



Phase I Environmental Site Assessment

Former United States Military Weather Station
Cape Harrison, NL

Department of Environment and Conservation

1118 Topsail Road, PO Box 8353 Station A St. John's NL A1B 3N7 Canada
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EXECUTIVE SUMMARY

GHD Limited (GHD, formally Conestoga-Rovers & Associates (CRA)) were retained by the Government of Newfoundland & Labrador, Department of Environment and Conservation (ENVC) to complete a Phase I Environmental Site Assessment (ESA) of the former United States (US) Military Weather Station known as Cape Harrison (Site or Property) located approximately 60 kilometers southeast of the Town of Makkovik, Newfoundland and Labrador (NL). Based on the limited information provided to GHD as part of the initial call-up for services under the Impacted Sites Liability Assessment Program, very little was known regarding the history of the Site.

A network of weather stations was established in the Canadian North during World War II, mainly by the US, to supplement the limited Canadian stations that were already present at that time. The further development of the existing meteorological services involved both the reactivation of abandoned stations and the establishment of new ones. In the Northeast, during the early stages of the war, the only flights across the North Atlantic, relating to the delivery of planes, were those of bombers taking off from Newfoundland. Meteorological services were provided at Goose Bay during the summer of 1941, when construction of that base was undertaken. When the United States decided in 1942, that it was necessary to embark upon a vast expansion of ferrying and staging facilities in the Northeast, it recognized that this expansion would require a large network of meteorological stations. In 1943 word came of the installation of a new weather reporting station and a radio range at Cape Harrison, NL. Although there was a drastic withdrawal by the Americans during the final stages of World War II, they still operated several weather stations and had small numbers of personnel at others. Permission was granted in 1946 for the U.S.A.A.F. Weather Service to continue operating stations at several locations one of which was Cape Harrison, NL.

Although information on the structures at the Cape Harrison facility is limited, based on the information provided, review of aerial photographs, and knowledge of similar type weather station operations, the facility contained a Site building, communication antennas, a water pumping station/building, a helicopter pad, and docking facilities all connected via gravel access roads/paths. An inventory of equipment completed during a 1980 Site visit by the Government of Newfoundland and Labrador (Resource Program Division, Intergovernmental Affairs Secretariat) listed concrete foundations of former buildings, two fallen towers, 45 gallon drums, construction equipment and debris, as well as abandoned barges as the only equipment/facilities remaining on the Site. Site sketches in the tender document entitled: "*Specifications For Demolition and Site Restoration, Former Dew Line Radar Sites, Contract Package – CP3 Secondary Coastal Site, Labrador*", dated February 2, 1987 indicated the Site was comprised of one location

(located at the northwest point of Tukialik Bay) and there was only fuel drums, three fallen antenna towers, a crane boat and beached loading barges remaining on-Site. No information was provided regarding former concrete foundations or building debris remaining on the Site.

The exact date the USAF Cape Harrison Weather Station closed is unknown. The facility was transferred to the Canadian Armed Forces around 1951; it was deactivated and closed shortly after. The former buildings and equipment remained abandoned until the Provincial government tendered a contract to dismantle and decommission the remaining structures at the Site in 1987. Based on a letter dated September 22, 1987 from the consultant to the Department of Environment, it was revealed during a September 10, 1987 Site visit that the demolition at Cape Harrison was not complete and substantial burial of debris remained (including antennae towers). A subsequent Site visit by the Department of Environment of Labour on September 5, 1996 revealed propane cylinders, felled towers and equipment remaining on a Site assumed to be Cape Harrison. Additional details are provided in the report entitled: "*Environmental Inspection Abandoned Military Sites in Labrador*", prepared by the Department of Environment and Labour, October 1996.

The purpose of the Phase I ESA was to identify, through a non-intrusive investigation, the existence of any significant actual or potential areas of environmental impairment associated with the Property. The Phase I ESA was conducted in general accordance with the Canadian Standard Association (CSA) Standard Z768-01 for conducting ESAs that included a review of Site history, document review, interviews with individuals knowledgeable of the Site operations, and correspondence with regulatory agencies. As indicated in the request for proposal, and given the location and time of year, a Site visit was not completed as part of the Phase I ESA. Based on the Phase I ESA findings, the following potential environmental impairment issues were identified with respect to the Site:

- **Historic Handlings, Use, and Storage of Petroleum Hydrocarbons:** As a self-sufficient weather station in a remote location, significant quantities of fuel were formerly stored at the Site in ASTs, as well as thousands of Petroleum, Oils and Lubricants (POL) drums. The Site also formerly contained a helicopter landing pad that contained drum storage and a portable fuel tank used for refueling helicopters. The potential for petroleum hydrocarbon impacts exist as a result of the historical petroleum storage and distribution activities conducted at the Site. The main areas of concern would include the former main Site area, former AST areas, the former helicopter landing area, and the former drum storage area as well as in the former landfill area.

- **Solid Waste/Recyclables:** During the operation of the facility from 1943 to approximately 1951 solid waste was historically disposed in an unlined landfill (unknown location). Based on historical activities at the Site, the landfill may contain asbestos containing materials (ACM) in the former building supplies; material with painted surfaces containing lead and/or mercury based paint, former electrical equipment containing polychlorinated biphenyls (PCBs), mechanical equipment debris, motor repair wastes and/or drums formerly containing POLs as well as other solvents. The Site decommissioning program was completed under the approval of ENVC in 1987, and included the razing of all remaining structures and the burning of all materials on Site, followed by the burying and covering of the debris and other remaining materials. However, as outlined in a letter report from The BAE Group (consultant) on September 22, 1987 to the Government of Newfoundland & Labrador - Department of Environment, the contractor was in non conformance regarding the tender package for the demolition and restoration of the Site. It was noted the demolition and burial was substantially complete; however, there was a substantial burial of debris remaining and the contractor had demobilized from Site. As a Site visit was not part of the scope, it is unknown if these areas remain covered as reported in the 1987 field program. A surveillance flyover of the area completed on September 5, 1996 by the Department of Environment and Labour identified forty-one propane cylinders and felled towers at one location revealing evidence of a former communication Site; however, could not be confirmed as the former American and Government of Canada radio range station Site.
- **Heavy Metals:** Possible sources of heavy metals may be associated with vehicle and helicopter repairs. In addition, the former on-Site buildings were constructed in the 1940s; therefore, the potential exists that lead/mercury based paint was used on the interior and exterior surfaces which may have potentially impacted the surface soils.
- **Polychlorinated Biphenyls (PCBs):** Past use/disposal of PCBs may have existed with past operations. PCBs were used as an insulator and coolant in electrical transformers and capacitors at the Site. PCBs were commonly used because they are chemically inert, not affected by acids and corrosive chemicals, do not conduct electricity and will not burn (only at extremely high temperatures). Although the US banned the use of PCBs in 1972, the Cape Harrison Site was operated from 1943 to approximately 1951; therefore, they may have been used at the Site.

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1.0 INTRODUCTION

GHD Limited (GHD, formally Conestoga Rovers & Associates (CRA)) were retained by the Government of Newfoundland & Labrador, Department of Environment and Conservation (ENVC) to complete a Phase I Environmental Site Assessment (ESA) of the former United States (US) Military Weather Station known as Cape Harrison (Site or Property) located approximately 60 kilometers southeast of the Town of Makkovik, Newfoundland and Labrador (NL). Based on the limited information provided to GHD as part of the initial call-up for services under the Impacted Sites Liability Assessment Program, very little was known regarding the history of the Site.

The purpose of the Phase I ESA was to identify, through non-intrusive investigation, the existence of any significant actual or potential areas of environmental impairment associated with the Property. A Site Location Map is included as Figure 1, a Site Overview is shown as Figure 2, and Site Plan detailing the area is included as Figure 3.

The Phase I ESA was conducted in general accordance with the Canadian Standard Association (CSA) Standard Z768-01 for conducting ESAs. The qualifications of the GHD personnel who completed the Phase I ESA are provided in Appendix A. The Phase I ESA included a review of Site history, document review, interviews with individuals knowledgeable of the Site operations, and correspondence with regulatory agencies. As indicated in the request for proposal, and given the location and time of year, a Site visit was not completed as part of the Phase I ESA. The following tasks were conducted during this assessment:

- Review of an electronic environmental database search
- Review of available fire insurance plans and aerial photographs
- Review of any available previous environmental reports and company files
- Review of past and current Property usage and adjacent property occupancy
- Observations of any conditions that represented potential environmental concerns
- Review of chemical usage and storage and spill/release incidents
- Review of underground and aboveground storage tank records
- Review of air emissions and wastewater discharges
- Review of waste handling, storage, and disposal practices
- Review of equipment that potentially contains polychlorinated biphenyls (PCBs)
- Observations of potential asbestos-containing materials (ACM)

- Inquiries with regulatory agencies and discussions with persons knowledgeable of the Site and Site operations

GHD relied on information received from all parties as accurate, unless contradicted by field observations or written documentation.

The following report summarizes the information gathered by GHD during the Phase I ESA and identifies any significant actual or potential environmental impairment issues associated with the related Property.

This Phase I ESA has been prepared for the use of ENVC and may not be relied upon by others without the written concurrence of GHD and ENVC.

2.0 BACKGROUND

A network of weather stations was established in the Canadian North during World War II, mainly by the US, to supplement the limited Canadian stations that were already present at that time. The further development of the existing meteorological services involved both the reactivation of abandoned stations and the establishment of new ones. In the Northeast, during the early stages of the war, the only flights across the North Atlantic, relating to the delivery of planes, were those of bombers taking off from Newfoundland. Meteorological services were provided at Goose Bay during the summer of 1941, when construction of that base was undertaken. When the United States decided in 1942, that it was necessary to embark upon a vast expansion of ferrying and staging facilities in the Northeast, it recognized that this expansion would require a large network of meteorological stations. In 1943 word came of the installation of a new weather reporting station and a radio range at Cape Harrison, NL. Although there was a drastic withdrawal by the Americans during the final stages of World War II, they still operated several weather stations and had small numbers of personnel at others. Permission was granted in 1946 for the U.S.A.A.F. Weather Service to continue operating stations at several locations one of which was Cape Harrison, NL.

