson Point, just north of the infrastructure at the Site) lake trout and/or Arctic charr are present as year-round residents or seasonal migrants. Sachs Harbour residents indicated in consultation meetings that Arctic charr are present in the un-named river that flows past the site.
Class E – 619E Banks Island Caribou Calving Areas (SHCCP)	The site is located approximately 15-km north of this management area	This area is a critical calving ground for Arctic Islands and Peary caribou. Animals start moving north in April and May with calving beginning in late May to early June. A draft Banks Island Multi-species Management Plan is under development by RWED, a regional recovery plan for caribou herds on Banks Island is being developed and the Sachs Harbour HTC has by-laws in place to restrict harvest.

No marine transport activities are included in the activities at Johnson Point proposed for 2006; therefore, no impacts are expected for the Prince of Wales Strait and the associated designated land use areas (734C Prince of Wales Strait (SHCCP and OCCP) and 615C Banksland Coastal Waters (Charr) (SHCCP)). Air traffic in the area will maintain an altitude of >300-m (975 ft) when flying over the Prince of Wales Strait when beluga whales have been observed in the area (*Environmental Impact Screening Committee – Operating Guidelines and Procedures* (EISC – OGP): Appendix I).

Johnson Point is located within the designated land use area 614D Banksland Rivers (SHCCP). On site activities in this area are not expected to have significant negative impacts as the activities will include spill contingency plans to prevent further release of hydrocarbons into the environment while operating equipment at the site. In addition, the

purpose of the proposed activities at Johnson Point is provide a positive impact to the site by removing the potential for further release of hydrocarbons into the environment by eliminating the source.

Johnson Point is located approximately 15-km north of a caribou calving ground defined under designated land use area 619E Banks Island Caribou Calving Areas (SHCPP). Flight operations at the site will maintain >610-m (2000 ft) when flying point to point in the vicinity of caribou and other wildlife species (*Environmental Impact Screening Committee – Operating Guidelines and Procedures: Appendix I*) and flights over the caribou calving grounds will be avoided. Operations at Johnson Point are not expected to commence until mid-July so impact on caribou in this area should be minimized.

10. Community Consultation

The Contaminants and Remediation Directorate (CARD) has been working closely with the Inuvialuit Regional Corporation (IRC) to ensure Inuvialuit involvement in the remediation of Johnson Point.

The IRC suggested that CARD consult with the Sachs Harbour Hunters and Trappers Committee (HTC) and the Inuvialuit Game Council (IGC). In December 2005, CARD attended the IGC quarterly meeting in Inuvik at the invitation of the IGC. CARD presented information on the Contaminated Sites Program, reviewed the assessment activities that had been completed at Johnson Point during 2005, and summarized the activities that are proposed for 2006.

In April 2006, CARD initiated a Traditional Knowledge/Community survey in Sachs Harbour regarding Johnson Point and the surrounding area. The survey was contracted to the Sachs Harbour HTC and is presently being conducted by Joey Carpenter, an elder from Sachs Harbour. CARD and the Sachs Harbour HTC prepared the survey to collect information about how Johnson Point is used by the community of Sachs Harbour (both past and present), how the site was used by industry, what animals are found at the site at different times in the year. The survey is expected to be completed by the end of May 2006.

In addition to the survey, CARD visited Sachs Harbour from April 24-27, 2006. CARD attended an HTC Special Members Meeting at the invitation of the Sachs Harbour HTC on April 25, 2006 to present an update on Johnson Point. During this presentation, information was provided about the process of evaluation and selection of sites for the Contaminated Sites Program, the tasks completed at Johnson Point in 2005 and a summary of the work proposed to be completed in 2006.

Following the presentation, CARD held a question answer/period to gather information about community concerns. The minutes of the community meeting are included as **Appendix 4** of this application. Fifteen Sachs Harbour HTC members were in attendance including three directors on the HTC Board. During this meeting, members provided information about locations around Johnson Point where Arctic charr and caribou could be found. The members also indicated that numerous archaeological sites

may be located north of Johnson Point along the Prince of Wales Strait. This information will be used by CARD in the design of the 2006 field program and during the development of a remediation plan for the site.

CARD also visited the Inualthuyak School in Sachs Harbour on April 26, 2006 and gave a short demonstration about how contaminants travel in the environment and why we need to be concerned about cleaning up sites and protecting the environment. The students participated in two short science experiments led by CARD.

CARD is planning on conducting a site visit to Johnson Point by elders and some members of the Sachs Harbour HTC during the summer of 2006. Comments from elders and HTC members during the tour of the site will be used by CARD to direct further testing for contamination at Johnson Point and to help avoid sites of cultural importance.

11. Environmental Overview

Johnson Point is located in the Northern Arctic Ecozone. The terrain consists low, rolling tundra plains with rock debris left by glaciers.