Although information on the structures at the Cape Harrison facility is limited, it is assumed the facility contained a Site building, communication antennas, a water pumping station/building, a helicopter pad, and docking facilities all connected via gravel access roads/paths. An inventory of equipment completed during a 1980 Site visit by the Government of Newfoundland and Labrador (Resource Program Division, Intergovernmental Affairs Secretariat) listed concrete foundations of former buildings, two fallen towers, 45 gallon drums, construction equipment and debris, as well as abandoned barges as the only equipment/facilities remaining on the Site. Site sketches

in the tender document entitled: “Specifications For Demolition and Site Restoration, Former Dew Line Radar Sites, Contract Package – CP3 Secondary Coastal Site, Labrador”, dated February 2, 1987 indicated the Site was comprised of one location (located at the northwest point of Tukialik Bay) and there was only fuel drums, three fallen antenna towers, a crane boat and beached loading barges remaining on-Site. No information was provided regarding former concrete foundations or building debris remaining on the Site.

The exact date the USAF Cape Harrison Weather Station closed is unknown. The facility was transferred to the Canadian Armed Forces around 1951; it was deactivated and closed shortly after. The former buildings and equipment remained abandoned until the Provincial government tendered a contract to dismantle and decommission the remaining structures at the Site in 1987. Based on a letter dated September 22, 1987 from the consultant to the Department of Environment, it was revealed during a September 10, 1987 Site visit that the demolition at Cape Harrison was not complete and substantial burial of debris remained (including antennae towers). A subsequent Site visit by the Department of Environment of Labour on September 5, 1996 revealed propane cylinders, felled towers and equipment remaining on a Site assumed to be Cape Harrison. Additional details are provided in the report entitled: “*Environmental Inspection Abandoned Military Sites in Labrador*”, prepared by the Department of Environment and Labour, October 1996.

3.0 HISTORICAL RECORDS

Historical land use of the Property was investigated by GHD through a review of regulatory correspondence, Property title documents, aerial photographs, and available documents or reports pertaining to the Site.

3.1 REGULATORY CORRESPONDENCE

The Government of Newfoundland and Labrador – Service NL (Service NL) were requested to undertake a search of their records for documentation pertaining to environmental issues at the Site. In their letter response dated April 21, 2015, Service NL indicated to the best of their knowledge and on a search of the files they have reviewed, they are not aware of any outstanding environmental concerns with regards the property.

The Newfoundland and Labrador Department of Environment and Conservation (ENVC) completed a file review and provided the following relevant information:

- Report on “*PCB Spills and General Environmental Mismanagement at EX-USAF Bases in Labrador*”, Resource Program Division, Intergovernmental Affairs Secretariat, Government of Newfoundland and Labrador, dated April 15, 1981.
- Correspondence between the Government of Newfoundland & Labrador and the Government of Canada regarding the clean up and funding of the abandoned radar sites.
- Demolition and Site Restoration, Former Radar Sites Contract Package, February 2, 1987.
- Correspondence between the Government of Newfoundland & Labrador and the sub-contractor (Labrador Construction Limited) awarded the contract to decommission the Site.
- Site restoration status report, July 31, 1987.
- Correspondence between the BAE Group and the Government of Newfoundland & Labrador, Department of Environment outlining the contractors (Labrador Construction Limited) non conformances regarding the tender package for the demolition and restoration of the Site.
- Report on “*Environmental Inspection Abandoned Military Sites in Labrador*”, Environmental Management Division, Department of Environment and Labour, NL, dated October, 1996.

Environment Canada (EC) was requested to undertake a search of their records with respect to documentation of environmental issues regarding the subject Property. Receipt acknowledgement letters were issued by EC (received by GHD on March 9 and April 8, 2015), indicating the request was being processed and a response will be provided as soon as possible.

Copies of the requests by GHD along with relevant correspondence from Service NL, ENVC, and EC are provided in Appendix B.

3.2 PROPERTY TITLE SEARCH

Property title information was obtained from the Government of Newfoundland and Labrador Crown Land Division. In addition, a review of ENVC archived files (most notably the 1981 report on “*PCB Spills and General Environmental Mismanagement at EX-USAF Bases in Labrador*”) provided some supplemental information regarding title of the Property, which is included below.

To Canada: Minute of Council (M.C.) 1020 - '51 1951
(N. R. 64 -'51) 1951

To NL: None Found

Transferred to Canada for use as radio range station by the federal Department of Transportation (D.O.T). Land formally occupied by American military who installed the station. Condition for D.O.T taking over was that it would remain a radio range. Area will revert to Newfoundland from the time land ceased to be used and on the understanding that a plan survey and description of the area be forwarded to the Government of Newfoundland and Labrador as soon as convenient.

Reference is in Federal Reservation Book (FRB) Vol. 1, Folio 10.

The results of the Property title search are included in Appendix C.

3.3 AERIAL PHOTOGRAPHS

Aerial photographs from 1953, 1968, and 2014 were reviewed during the Phase I ESA. The observations of the aerial photograph review are presented below. Copies of the aerial photographs are included as Appendix D.

The 1953 aerial photograph shows the Site is cleared and developed. Due to the scale of the aerial photography, specific details regarding the Site are not visible; however, structures (buildings and/or communication towers) comprising the main part of the Site are present and gravel roadways are constructed to the southeast and southwest.

The 1968 aerial photograph continues to show the Site as relatively unchanged compared to the 1953 aerial photograph.

The 2014 aerial photograph shows the former Site as decommissioned.

3.4 PREVIOUS ENVIRONMENTAL REPORTS

The following historical reports were provided regarding the general issues associated with the former military sites in Labrador. The following details the reports reviewed pertaining to the Site.

The Government of Newfoundland and Labrador (Resource Program Division, Intergovernmental Affairs Secretariat) completed a report entitled: *“PCB Spills and General Environmental Mismanagement at EX-USAF Bases in Labrador”*, dated April 15, 1981. The report discusses the history of the former US military installations (including Cape Harrison), details of land transfers for the various sites, the potential for PCB impacts at these former locations, inventory of debris and equipment completed during a 1980 Site inspection, as well as provides a discussion on responsible parties for the impacts at the sites.

The Government of Newfoundland and Labrador (Environmental Management Division, Department of Environment and Labour) also completed a report in 1996 entitled: *“Environmental Inspection Abandoned Military Sites in Labrador”*. The purpose of this report was to conduct a file review and preliminary site assessment at selected former US military sites. The inspection of these sites provided an update to the 1986 cleanup contracts and to respond to media and public concerns. The report provides details of locations, structures remaining and overall conditions/issues with the former Cape Harrison weather station. Although the exact location of the Cape Harrison facility could not be confirmed (i.e. no GPS co-ordinates), a Site inspection of a former communications site to the southwest of the landmass known as Cape Harrison revealed the presence of 41 propane cylinders and felled communication towers.

3.5 INTERVIEWS

Mr. Barry Anderson, a resident of Makkovik was interviewed by telephone on April 30, 2015 and provided information regarding the Site. Mr. Anderson informed GHD the Site operated as a communications station by USAF from the 1940s to the 1950s. He recalls the wreckage of a former aircraft related to past Site activities located below the surface of the water east of the Site. Mr. Anderson noted that the new Lab-5 weather station Site is located approximately 6 km southeast of the former Site. In addition, Mr. Anderson stated that he is unaware of any environmental issues or concerns with regards to the Site.

4.0 ENVIRONMENTAL PROPERTY ASSESSMENT

At the request of ENVC, a Site visit was not completed as part of the Phase I ESA; the efforts of the environmental assessment was to complete a desk-top review of available documents and summarize the findings in a stand-alone report. A summary of all information taken from an internet search of the Site is included in Appendix E.

4.1 PROPERTY OVERVIEW

The Site is located approximately 60 kilometers southeast of the Town of Makkovik, NL. Although information on the structures at the Cape Harrison facility is limited, based on the information provided, review of aerial photographs, and knowledge of similar type weather station operations, the facility contained a Site building, communication antennas, a water pumping station/building, a helicopter pad, and docking facilities all connected via gravel access roads/paths. The number of personnel assigned to the Station is unknown.

The exact date the USAF Cape Harrison Weather Station closed is unknown. The facility was transferred to the Canadian Armed Forces around 1951; it was deactivated and closed shortly after. The former buildings and equipment remained abandoned until the Provincial government tendered a contract to dismantle and decommission the remaining structures at the Site in 1987. Based on a letter dated September 22, 1987 from the consultant to the Department of Environment, it was revealed during a September 10, 1987 Site visit that the demolition at Cape Harrison was not complete and substantial burial of debris remained (including antennae towers). A subsequent Site visit by the Department of Environment of Labour on September 5, 1996 revealed propane cylinders, felled towers and equipment remaining on a Site assumed to be Cape Harrison. Additional details are provided in the report entitled: "*Environmental Inspection Abandoned Military Sites in Labrador*", prepared by the Department of Environment and Labour, October 1996. The Site Plan is presented as Figure 3.

The total area of the Property is unknown as the information was not available. The Site is predominantly covered in vegetation/gravel/exposed bedrock (approximately 99 percent), and concrete from the former building structures (approximately 1 percent). Both surface and groundwater are anticipated to follow the surface contours in the area and flow northwest/northeast toward the Atlantic Ocean, which is located adjacent to and northwest/northeast of the Site. The elevation at the Site is approximately 15 metres above sea level (masl).

Although the Site is not currently serviced with water or sewer, historically water was pumped to the Site from a nearby water supply (unknown location) and septic was discharged via an above ground pipeline to a septic tank (unknown location). Surrounding properties are not serviced by municipal water or sewer systems.

Based on existing land use, the Site is classified under the Atlantic RBCA as a commercial property with non-potable groundwater and coarse-grained soil.

4.2 ENVIRONMENTAL SETTING/ADJACENT LAND USE

The Site is not zoned as such as it is not located within municipal boundaries, however would be considered commercial in nature. The Property is bordered to the north; east, and west by the Atlantic Ocean, and to the south by undeveloped land (see Figure 2).

A review of the “Glacial Landforms and Deposits of Labrador, Newfoundland, and Eastern Quebec”, issued by Geological Survey of Canada, (Map 1814A) indicates that the Site surficial geology consists of drift poor areas with greater than 80% bedrock and includes area of till and other surficial materials generally less than 1 metre thick and discontinuous on the northern Labrador Peninsula, characterized by extensive boulder fields, dominantly felsenmeer.

A review of the “Geological Map of Labrador”, Geology Survey Branch, Department of Mines and Energy, Government of Newfoundland and Labrador (Map 97-07) and the “Map of Byron Bay”, issued by the Mineral Development Division, Department of Mines and Energy, Government of Newfoundland and Labrador (Map 80299) indicates that the bedrock in the vicinity of the Site consists of Proterozoic and Middle Paleoproterozoic age tonalite, granodiorite and manzogranite gneiss, minor amphibolite, calc-silicate and felsic (metavolcanic) gneiss. Also consisting of coarse grained biotite-chlorite granite; fluorite bearing and medium grained metatonalite foliated to gneissic incipient porphyroblastic texture in places of the Cape Harrison Metamorphic and Benedict Mountains Intrusive Suite.

4.3 UNDERGROUND STORAGE TANKS (USTs)

With the exception of septic tanks associated with the former weather station, past use of USTs was not revealed during the records review, historical searches, interviews, or regulatory responses.

4.4 ABOVEGROUND STORAGE TANKS (ASTs)

Evidence of ASTs was revealed during the records review, historical searches, photo searches, and regulatory responses.

GHD infers there were no large ASTs on-Site based on the requirements outlined in the demolition and Site restoration contract package, as was noted at other locations. In

addition, the 1981 report entitled: “*PCB Spills and General Environmental Mismanagement at EX-USAF Bases in Labrador*” did not reveal ASTs on the site during the 1980 inspection; however, did revealed approximately 75 litres of diesel fuel remaining in drums near the former tower site as well as the presence of thousands of 45 gallon drums littered throughout a one kilometer area of the Site. Although the exact number/location of smaller ASTs is not known, below are known locations in which drums were used/stored to supply fuel:

- Heating of stand-alone water pump house building
- Heating of former operations building
- Portable AST and drums for refueling of helicopters at the helicopter pad
- Drum storage to the east of the former Site structures (as shown in the Site sketch present in the Demolition and Site Restoration Contract Package (Former Dew Line Radar Sites), dated February 2, 1987)

Past use of other ASTs was not revealed from the records review, historical searches, interviews, or regulatory responses.

4.5 UTILITY SERVICES

The Site is no longer serviced with water or sewer; nor is any of the surrounding properties. The Site was originally serviced by a pump house and it is assumed, based on similar operations at other sites, the pumphouse contained a water filtration and/or purification plant. The location of the former pumphouse and freshwater pond is not known; however, based on local topography it is assumed to be located south of the former Site. The on-Site latrines would have been equipped with septic tanks. The location of the former septic tanks, and or septic field is not known. All facilities were removed as part of the Site decommissioning activities in 1987. Historically electricity was supplied by on-Site diesel generators.

4.6 CHEMICAL USE AND STORAGE

Past use of chemicals and storage may have existed with past operations, however; were not revealed from the records review, historical searches, interviews, or regulatory responses. Based on the historical activities at the Site, it is assumed that various petroleum lubricants, cleaners, degreasers, solvents, etc. were used and stored at the facility.

4.7 SOLID WASTE/RECYCLABLES

During the operation of the facility from the 1943 to approximately 1951 solid waste was historically disposed in an unlined landfill (unknown location). Based on historical activities at the Site, the landfill may contain former ACM building materials; material with painted surfaces containing lead and/or mercury based paint, former electrical equipment containing PCBs, mechanical equipment debris, motor repair wastes and/or drums formerly containing POLs as well as other solvents. The Site decommissioning program was completed under the approval of ENVC in 1987, and included the razing of all remaining structures and the burning of all materials on Site, followed by the burying and covering of the debris and other remaining materials. However, as outlined in a letter report from The BAE Group (consultant) on September 22, 1987 to the Government of Newfoundland & Labrador - Department of Environment, the contractor was in non conformance regarding the tender package for the demolition and restoration of the Site. It was noted the demolition and burial was substantially complete; however, there was a substantial burial of debris remaining and the contractor had demobilized from Site. As a Site visit was not part of the scope, it is unknown if these areas remain covered as reported in the 1987 field program. A surveillance flyover of the area completed on September 5, 1996 by the Department of Environment and Conservation identified forty-one propane cylinders and felled towers at one location revealing evidence of a former communication Site, however could not be confirmed as the former American and Government of Canada radio range station Site.

4.8 HAZARDOUS WASTE

Past use/disposal of hazardous wastes may have existed with past operations, however; use/disposal of these substances was not revealed from the records review, historical searches, interviews, or regulatory responses.

4.9 WASTEWATER

Past disposal of wastewater existed during the operation of the Site from the 1943 to approximately 1951. Washrooms with toilets, sinks, and showers were present in the former building that produced wastewater, which were discharged into the on-Site septic tanks. Other wastewater disposal activities were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.10 STORMWATER

Stormwater run-off from the Site is mainly directed northwest/northeast by overland flow toward the Atlantic Ocean, which is located adjacent to and northwest/northeast of the Site. Sources of adverse impacts from stormwater run-off were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.11 ASBESTOS-CONTAINING MATERIALS (ACM)

Past use/disposal of ACM may have existed with historic operations at the Site, however; with the exception of the concrete foundations, no visible building materials remain on-Site. Possible asbestos containing building materials would include floor tiles, roofing materials, piping insulation, and ceiling tiles. ACMs would also be expected to be in the boilers and piping associated with the former heating plant. As a result, potential ACM in the form of discarded building materials may be present in the former landfill.

Sources of ACM were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.12 POLYCHLORINATED BIPHENYLS (PCBs)

Past use of electrical equipment potentially containing PCBs were identified through the records review and regulatory responses. PCBs were historically used as an insulator and coolant in electrical transformers and capacitors at the Site. PCBs were commonly used because they were chemically inert, not affected by acids and corrosive chemicals, did not conduct electricity and would not burn (only at extremely high temperatures). Although the US banned the use of PCBs in 1972, the Cape Harrison weather station was in operation from the 1943 to approximately 1951.

Other sources of adverse impacts from PCBs were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.13 HEAVY METALS

Past use/disposal of heavy metals wastes may have existed with past operations. Possible sources of heavy metals (lead) may be associated with vehicle and helicopter repairs. In addition, the former on-Site buildings were constructed in the 1940s;

therefore, the potential exists that lead/mercury based paint on the interior and exterior surfaces may have potentially impacted the surface soils.

4.14 OZONE-DEPLETING SUBSTANCES (ODS)

Past use/disposal of ODS may have existed with past operations, however; were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.15 AIR EMISSIONS

Air emissions may have existed with past operations, however; were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.16 IONIZING RADIATION

Based on the geology of the area, sources of ionizing radiation are not suspect at the Site and were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.17 CHEMICAL SPILLS/RELEASES

Past chemical spills/releases may have occurred with past operations, however; no past spills/releases were revealed from the records review, historical searches, interviews, or regulatory responses.

4.18 OTHER ISSUES OF POTENTIAL ENVIRONMENTAL CONCERN

Other issues of potential environmental concern were not identified through the record reviews, historical searches, interviews, or regulatory responses.

5.0 CONCLUSIONS


Based on the Phase I ESA, including the historical records review, and interviews, the following potential environmental impairment issues were identified with respect to the Site:

- **Historic Handlings, Use, and Storage of Petroleum Hydrocarbons:** As a self-sufficient weather station in a remote location, significant quantities of fuel were formerly stored at the Site in ASTs, as well as thousands of Petroleum, Oils and Lubricants (POL) drums. The Site also formerly contained a helicopter landing pad that contained drum storage and a portable fuel tank used for refueling helicopters. The potential for petroleum hydrocarbon impacts exist as a result of the historical petroleum storage and distribution activities conducted at the Site. The main areas of concern would include the former main Site area, former AST areas, along the former product pipelines, the former helicopter landing area, and the former drum storage area as well as in the former landfill area.
- **Solid Waste/Recyclables:** During the operation of the facility from 1943 to approximately 1951 solid waste was historically disposed in an unlined landfill (unknown location). Based on historical activities at the Site, the landfill may contain asbestos containing materials (ACM) in the former building supplies; material with painted surfaces containing lead and/or mercury based paint, former electrical equipment containing polychlorinated biphenyls (PCBs), mechanical equipment debris, motor repair wastes and/or drums formerly containing POLs as well as other solvents. The Site decommissioning program was completed under the approval of ENVC in 1987, and included the razing of all remaining structures and the burning of all materials on Site, followed by the burying and covering of the debris and other remaining materials. However, as outlined in a letter report from The BAE Group (consultant) on September 22, 1987 to the Government of Newfoundland & Labrador - Department of Environment, the contractor was in non conformance regarding the tender package for the demolition and restoration of the Site. It was noted the demolition and burial was substantially complete; however, there was a substantial burial of debris remaining and the contractor had demobilized from Site. As a Site visit was not part of the scope, it is unknown if these areas remain covered as reported in the 1987 field program. A surveillance flyover of the area completed on September 5, 1996 by the Department of Environment and Labour identified forty-one propane cylinders and felled towers at one location revealing evidence of a former communication Site; however, could not be confirmed as the former American and Government of Canada radio range station Site.