Climate information for Johnson Point is presented below in **Table 4**:

Table 4 – Johnson Point Climatic Data

Parameter	Recorded Values ^a
Mean Annual Temp.	-16 °C
Mean Winter Temp. (October-March)	-30 °C
Mean Summer Temp. (April-September)	-5 °C
Mean Annual Precipitation	142 mm

^a - Climatic data for Johnson Point is only available from 1972-1976

A small, shallow pond (estimated to be less than 2 meters in depth) is located west of airstrip and two smaller excavated ponds are located southeast of the tank farm. A small stream drains north, from the central portion of the site, flowing past the west side of the tank farm onto the flood plain of the un-named river north of the infrastructure at Johnson Point. Several small drainage channels are dispersed throughout the site.

Continuous permafrost conditions are found at Johnson Point. The maximum depth to permafrost at this location in mid-summer is estimated to be between 0.5-1.8 metres. The presence of permafrost is expected to limit groundwater movement to a shallow depth. The soils throughout most of the site consist mainly of sandy gravel.

From discussions with elders and Sachs Harbour HTC members, Peary Island caribou, muskox, and polar bears are all found at Johnson Point. In addition, arctic fox, arctic hare, lemmings, and snowy owls are also found in the area. Marine mammals that may be found in the Prince of Wales Strait include beluga whales, ringed seals, and bearded

seals. Traditional knowledge indicates that Arctic charr can be found in the Prince of Wales Strait and seasonally in the un-named river north of the site. Lake trout may also be found in the small lake in the headwaters of the un-named river.

12. Proposed Mitigation and Anticipated Environmental Impacts

The project in itself is a mitigation to existing environmental impacts and hydrocarbon contamination. The most significant potential environmental effect, therefore, would be if this project did not go ahead or if there were delays in its completion. The proposed timing, duration and location of the activities on the site should address any other potential environmental impacts.

Periods of heavy rain could limit access to the site to smaller aircraft and poor visibility or limited aircraft availability could delay resupply flights to the site operations. The proposed activities are scheduled early in the field season to allow the operation to be completed before weather conditions prevent completion of the field work.

Also, no equipment will be operated within the un-named river to prevent negative impacts to aquatic habitats. Hunting and harassment of wildlife in the area by staff on site will not be permitted.

The incinerator used in the operation is required to provide a smokeless burn and therefore will not impact air quality. The contractor supplying the incinerator will have to provide supporting documentation on the operation of the incinerator and other equipment on site. To mitigate any effects of fuel, there will be proper fuel handling techniques used, a spill contingency plan in place as well as spill kits at fuel transfer locations.

Water and soil samples will be collected throughout the environmental site assessment phase of the 2006 field season. This information will be used to determine the extent of existing contamination but no additional negative impacts are anticipated from the proposed activities.

The camp for the proposed activities will have a perimeter defence around the camp consisting of an electric fence or noise maker. The fence is to be dismantled at the conclusion of the work. Also, waste generated on site will be incinerated daily and managed properly to reduce the potential of wildlife attraction.

The contractor supplying and operating the camp will establish camp rules covering items such as property damage, smoking, use of alcoholic beverages, drugs, firearms, security, nuisance, and any other matters to ensure the camp is operated in an orderly manner. The contract itself will be managed through federal PWGSC and they will have an engineer on site at all times to ensure these measures are adhered to and that there is compliance with all regulatory approvals and legislation.

13. Cumulative Effects

No cumulative effects from this project are anticipated.

14. Emergency Response Plans

The emergency response components for activities at Johnson Point will include:

- Wildlife monitor on site
- Site-Specific Health and Safety Plan
- Incineration Plan
- Spill Contingency Plans for operation of equipment on site and the fuel transfers for during incineration

These plans will be required as submittals under the contract specifications.

15. Clean-up, Reclamation, Disposal, and/or Decommissioning Plan

The proposed activities at Johnson Point will help lead to the final decommissioning of these abandoned facilities and remediation of the site.

During the 2006 field season, a temporary camp capable of supporting 6-10 people for a period of up to 6 weeks will be constructed at Johnson Point at a location on the site selected by the contractor completing the work. The camp location is to be established at a location which does not interfere with operations undertaken on the site and approved by the PWGSC engineer on site. The camp is to be established and operated in accordance with local regulations and authorities having jurisdiction. The camp is to be removed following the completion of the activities on site during 2006.