- **Heavy Metals:** Possible sources of heavy metals may be associated with vehicle and helicopter repairs. In addition, the former on-Site buildings were constructed in the 1940s; therefore, the potential exists that lead/mercury based paint was used on the interior and exterior surfaces which may have potentially impacted the surface soils.
- **Polychlorinated Biphenyls (PCBs):** Past use/disposal of PCBs may have existed with past operations. CBs were used as an insulator and coolant in electrical transformers and capacitors at the Site. PCBs were commonly used because they are chemically inert, not affected by acids and corrosive chemicals, do not conduct electricity and will not burn (only at extremely high temperatures). Although the US banned the use of PCBs in 1972, the Cape Harrison Site was operated from 1943 to approximately 1951; therefore, they may have been used at the Site.

All of Which is Respectfully Submitted,

GHD Limited


James O'Neill, P. Eng.


Hubert Anderson

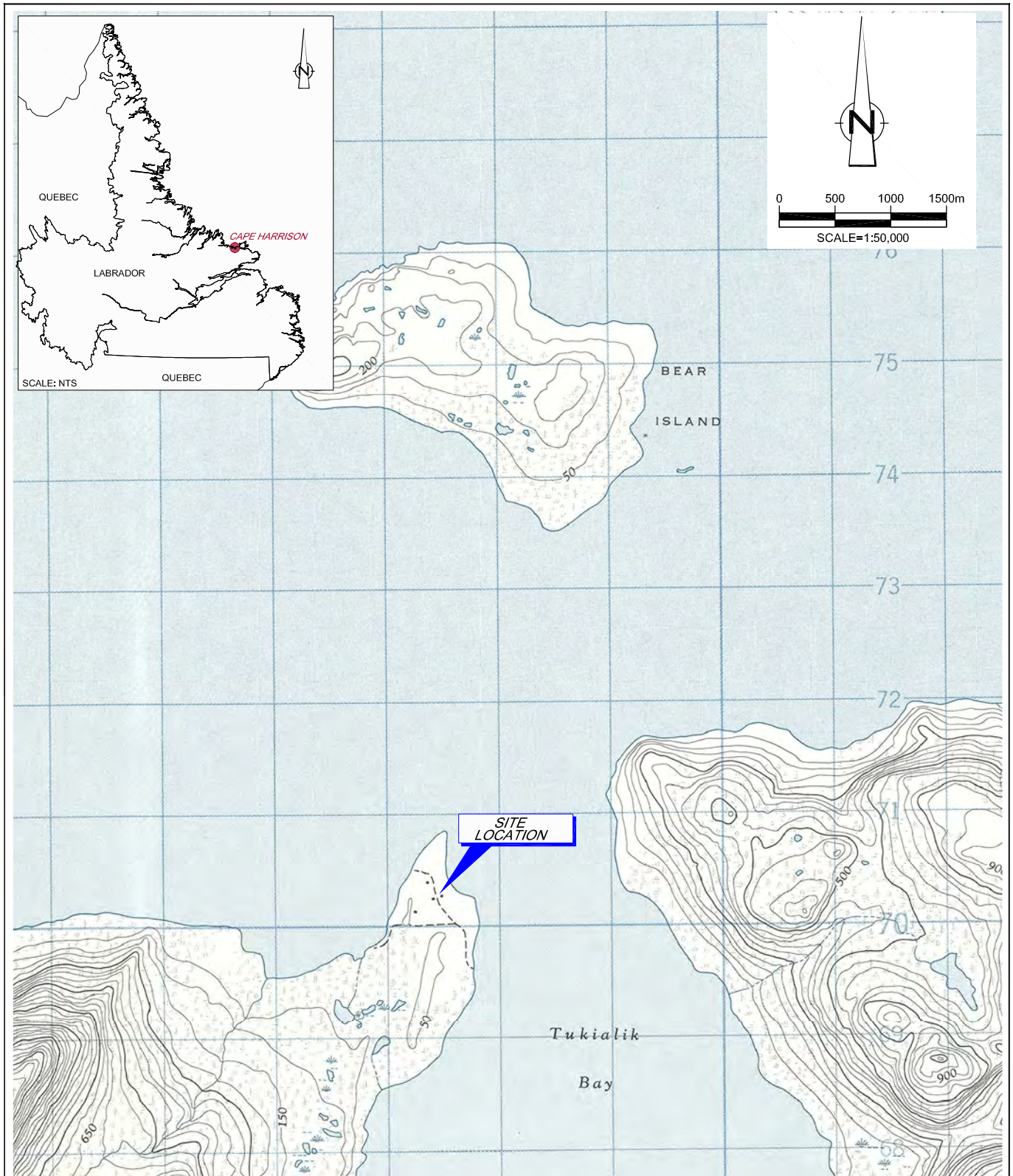


figure 1

SITE LOCATION MAP
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cape Harrison, Labrador, NL



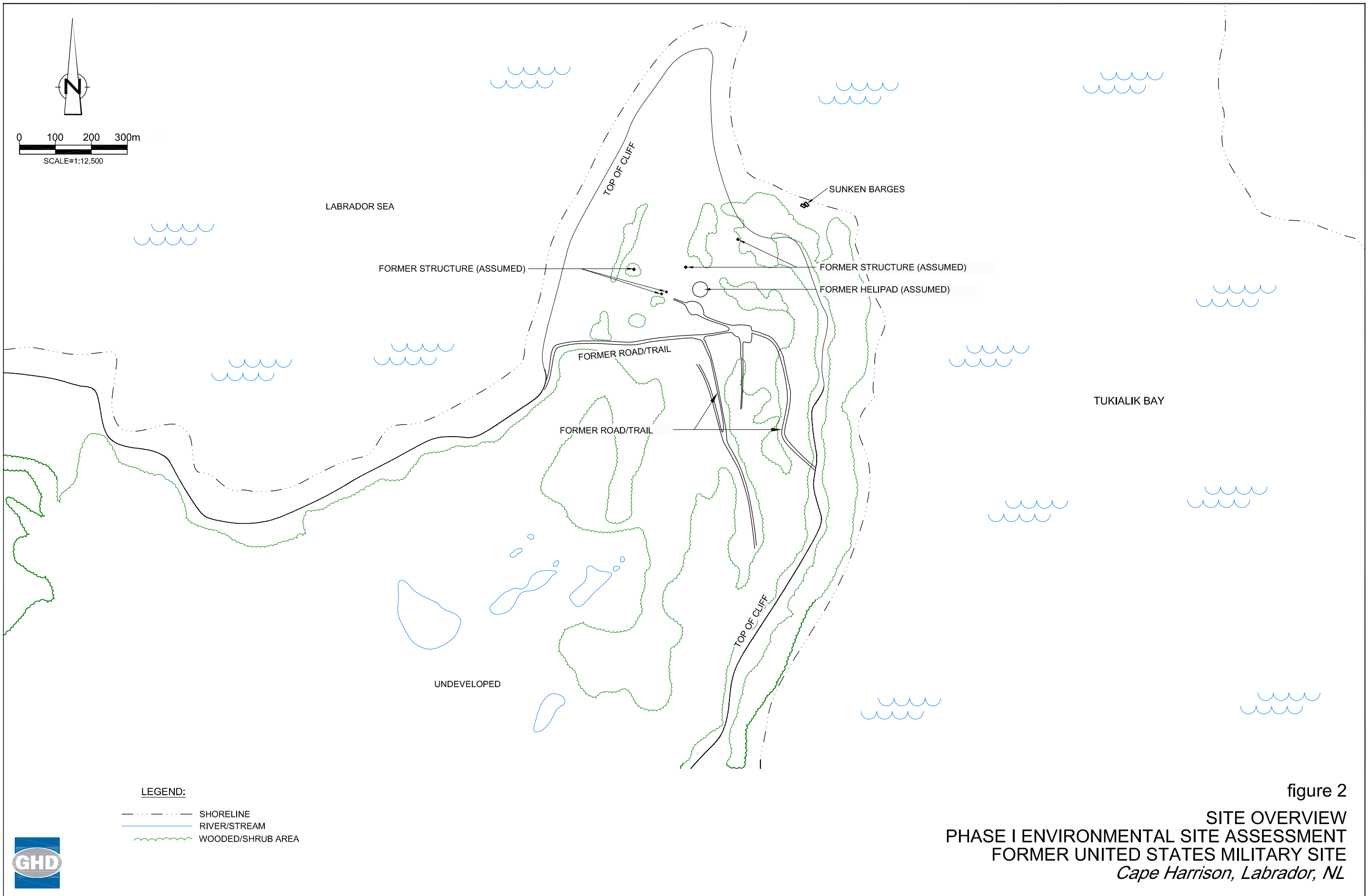
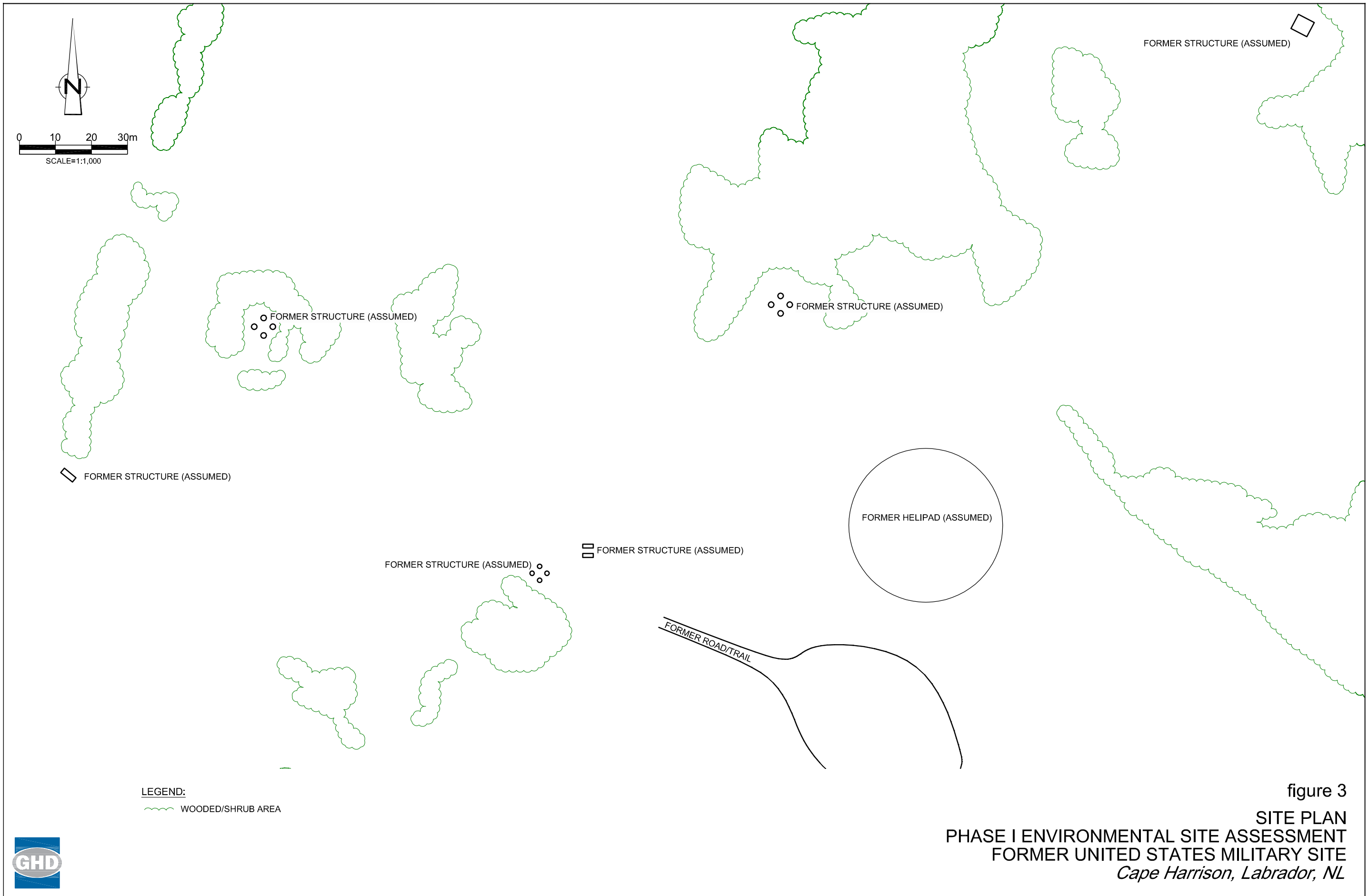


figure 2
 SITE OVERVIEW
 PHASE I ENVIRONMENTAL SITE ASSESSMENT
 FORMER UNITED STATES MILITARY SITE
 Cape Harrison, Labrador, NL



Appendices

Appendix A

Qualifications of Site Assessors

QUALIFICATIONS OF SITE ASSESSOR

Name: James O'Neill, P. Eng.

Position: Engineer

Education: B.Eng. (Civil Engineering), Memorial University (1997)

Experience:

James P. O'Neill, P.Eng. is a Senior Project Manager/Engineer with GHD Limited (GHD). He has performed or overseen environmental site assessments at residential, commercial, industrial and public facilities. Mr. O'Neill has completed courses in environmental engineering, hydrology, geology, project management, asbestos awareness, indoor air quality, Standard First Aid/CPR Level C, Automated External Defibrillator, WHMIS, 40-hour HAZWOPER, Powerline Hazards, Leadership in Safety Excellence, and other miscellaneous training. Mr. O'Neill is also a member of the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL) as a Professional Engineer and is registered with the NL Department of Environment and Conservation as a Site Professional. Mr. O'Neill has been directly involved in numerous environmental site assessment and remediation projects concerning hydrocarbon and PCB impacts on residential and/or commercial sites, and is knowledgeable of the current environmental legislation regarding contaminants and hazardous materials.

QUALIFICATIONS OF SITE ASSESSOR

Name: Peter Gillingham, P. Tech.

Position: Environmental Technologist

Education: Environmental Technology (Co-op) Diploma; College of the North Atlantic, Corner Brook, NL, 2007

Fish & Wildlife Technician Diploma; College of the North Atlantic, Bonavista, NL, 2003

Experience:

Peter Gillingham, P. Tech., is an Environmental Technologist with GHD Limited (GHD). Mr. Gillingham has over eight years of experience in various aspects of the environmental sector that included review of environmental site assessments, investigations and remediation of hydrocarbon impacts, hazardous building materials surveys, asbestos management and abatement, drinking water quality, oil storage tank management, and indoor air quality investigations. Mr. Gillingham has also conducted numerous field investigations and projects involving contractor oversight and coordination. He has completed courses in Environmental Site Assessment, Water Quality Analysis, Solid Waste Management, and Air Pollution. Mr. Gillingham is certified in WHMIS, Standard First Aid, Leadership in Safety Excellence, and has completed the 40-hour HAZWOPER course. Mr. Gillingham is also a member of the Association of Engineering Technicians and Technologist of Newfoundland and Labrador (AETTNL). He has completed various environmental site assessments, monitoring programs and site remediation projects where his duties included site supervision, health and safety, soil sampling of excavation boundaries, and groundwater sampling and monitoring. Mr. Gillingham has been a supervisor on numerous petroleum hydrocarbon sites (retail and bulk storage facilities) and supervised drilling, test pitting and soil excavation for various clients in the Province. This Phase I was conducted under the direct supervision of senior staff at GHD.

Appendix B

Regulatory Correspondence

Service NL Responses



**CONESTOGA-ROVERS
& ASSOCIATES**

1118 Topsail Road, P.O. Box 8353, Station A
St. John's, NL, Canada A1B 3N7
Telephone: (709) 364-5353 Fax: (709) 364-5368
www.CRAworld.com

FACSIMILE

DATE: March 3, 2015 **REFERENCE NO.:** 089758
TO: Mr. George Blackwood
Service NL **FACSIMILE NO.:** 709-896-4340
FROM: Mr. Peter Gillingham

Total Pages (Including Cover Page) 3

Facsimile is Receiver's Original

Original Will Follow By:

- Mail
 Overnight Courier
 E-mail

**Re: Phase I Environmental Site Assessment, Former United States Military Site,
Cape Harrison (Located at "Lucyville"), NL**

MESSAGE

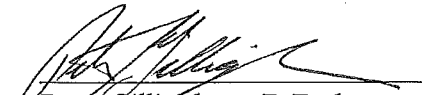
Conestoga-Rovers & Associates Ltd. (CRA) is currently conducting a Phase I Environmental Site Assessment of the former United States Military Site, Cape Harrison (Located at "Lucyville"), NL.

Please review your records for the Site and provide us with any available information, such as the following:

1. underground storage tank registration, or records of tank decommissioning;
2. knowledge or records of past environmental infractions; and/or,
3. any known existing environmental concerns.

I have attached a letter from Ms Christa Curnew, a representative of the Government of Newfoundland & Labrador - Department of Environment and Conservation that provides permission for the release of this information to CRA, along with a Site Location Map to help with your search. Thank-you for your time and please call if you have any questions.

Regards,


Peter Gillingham, P. Tech.

Attachments: Permission Letter
Site Location Map

THIS FAX TRANSMISSION IS INTENDED ONLY FOR THE ADDRESSEE(S) SHOWN ON THIS FORM AND MAY CONTAIN CONFIDENTIAL OR PRIVILEGED INFORMATION FROM CONESTOGA-ROVERS & ASSOCIATES (CRA). ANY DISCLOSURE, COPYING, DISTRIBUTION, OR USE OF THE CONTENTS OF THIS FAX, WITHOUT THE CONSENT OF CRA, IS PROHIBITED. IF YOU HAVE RECEIVED THIS TRANSMISSION IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONE (COLLECT).



Government of Newfoundland and Labrador
Department of Environment & Conservation

Pollution Prevention Division
(Environment)

March 3, 2015

RE: Phase I Environmental Site Assessment
Government of Newfoundland & Labrador
Former United States (US) Military Site
Cape Harrison (Located at "Lucyville"), NL

To Whom It May Concern:

As a representative of the primary owner of the above listed property, I certify that Conestoga-Rovers & Associates (CRA) has been contracted to complete a Phase I Environmental Site Assessment on the above-noted property.

The Site was established in the late 1950's as a manned Gap Filler radar station that was constructed by the United States Air Force under operational control of the Cartwright Air Station and part of the Pinetree Line of Ground-Control Intercept (GCI) radar sites.

The property was originally transferred from the Province of Newfoundland and Labrador to the Government of Canada in the 1950's after which permission was granted to the US Government for their use. Operations ceased in 1961 when the property reverted back to the Government of Canada. It is my understanding the Site was transferred back to the Province of Newfoundland & Labrador in 1986.

The former Site is located at 54° 47' North Latitude and 58° 28' West Longitude. A site location map illustrating the approximate location of the property is attached.