16. Other Environmental Assessment

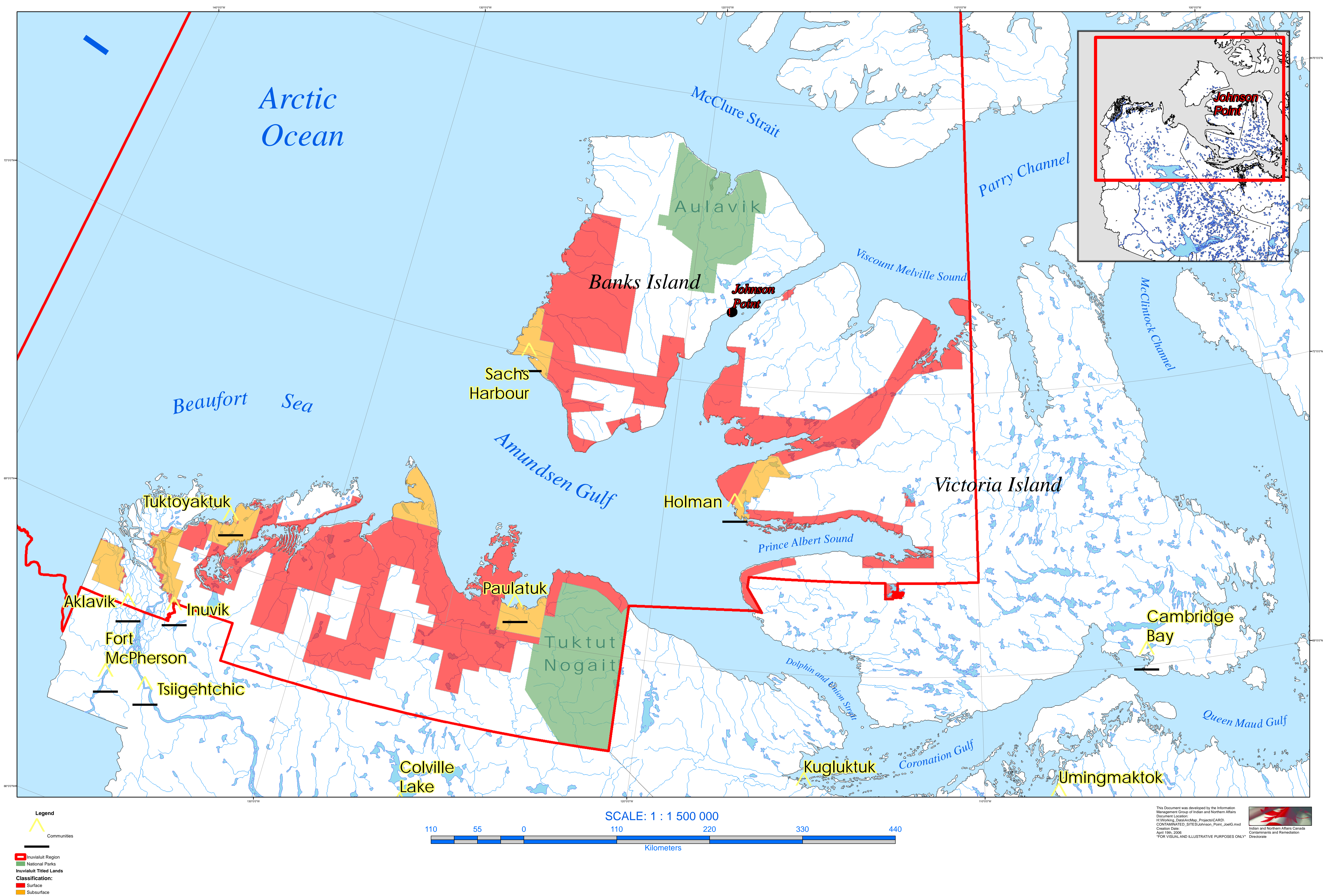
Two previous reports have been completed on Johnson Point and a third report documenting activities completed in 2005 is in the process of being finalized.

- In 1992, through the Action on Waste program, the DIAND North Mackenzie District Office co-ordinated the consolidation of debris, burning of clean wood, and the development of a preliminary inventory of construction materials, buildings, and equipment abandoned on the site.
- In 2002, Parks Canada visited the site at the request of the Sachs Harbour HTC to evaluate the potential for environmental contamination from the site. The report found indications that several of the large bulk storage tanks may be leaking.
- In 2005, CARD contracted IEG Environmental to conduct a Phase I/II Environmental Site Assessment (ESA) at Johnson Point and to develop a detailed inventory of materials. The ESA involved collection and analysis of soil samples collected throughout the site at locations with potential sources of hydrocarbons. The materials inventory involved collection of paint samples from selected buildings and storage tanks and estimation of waste fuel stored on site. The results from these testing programs will be used to direct the sampling program in 2006 and to design the incineration plan. The report is currently in draft format..