Please release any information pertaining to this property to CRA.

Sincerely,

A handwritten signature in cursive script that reads "Christa Curnew".

Ms. Christa Curnew, M.Env. Sci., P.Eng.
Project Manager - Impacted Sites
Pollution Prevention Division
Department of Environment and Conservation
Government of Newfoundland & Labrador

c.c. Brian Luffman, CRA

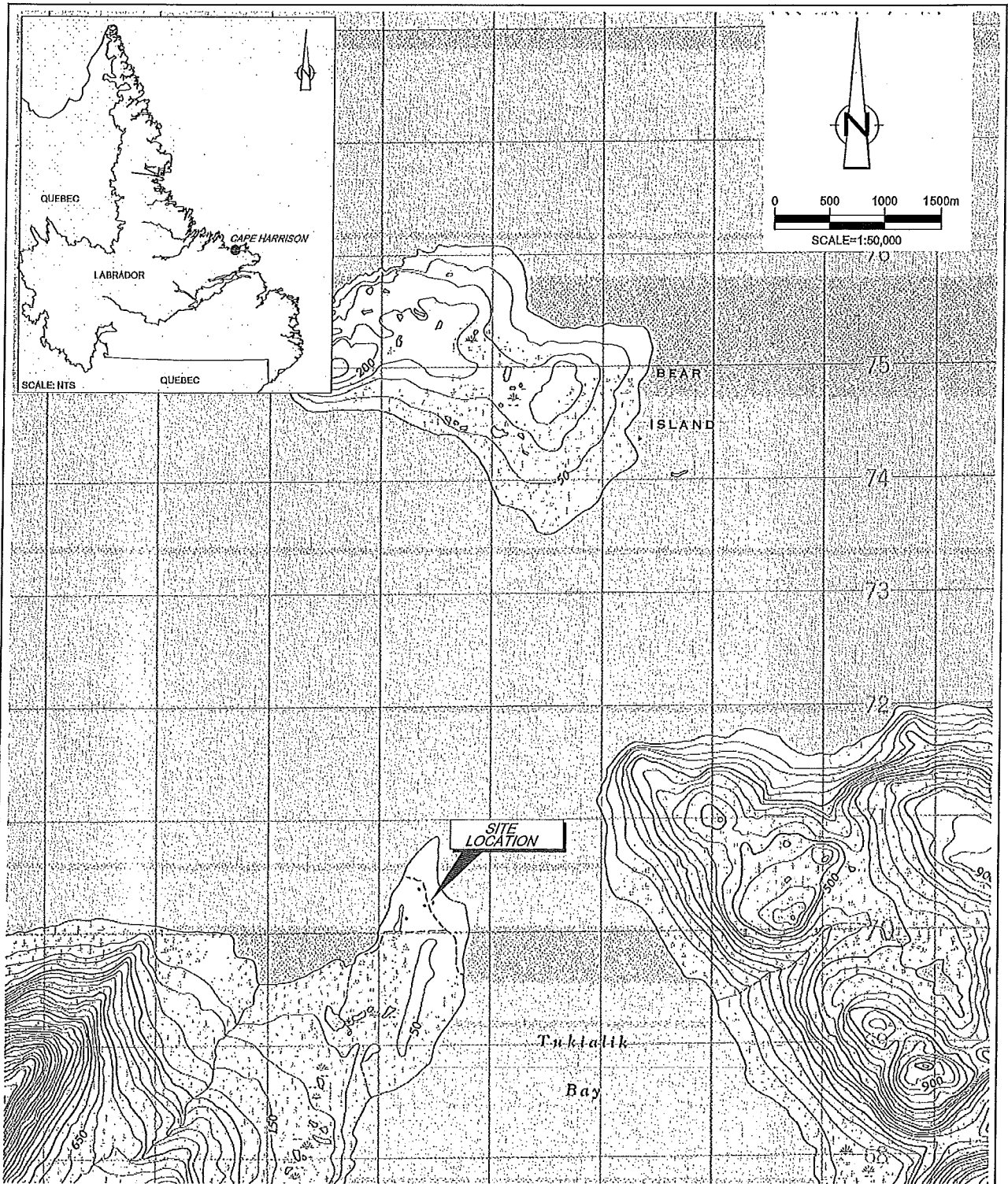


figure 1

SITE LOCATION MAP
 PHASE I ENVIRONMENTAL SITE ASSESSMENT
 DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Cape Harrison, Labrador, NL





Government of Newfoundland and Labrador
Service NL

April 21, 2015

Peter Gillingham, P. Tech.
Conestoga-Rovers & Associates
1118 Topsail Road, P.O. Box 8353, Stn A,
St. John's, NL
A1B 3N7

Attention: Mr. Peter Gillingham

RE: File/Record Search – Former United States Military Site, Cape Harrison, NL (located at Lucyville)

This refers to your request dated March 3, 2015, requesting information of an environmental nature on the above-mentioned property.

As we do not possess a departmental central registry of activities affecting the environment on properties in the province, we state that to the best of our knowledge and on a search of the files that we have reviewed, that there is no information contained on file and we are not aware of any outstanding environmental concerns with the above noted property.

In addition, we would like to point out that the information on the above property may be obtained by contacting the Department of Environment and Conservation by telephoning (709) 729-5782. Information on an environmental nature for Labrador, prior to 1990, is located at the Department of Environment and Conservation in St. John's, NL.

The Department makes no representations or warranties on the accuracy or completeness of the information provided.

If you have any questions, please do not hesitate to contact me at (709) 896-5473 or at the address below.

Sincerely,

George Blackwood
Environmental Protection Officer

ENVC Responses

CONFIDENTIAL

REPORT ON PCB SPILLS AND GENERAL
ENVIRONMENTAL MISMANAGEMENT AT
EX-USAF BASES IN LABRADOR

Resource Programs Division
Intergovernmental Affairs Secretariat
Government of Newfoundland and Labrador

April 15, 1981

Cape Harrison: - This site to the south-east of Makkovik covers a large shoreline area. Remnants of the base installation are evident, but only the footings of buildings remain. An area of one kilometer is littered with debris including two felled towers, a crane, bulldozer, cables, piping and thousands of rusty, empty 45-gal. drums. Two landing barges on a beach area of the site are badly corroded. One 45-gal. drum, half full is located near the fallen towers. Apart from this, no other contaminants were discovered.

Aillik: - This site is located just north of Makkovik and is similar in size and layout to the Cut Throat Island site with an upper site complex and lower marine fuel storage facility some miles away.

The upper site complex is partly demolished with exterior walls partially removed. The interior is totally destroyed and contents have no commercial value. One demolished USAF pickup truck is in the garage. The top site fuel storage tank (in excess of 100,000 gal. capacity) is empty and has a concrete dyke around it.

The lower site has no buildings on it. The bulk storage facility is again of 100,000 gal. or more capacity. An old drum dump is located on a beach area. In addition, approximately 20 45-gal. drums are leaking. The contents are unknown but most of these drums are still full.

One fuel 45-gal. drum of lubricating oil was found. Thirty or more alkali batteries, 2 ft. by 1 ft. by 1 ft. are near the radar dome structure. The Canadian Coast Guard beacon station was being refitted at the time of the inspection by two officials. Batteries were dumped next to the station by these officials. Alkali solution from the batteries was permitted to drain out.

Hopedale:- The uppersite is in a partial state of demolition. It is divided into two sections - the BMEWS station (entrance site and building) and TACAN (the main complex with generator building, warehouses and living quarters). Petro-Canada are presently operating out of a section of the area on the east side (including the warehouses living and eating facilities of the TACAN area).

Numerous drum dumps are located around the TACAN site. Some of these 45-gal. drums contain helicopter fuels, lube oils and greases for long range and jet ranger helicopter now under charter to PetroCan.

The generator building on the Hopedale topsite contains large generators which have been vandalized, with lube oils covering the concrete floor of the building. There are four large and eight smaller diesel generators with associated electrical equipment in this section of the complex.

A portion of the living quarters, main dining area, theatre, bowling alley facilities has been demolished and is totally destroyed.

Two bulk storage tanks of 30,000 gals. are intact at the edge of the TACAN site. The Northwest side of the TACAN radar dome is partially demolished. A quonset hut containing compressed gas cylinders is located on the northside of the TACAN area. A helicopter pad area just under the lip of the hill (TACAN area) contains many hundreds of 45-gal. drums both full and empty. These are owned and/or controlled by PetroCan, Sealand Helicopter and other groups. They are not dyked.

CAPE HARRISON - SOUTH HARBOUR:

<u>To Canada:</u>	M.C. 1020-'51	1951
	(N.R. 64-'51)	1951
<u>To Nfld:</u>	None Found	

Transferred to Canada for use as radio range station by D.O.T. Land formerly occupied by American military who installed the station. Condition for D.O.T. taking over was that it would remain as a radio range. Area will revert to Newfoundland from the time land ceased to be used and on the understanding that a plan survey and description of the area be forwarded to the Government of Newfoundland as soon as convenient.

Reference is in FRB Volume 1, Folio 10.

CUTTHROAT ISLAND (Pottles Bay, South Harbour, Smokey Island)

<u>To Canada:</u>	(1) M.C. 696-'57	1957
	(M.&R. 39(b)-57)	(1957)
	(2) M.C. 1081-'58	1958
	(M.&R. 159-'58)	1958
<u>To Nfld:</u>	(1) M.C. -'61	1961
	(M.&R. 25A-'61)	(1961)
	(2) P.C. 1963-693	1963

(1) three peices of land for use by DND in connection with Mid-Canada Time. Conditions same as Inland Hopedale.

(2) 15.18 acres to be used in connection with USAF Gap Filler Unit by Canada.