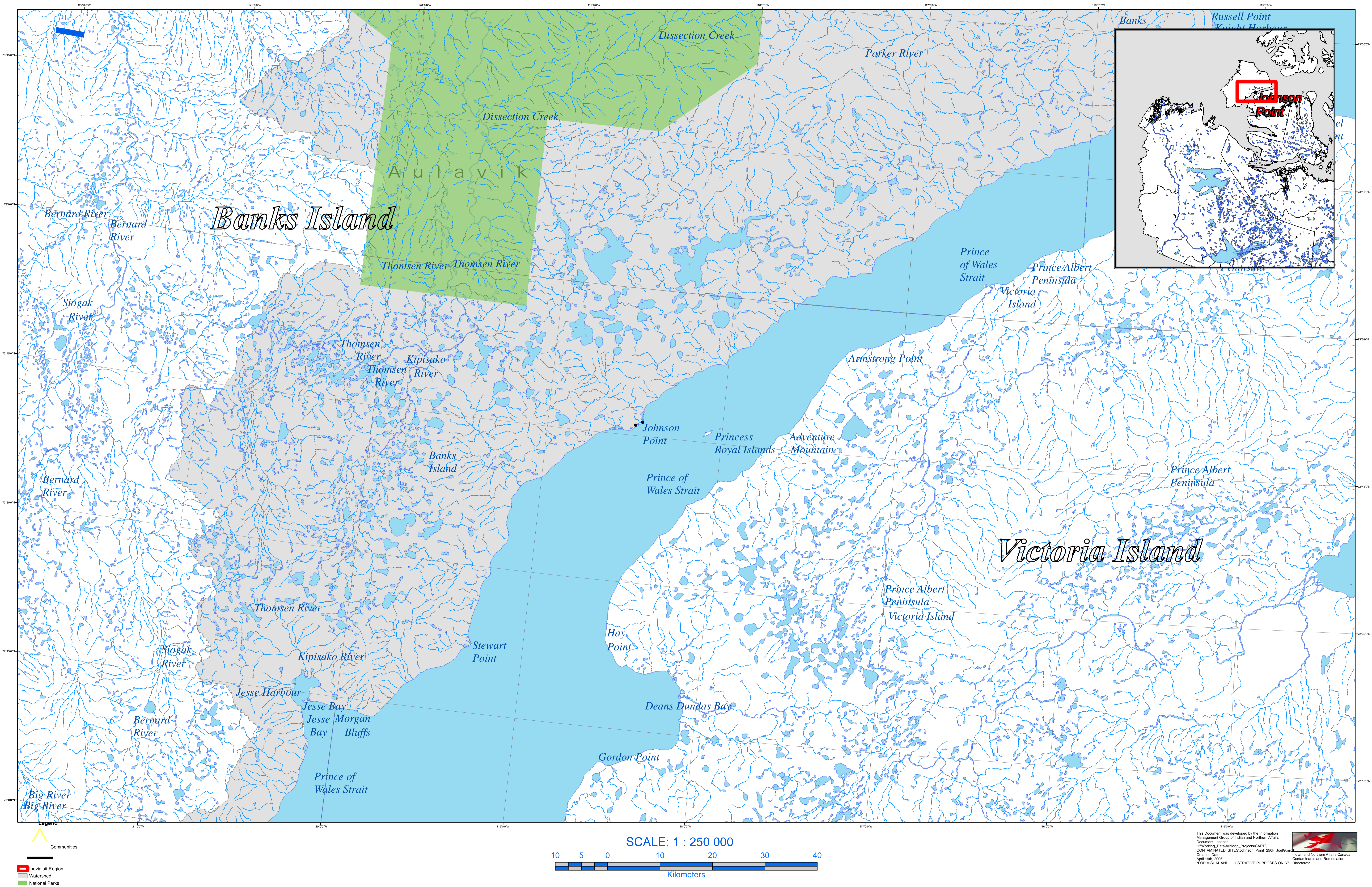
Appendices

Appendix 1 – Drawings

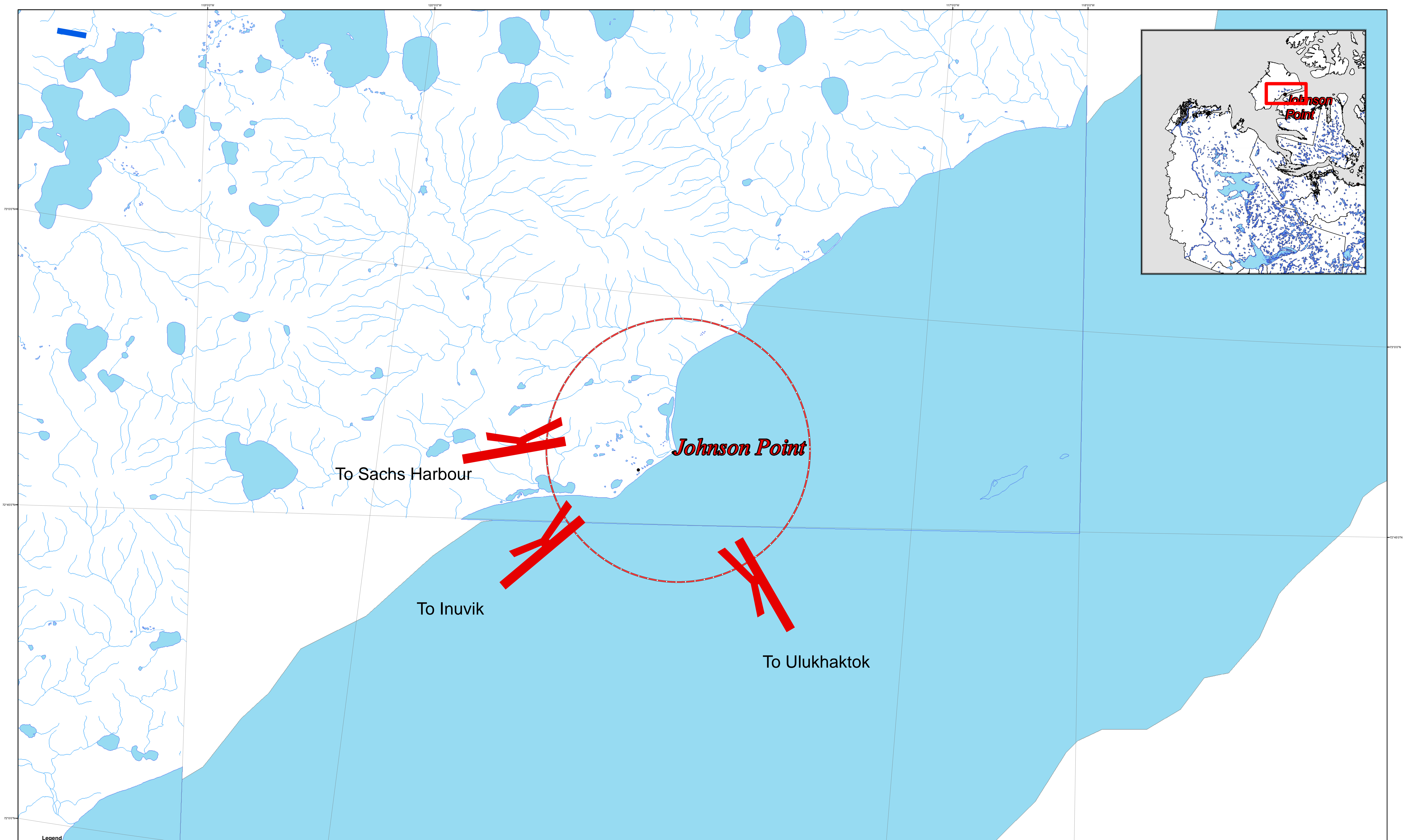
Map #1 - Johnson Point and Surrounding Communities



Map #2 - Johnson Point and Surrounding Area (Banks Island and Victoria Island)



Map #2 - Johnson Point and Surrounding Area (Banks Island and Victoria Island)



- Legend**
- Communities
 - Inuvialuit Region
 - National Parks
 - BASE Waterbodies50K
 - BASE Watercourses50K