For (1) M.&R. 25A-'61 verified that the property reverted to the Crown but M.C. status not clear.

For (2) the land was returned to the Province by federal P.C. according to Crown Land's file 395/28-55, but no provincial M.C. is available on recorded.

Reference is in FRB Volume 1, Folio 61 and 77,

RIGOLET: No records available.

NORTHWEST POINT:

No transfer took place.

1105.12 acres of land was used by DND to construct transmitter site. In 1974, when DND wished to return lands to province, it was noted that DND could not determine how it occupied the lands in the first place. Crown Lands told DND that when lands were requested, they were under a NALCO concession and that DND had to negotiate with that Company. No further information is contained on file. Presumably, a legal transfer

10/09/85 10:30 2206 533 7402

AIRCOM DCOS CR GOOSEBAY WOLF 0003/004

EXECUTIVE COUNCIL
NEWFOUNDLAND AND LABRADOR

Bous. Ministre de la
Défense Nationale
JAN 30 1986
Deputy Minister of
National Defence



CONFEDERATION BLDG.
ST. JOHNS, NFLD.
A1C577

600427

January 28, 1986

NOV/SECT 004
Referred to
Transmitted to
D. B. Dewar

JAN 31 1986

Mr. D. B. Dewar,
Deputy Minister,
Department of National Defence,
National Defence Headquarters,
101 Colonel By Drive,
Ottawa, Ontario,
K1A 0K2

File No. 1266-8-2
Referred to
Charged to/Charged by T.D. 6003/

Dear Mr. Dewar:

You will recall our previous correspondence concerning the abandoned military sites in Labrador and our decision to arrange a meeting in St. John's to finalize a mutually acceptable settlement.

The offer of five million dollars to assist in the clean-up of the abandoned sites plus a contingency allowance, not to exceed five hundred thousand dollars, to provide for possible undetected contamination at any site, was informally accepted by the Province on 13 August 1985. I am hereby advising that the Province has now authorized formal acceptance of that offer.

The Government of Newfoundland and Labrador, by acceptance of the payment, will absolve the Government of Canada of any further responsibility and liability for the clean-up of sites identified on the attached list.

Environmental restoration of these sites will be undertaken in a timely manner, bearing in mind the short construction season in Labrador.

Yours truly,

H. H. Stanley
H. H. Stanley,
Deputy Minister

07/16/98 16105 3709 772 5097
07/16/98 MON 16:22 FAX 709 630 8074

BRIAN EPB/NF
WING CONST. ENG.

NDEL ST. JOHN'S

4051 0000

OCT 123 '95 0810101 NDHG

CEEM 1150 DCC

WING CONST. ENG.

AIRCOR DRUGS CE

COOSEBAY WORO

P.8

0000

0004/004

4

ABANDONED MILITARY SITES

1. ✓ Cartwright
2. ✓ Hope Dale
3. ✓ Spotted Islands X
4. ✓ Hope Dale Islands
5. ✓ Cape Hakkovik (ALLIK) 10/11
6. ✓ Cutthroat Island
7. ✓ Cape Harrison
8. N.W. Point (2 sites) X
9. Boat
10. Harbour Lake
11. Wild Boat
12. ✓ Border Beacon
13. ✓ St. Anthony

PRE-TENDER
SCOPE OF WORK AND LOGISTICS
DEMOLITION AND SITE RESTORATION
FORMER DEW LINE RADAR SITES
LABRADOR

PRE-TENDER
SCOPE OF WORK AND LOGISTICS
DEMOLITION AND SITE RESTORATION
FORMER DEW LINE RADAR SITES
LABRADOR

Prepared for: Department of Environment
Government of Newfoundland & Labrador
P.O. Box 4750
St. John's, Newfoundland
A1B 1R9

Prepared by: Bond Architects & Engineers Ltd.
(The BAE Group)
53 Bond Street
P.O. Box 6900
St. John's, Newfoundland
A1C 6H3

Project No. 86096

Date: October, 1986

PRE-TENDER
SCOPE OF WORK AND LOGISTICS
DEMOLITION AND SITE RESTORATION
FORMER DEW LINE RADAR SITES
LABRADOR

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2.2 Work Operations & Logistics Considerations	7
3.0 SECONDARY COASTAL DEW LINE INSTALLATIONS (GAP FILLERS)	
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1.0 INTRODUCTION

The intent of the pre-tender call is to provide prospective prime contractors with an opportunity to view the subject sites to assist in preparation of tenders for the following contract packages:

CP1 - Mid Canada Line Installation Sites

CP2 - Secondary Coastal Dew Line Installation

CP3 - Cartwright - Major Dew Line Installation

CP4 - Hopedale - Major Dew Line Installation

The contents of this pre-tender document represents a general overview of the scope of work and project logistics. This document will in no way relieve the Contractor of responsibility for exact site conditions.

In order to provide qualified prime contractors with a first hand look at the work requirements to restore the radar sites to an environmentally acceptable condition, an airplane charter has been tentatively scheduled for October 22, 1986.

A tentative time frame for the calling of tenders and performance of work is generally summarized as follows:

CP-1:

Tender Call: November 28, 1986
Contract Award: January 15, 1987

CP-2:

Tender Call: January 16, 1987
Contract Award: March 4, 1987

CP-3:

Tender Call: February 13, 1987
Contract Award: April 3, 1987

CP-4:

Tender Call: March 27, 1987
Contract Award: May 15, 1987

The construction season in Labrador for the performance of the subject restoration program is very short. It is envisaged that mobilization may be effected in June, 1987 (weather pending). Performance of work and demolibization at all sites must be completed no later than October, 1987.

3.0 SECONDARY COASTAL DEW LINE INSTALLATIONS (GAP FILLERS)

3.1 Work Scope

There are four (4) secondary Dew Line installation sites to be restored, situated at Cut Throat Island, Allik, Cape Harrison and Spotted Islands. In general, these installations consisted of an Upper Site and Lower Site. The Upper Site contains a radar dome operations building, maintenance and accommodations facilities, a large bulk fuel storage tank and utility services such as water, sewer, power and fuel. The Lower Site, located several miles away at sea level, served as a marine transshipment and fuel storage facility.

These sites are to be restored in an "environmentally acceptable" condition. Burial of all debris with native soil is the objective. This appears feasible in Allik, Spotted Islands and, possibly, Cut Throat Island. Where there exists a shortage of fill material, scrap materials are to be neatly stockpiled. Building structures, oil tanks and utility pipelines are to be dismantled and buried or neatly stacked. Fuel drums are to be compacted prior to burial or stockpiled.

Table 3.1 provides general site demolition and restoration work requirements for each of four (4) secondary Dew Line installations under consideration.

TABLE 3.1

SECONDARY DEW LINE INSTALLATIONS - SITE DISPOSAL/RESTORATION REQUIREMENTS			
ALLIK	CUT THROAT ISLAND	SPOTTED ISLANDS	CAPE HARRISON
<p><u>1. Upper Site</u></p> <p>1.1 Radar Operations Building to be dismantled.</p> <p>1.2 Main accommodations and services complex to be dismantled.</p> <p>1.3 Steel frame for service building to be dismantled.</p> <p>1.4 Concrete foundations to be covered with fill where feasible.</p> <p>1.5 Combustible debris to be burned on site.</p> <p>1.6 Non-combustible debris to be buried with a minimum of 0.5 m of fill.</p> <p>1.7 Above ground steel utilities (fuel lines, water and sewer lines, septic tank) to be dismantled and disposed of.</p> <p>1.8 Large bulk fuel storage facility (in excess of 100,000 gallons) to be dismantled, stored inside dyke and covered with fill. Concrete dyke to remain.</p>	<p><u>1. Upper Site</u></p> <p>1.1 Radar Operations Building to be dismantled.</p> <p>1.2 Four unit main complex to be dismantled.</p> <p>1.3 Smaller wood framed shacks to be demolished and burned.</p> <p>1.4 Concrete foundations to be covered with fill where feasible.</p> <p>1.5 Non-combustible debris to be buried with a minimum of 0.5 m of fill.</p> <p>1.6 Above ground steel utilities (fuel lines, water and sewer lines, septic tank) to be disassembled and disposed of.</p> <p>1.7 Fuel drums to be compacted and buried.</p> <p>1.8 Large bulk fuel storage facility (in excess of 100,000 gallons) to be dismantled, stored inside dyke and covered with fill.</p>	<p><u>1. Upper Site</u></p> <p>1.1 Radar Operations Building to be dismantled.</p> <p>1.2 Main accommodations and services complex to be dismantled.</p> <p>1.3 Smaller wood framed structures to be demolished and burned.</p> <p>1.4 Concrete foundations to be covered with fill, where feasible.</p> <p>1.5 Non-combustible debris to be placed in ravine and covered with fill.</p> <p>1.6 Above ground steel utilities (fuel lines, water and sewer lines, septic tank) to be disassembled and disposed of.</p> <p>1.7 Large bulk fuel storage facility to be dismantled, stored inside concrete dyke and covered with fill.</p>	<p><u>1. Upper Site</u></p> <p>1.1 Debris is littered around Upper Site and is to be stockpiled and covered with fill.</p> <p>1.2 Empty fuel drums are to be compacted and covered with fill.</p>