 - Watershed
 - BASE Land1M

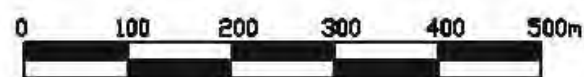
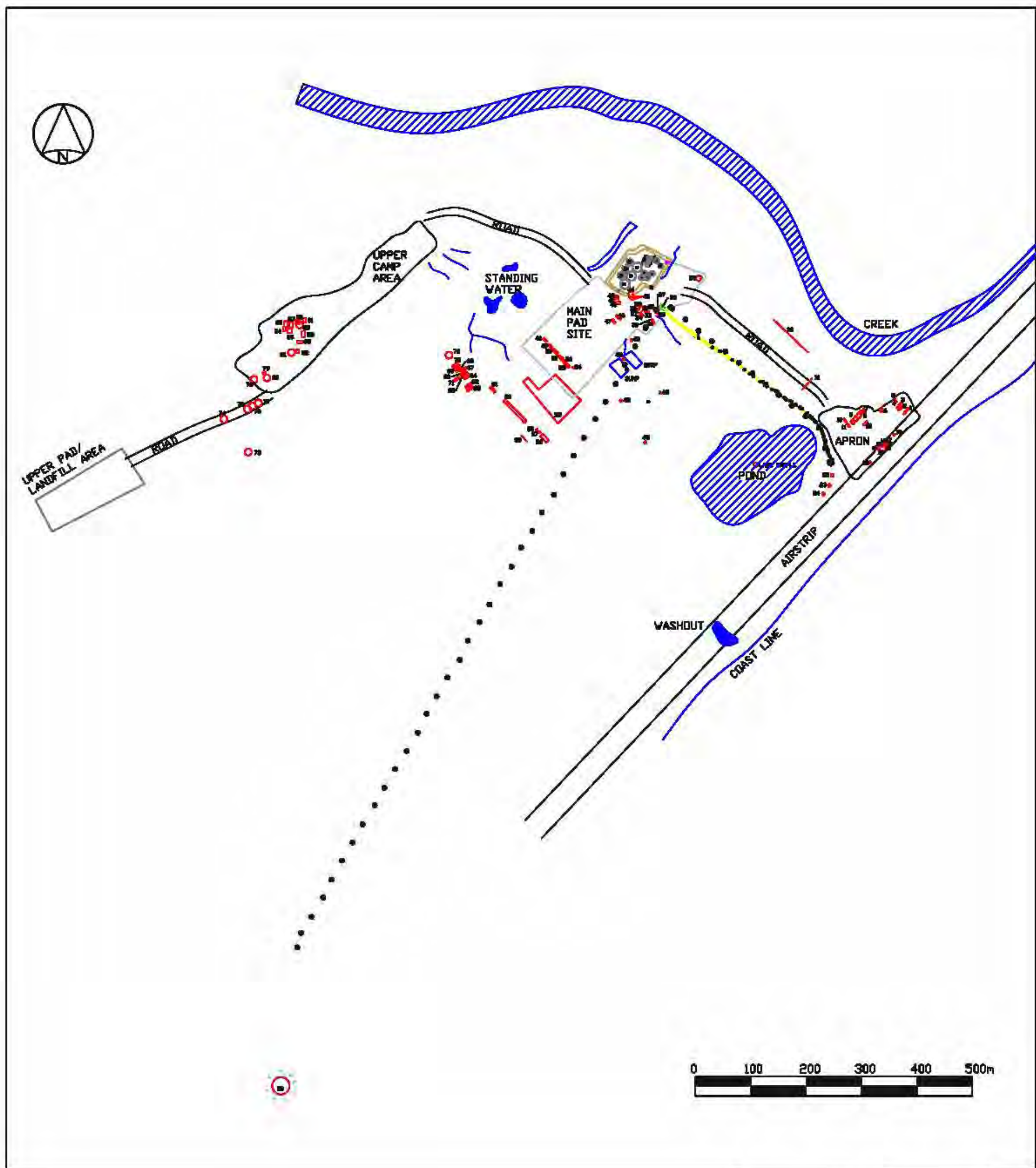
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This Document was developed by the Information Management Group of Inuvik and Northern Affairs
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CONTAMINATED_SITES\Johnson_Point_50K_100G.mxd
Creation Date:
April 10th, 2006
FOR VISUAL AND ILLUSTRATIVE PURPOSES ONLY





LEGEND	
■	POST
	INVENTORY ITEM
	PIPELINE
	DRAINAGE CHANNEL
	BARREL
●	POWER POLE
⊗	BENCHMARK
■	VERTICAL PIPE



Johnson Point Inventory Features

December 2005

Figure 13

Appendix 2 – Airphotos



Air Photo #1: Southern half of Johnson Point site (1987). Note skid trailer camp in upper left corner and the garage and tank farm in the upper right corner of the photo. (Scale approximately 1:5000)



Air Photo #2: Northern half of Johnson Point site (1987). Note the access road from the airstrip and beach and the POL pipeline in the foreground with tank farm in the background. (Scale approximately 1:5000)

Appendix 3 – Site Assessment Photos



Photo #1: Debris consolidated next to airstrip during 1992 AES program. (Viewed looking east.)



Photo #2: Collection of soil samples in bermed area near tank farm. (Viewed looking west.)



Photo #3: Collection of water and sediment samples in excavated ponds on Site.



Photo #4: Fuel storage tanks of various sizes at Johnson Point.



Photo #5: Cat-train/Nodwell camps abandoned on site.



Photo #6: Skid trailer camps used during previous operations.



Photo #7: NavAid structure located south of the airstrip.



Photo #8: Garage located near the airstrip. All site buildings are in poor condition.



Photo #9: Abandoned Nodwell camp near airstrip. 2005 environmental site assessment crew stayed in the tents seen in the foreground.

Appendix 4 – Sachs Harbour HTC Special Members Meeting Notes

Sachs Harbour Community Consultation Meeting Minutes

April 25, 2006

CARD attended a Sachs Harbour HTC Special Members Meeting at the invitation of Sachs Harbour HTC in Sachs Harbour at the Hamlet Council Chamber in the Panikpuk Building to update the community about Johnson Point. Fifteen people were in attendance at the meeting.

INAC, through a contribution agreement with the Sachs Harbour HTC, participated in the Special Members meeting with the goals of providing information to the community while also soliciting feedback from community members.

The meeting proceedings were as follows:

- Supper began shortly after 7:00pm.
- The meeting was called to order at approximately 7:30pm by David Hoagak, chairperson of the Sachs Harbour HTC.
- The CARD presentation to the HTC consisted of three (3) main components:
 - o A summary of the Contaminated Sites Program to provide the community with information about the goals of the Program. Sites are identified, assessed, classified, and remediated through a 10-step process; details on each of the stages were described during the presentation.
 - o An update on the assessment work that has been completed at Johnson Point and a summary of the upcoming tasks that are proposed for the summer of 2006.
 - o Questions and Feedback Session

Allison Cluderay, CARD, took notes of the questions and comments posed for the record as listed below:

Question – What happens to the contaminated soil removed from the contaminated sites? What is the process of restoring the soil?

Answer (CARD) – The soil that is shipped off site is sent to treatment facility such as the one operated by Hazco in Hay River. The soil is spread out over a larger area and turned over periodically to allow the fuel to evaporate and reduce the amount of fuel found in the soil. Once fuel levels decrease to acceptable levels, the soil can be used as cover over landfills or for soil filler in industrial areas.

Question – Who is the owner of the buildings and equipment? How would someone obtain ownership of these items?

Answer (CARD) – Since the site has been abandoned, all of the equipment and other infrastructure at the site has reverted back to INAC's jurisdiction. Transfer of ownership to other interested parties is possible but further assessment of the site and the infrastructure is necessary to determine which, if any, of the pieces of infrastructure contain hazardous materials. The possible transfer of ownership is generally handled by CARD/INAC managers on a case by case basis.

Question – Were studies done at the DEW-Line site at Shingle Point to look at health effects on the people in the area?

Answer – I am not aware of any studies on the health effects on the people who live or who have worked

at the Shingle Point DEW-Line station. Other federal departments such as Health Canada and Environment Canada may have conducted health related studies on Shingle Point and other DEW-Line stations.

Question – When is the clean-up going to be completed?

Answer – The proposed timeline for the clean-up is to complete the incineration and environmental site assessment of the site during the 2006 field season. Further consultation and the development of remediation plan options are proposed to be completed during 2007 with mobilization of equipment to the site in 2008 beginning the remediation of the site infrastructure.

Question – Is there any potential used for this area with the Mackenzie Gas Project pipeline going in? (There is a possibility that Banks Island well sites might have yielded some oil; David Nasogalauk from Tuktoyaktuk is said to have had a container of Banks Island oil and other persons mentioned that the wells completed on Banks Island may have yielded sour gas.)

Answer – I will have to recheck the inventory of the wells completed on Banks Island. We have no indication that any of the wells were not dry holes.

Question – Are there PCB's and asbestos in the buildings? How do you test for asbestos and PCBs when you are out in the field?

Answer – There are PCBs in the paint in some of the buildings and on some of the fuel tanks on the site. A small amount of asbestos has been found in one of the trailers on site. There are field tests that you can do on paint chips to see if PCBs are present. To test for asbestos, we generally look for particular types of materials. If similar materials are found, samples are collected and sent to labs for analysis.

Question – Could this have been cleaned up earlier and would it have cost the government less to clean it up if it was done earlier?

Answer – Unfortunately, we can't focus on what has not been done in the past. Now we have funding to proceed with environmental assessment and incineration of the waste fuel at the site and we want to make sure that the community is involved in the work done at the site.

Question – What were the depths that the oil wells were drilled down to?

Answer – I don't know this information off-hand; I will have to check the files to see what depth the wells were completed at.

Question – Have there been any medical follow-up on the DEW-Line sites as to the health of the people that lived there?

Answer – I don't have any knowledge of any studies having been completed which examine the health of the people who have lived or worked at the DEW-Line sites but other federal departments such as Health Canada or Environment Canada may have completed such studies.

Question – If the garbage/camps was dumped into the lakes (left on the lakes in the spring and allowed to melt through the ice), is there any way to be able to test the lakes for contaminants?

Answer – It may be possible to have samples collected from these location if details on the possible locations of such dumping, especially if that information can be provide first hand by an elder who was present at the time.

Question (CARD) – What is the significance of the designated use categories shown in the Sachs Harbour Community Conservation Plan (CCP)?

Answer (Audience) – Category E: caribou herds in the area are in decline so known calving grounds must receive additional protection; Category D: there are many archaeological sites located in the Banksland Rivers area marked in the CCP.

Question – There has been a major oil and gas find on Melville Island and with the development of the Mackenzie Gas Pipeline; they might ship the oil/gas from a port on Melville Island to Tuktoyakuk where it would be fed into the MGP.

Answer – I have heard that there have been some promising indications of oil and gas on Melville Island but I don't have any information about future developments between Melville Island, Banks Island, and the mainland.

Question – How far down do the contaminants/fuel go down in the soil? And what is the circumference of contaminated soil surround the tank farm?

Answer – We don't think that contaminants will go deeper than the maximum depth down to permafrost. At the present time, we know that contamination is present outside of the tank farm but we don't know how far the contaminating extends from the source (the tank farm). Our environmental site assessment proposed for 2006 is meant to gather more information on the extent of the contamination at the site.

Question – Is there any other option other than digging up the ground and creating a hole to get rid of the contaminated soil?

Answer – In some climates other options for treating contaminated soil in place is viable. Pipes can be dug into the ground and air can be pumped through to increase the amount of fuel evaporation. There has been some testing on using land farms to treat the soil on site (but it generally still has to be dug out...). In cold climates, the bacteria can't work as fast and it takes much longer for this type of process to reach the remediation goals.

Question – What can the community do to help get the area cleaned up? Is there any way the community could get a better sense of reassurance that this area will be cleaned up? For example, a 'guarantee' or a 'letter of confirmation'?

Answer – The community can help clean-up the site by participating in community meetings about the project and applying for jobs with companies who have been awarded the work at the site. Our staff at CARD is working hard to make sure that the clean-up at Johnson Point can proceed but I cannot offer a guarantee or letter stating that the site will be completely cleaned up.

Question – What is the estimated value of the clean-up? Is there anything of any value at Johnson Point? Will there be a report on the clean-up at Johnson Point?

Answer – At this stage in the assessment process, we don't have enough information to estimate the value of the cleanup. The information gathered in 2006 will help us develop a cost estimate for the site. There is very little material of any value at the site. The equipment has been sitting abandoned for 20-30 years with no maintenance and is likely of little value. If industry were to have interest in development in the area again, there might be interest in assessing the integrity of the tanks but this work would not be completed by CARD.

Question – There are hundreds of barrels abandoned on the beach on the larger island located near

Johnson Point. Can these be included in the cleanup at Johnson Point?

Answer – CARD would be interested in taking a closer look at the location mentioned to document what materials were still present at that location but we can't commit to include cleanup of contaminated sites surrounding Johnson Point. More information would have to be available to make that decision.

Question – Can David or the HTC get a list of the companies who are awarded the work at Johnson Point?

Answer – After the contracts are awarded, the company to which the contract was awarded will be made available to the public. At that point, community members would be able to approach those companies to offer their services to complete the work at the site.

Question – Could there be an agreement in the contract that states that 'x' amount of the employees will be hired from Sachs?

Answer – The IFA does have clauses in it regarding employment of local people on projects in their areas but I am not completely familiar with agreement yet. CARD/INAC is also working with IRC to develop evaluation criteria for the selection of the successful bidder.

Other Comments:

- Frank and Martha Kadlak camped at Johnson Point during the 1970's during the site's operation. Frank shot 7 caribou next to the airstrip and has caught Arctic charr in the river as well. They used the loader from the site to drag the caribou back to their camp. In the 1970's, there was a scheduled service between Whitehorse, Dawson City, Inuvik, Sachs Harbour and Johnson Point with Northward Air using a DC3. During the time when the site was in operation, Johnson Point's population was even larger than Sachs Harbour is now.

The following people were in attendance at the meeting:

- J. Keogak
- D. Haogak
- D. Keogak
- W. Esau
- J. Nanauan
- P. Haogak
- C. Haogak
- J. Eldridge
- G. Wolki
- A. Esau
- J. Kuptana
- M. Kudlak

The meeting ended at approximately 9:30pm with the HTC completing a draw for 7-\$100 door prizes and CARD distributed some promotional items to the participants at the meeting. The general mood of the meeting was positive and the participants had lots of questions on Johnson Point and how can the community be involved in the clean-up.

Appendix 2 – NWT Water Board - Water Licence Application

SCHEDULE III
(Subsection 6 (1))

APPLICATION FOR LICENCE, AMENDMENT OF LICENCE OR RENEWAL OF LICENCE

APPLICATION/LICENCE NO.
(amendment or renewal only)

1. NAME AND MAILING ADDRESS OF APPLICANT

EMMA FINE
PO Box 1500
4425 52nd Ave
Yellowknife NT X1A 2R3

2. ADDRESS OF HEAD OFFICE IN CANADA IF INCORPORATED

Telephone: (661) 661-2756 Fax: (661) 661-2726

Telephone: _____ Fax: _____

3. LOCATION OF UNDERTAKING (describe and attach a map, indicating watercourses and location of any proposed waste deposits)

Latitude: _____ Longitude: _____

4. DESCRIPTION OF UNDERTAKING (describe attach plans)

5. TYPE OF UNDERTAKING

- | | | | | | |
|-----------------------------------|-------|----------------|-------|-----------------|-------|
| 1. Industrial | _____ | 4. Power | _____ | 6. Conservation | _____ |
| 2. Mining and milling | _____ | 5. Agriculture | _____ | 7. Recreation | _____ |
| 3. Municipal | _____ | | | | |
| 8. Miscellaneous (describe) _____ | | | | | |

6. WATER USE

- | | | | |
|--|-------|---------------------------------------|-------|
| To obtain water | _____ | Flood control | _____ |
| to cross water course | _____ | To divert water | _____ |
| to modify the bed or bank of watercourse | _____ | to alter the flow of, or store, water | _____ |

Other (describe) _____

7. QUANTITY OF WATER INVOLVED (litres per second, litres per day or cubic metres per year, including both quantity to be used and quality to be returned to source)

8. WASTE DEPOSITED (quantity, quality, treatment and disposal)

9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING (giving name, mailing address and location; attach list if necessary)

10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION

11. CONTRACTOR AND SUB-CONTRACTORS (names, addresses and functions)

12. STUDIES UNDERTAKEN TO DATE (attach list if necessary)

13. PROPOSED TIME SCHEDULE

Start date: _____ Completion date: _____

<u>Lump Pore</u>	<u>Project Manager</u>	<u>[Signature]</u>	<u>MAY 1 2006</u>
NAME (Print)	TITLE (Print)	SIGNATURE	DATE