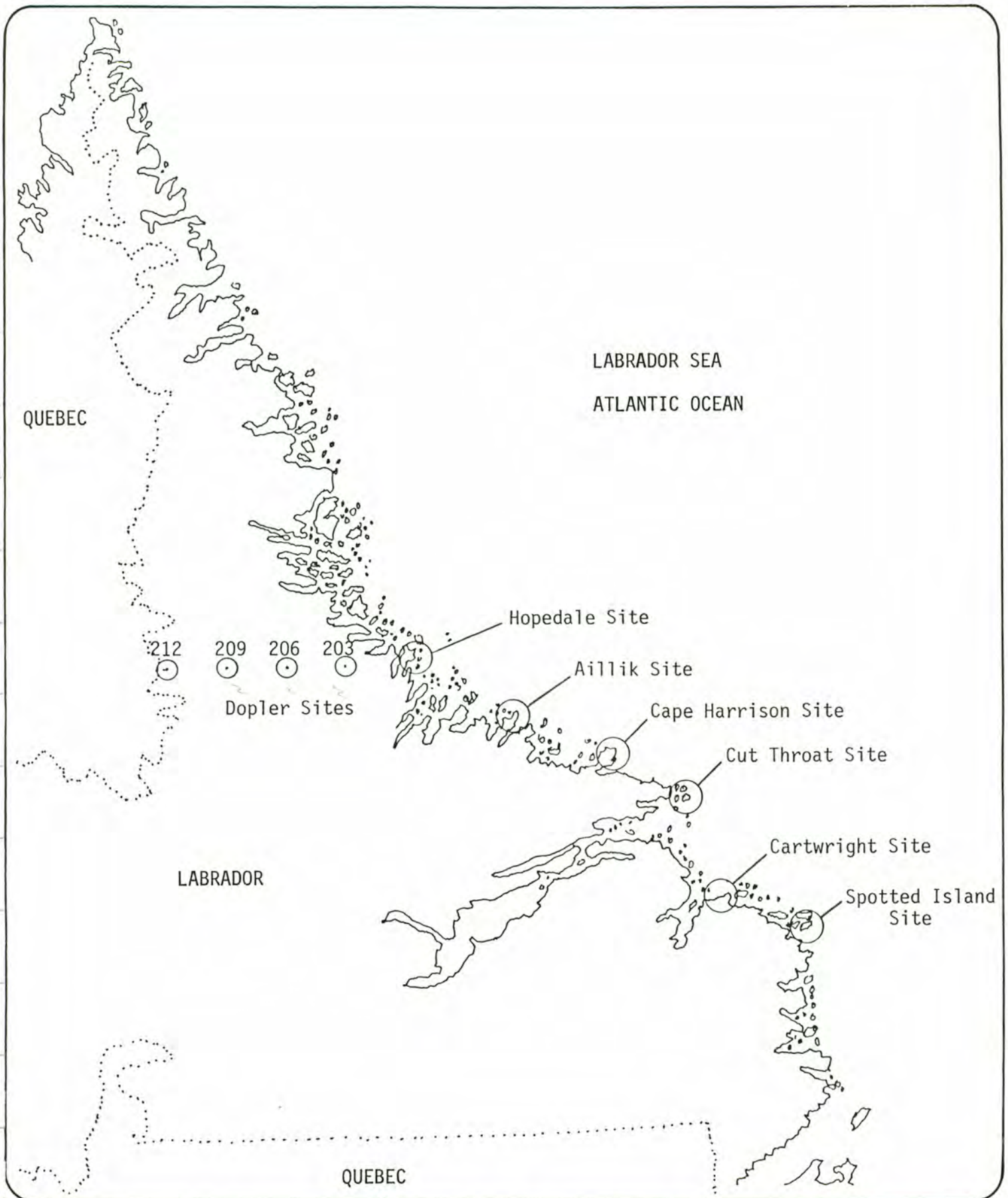
TABLE 3.1

SECONDARY DEW LINE INSTALLATIONS - SITE DISPOSAL/RESTORATION REQUIREMENTS			
ALLIK	CUT THROAT ISLAND	SPOTTED ISLANDS	CAPE HARRISON
<p><u>2. Lower Site</u></p> <p>2.1 Similar sized large bulk fuel storage facility to be dismantled and covered with fill.</p> <p>2.2 Fuel drums in old drum dump to be compacted and covered with fill.</p>	<p><u>2. Lower Site</u></p> <p>2.1 Large bulk fuel storage facility (in excess of 200,000 gallons) near coastline to be dismantled and covered with fill.</p>	<p><u>2. Lower Site</u></p> <p>2.1 Large bulk fuel storage facility to be dismantled, stored inside concrete dyke and covered with fill.</p>	

3.2 Work Operations and Logistics Considerations

1. There are no marine docking facilities or scheduled marine transport services to these sites, with the exception of the Spotted Islands installation.
2. There is no landing strip for fixed wing aircraft.
3. Equipment would likely have to be barged to the work site. Marine landing at each beach head requires closer examination as to the options available (landing barge, marine unifloats or temporary wharf structure) to offload equipment.
4. Camp accommodations comprised of construction trailers would have to be set up at each site, along with power supply, water and sewer service.
5. There are no helicopter refueling facilities; therefore, aviation fuel will have to be flown in or transported by marine barge.
6. Helicopter support services will be required to transport food supplies, construction tools and parts, and work crew.

APPENDIX "A"
SITE LOCATION PLAN



PROJECT: Demolition and Site Restoration
 Former Dew Line Radar Sites

JOB No. 86096

TITLE: Site Location Map

SCALE:

DRAWN BY:

DATE: October, 1986

**THE
 BAE
 GROUP**



NU 1000 73 2

APPENDIX "B"

PRIME CONTRACTOR'S PRE-QUALIFICATION DATA

PRIME CONTRACTOR PRE-QUALIFICATION

1. Firm Name: _____

2. Date of Incorporation: _____

3. Bonding Company Name: _____

4. Bonding Capability (Dollars): _____

5. Present Work Volume (Dollars): _____

6. Principle Shareholders: _____

7. Present Work Force: _____

8. List of Heavy Equipment: _____

9. List Major Projects of Past Involvement:

10. Name of Company Representative to Participate in Site Tour:

11. Identify Contract Packages of Particular Interest:

	<u>Yes</u>	<u>No</u>
CP1:	—	—
CP2:	—	—
CP3:	—	—
CP4:	—	—

Based on Pre-Qualification Data provided, the Engineer, in consultation with the Department of Environment, will select qualified Prime Contractors to submit tenders for the subject demolition and restoration program included in Pre-Tender Documents.

1.0 INTRODUCTION

The intent of the pre-tender call is to provide prospective prime contractors with an opportunity to view the subject sites to assist in preparation of tenders for the following contract packages:

CP1 - Mid Canada Line Installation Sites

CP2 - Secondary Coastal Dew Line Installation

CP3 - Cartwright - Major Dew Line Installation

CP4 - Hopedale - Major Dew Line Installation

The contents of this pre-tender document represents a general overview of the scope of work and project logistics. This document will in no way relieve the Contractor of responsibility for exact site conditions.

In order to provide qualified prime contractors with a first hand look at the work requirements to restore the radar sites to an environmentally acceptable condition, an airplane charter has been tentatively scheduled for October 24, 1986.

A tentative time frame for the calling of tenders and performance of work is generally summarized as follows:

CP-1:

Tender Call: November 28, 1986
Contract Award: January 15, 1987

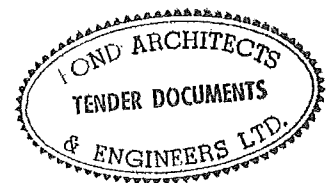
CP-2:

Tender Call: January 16, 1987
Contract Award: March 4, 1987

CP-3:

Tender Call: February 13, 1987
Contract Award: April 3, 1987

DEMOLITION AND SITE RESTORATION
FORMER DEW LINE RADAR SITES
CONTRACT PACKAGE - CP3
SECONDARY COASTAL SITES, LABRADOR
86096 - CP#3



SPECIFICATIONS FOR
DEMOLITION AND SITE RESTORATION
FORMER DEW LINE RADAR SITES
CONTRACT PACKAGE - CP3
SECONDARY COASTAL SITES, LABRADOR

PROJECT TEAM

OWNER: Department of Environment
Government of Newfoundland and Labrador
Confederation Building
P.O. Box 4750
St. John's, Newfoundland
A1C 5T7

ENGINEER: Bond Architects and Engineers Limited
P.O. Box 6900
53-55 Bond Street
St. John's, Newfoundland
A1C 6H3

DATE: February 2, 1987

JOB NO.: 86096

SPECIFICATIONS FOR
 DEMOLITION AND SITE RESTORATION
 FORMER DEW LINE RADAR SITES
 CONTRACT PACKAGE - CP3
 SECONDARY COASTAL SITES - LABRADOR

LIST OF DRAWINGS

<u>Project No.</u>	<u>Sheet No.</u>	<u>Description</u>	<u>Date</u>
86096	SK-01	Site Location Plan	November, 1986
86096	SK-A-01	Location Map - Aillik	November, 1986
86096	SK-A-02	Lower Site - Aillik	November, 1986
86096	SK-A-03	Upper Site - Aillik	November, 1986
86096	SK-CH-01	Location Map - Cape Harrison	November, 1986
86096	SK-CH-02	Site Sketch - Cape Harrison	November, 1986
86096	SK-CTI-01	Location Map - Cut Throat Island	November, 1986
86096	SK-CTI-02	Lower Site - Cut Throat Island	January, 1987
86096	SK-CTI-03	Upper Site - Cut Throat Island	November, 1986
86096	SK-SI-01	Location Map - Spotted Island	November, 1986
86096	SK-SI-02	Lower Site - Spotted Island	January, 1987
86096	SK-SI-03	Upper Site - Spotted Island	November, 1986

- .9 Dismantle, remove and dispose of lower site bulk fuel storage tank. Tank approx. 18.0 m diameter by 12.0 m high. Collection and disposal of approx. 200 fuel drums scattered along beach up to 500 m from containment dyke. Remove and dispose of fuel pipeline and supports from the storage tank to the beach head.
- .10 Collect and dispose all fuel drums and general debris along former access roads. Cleanup zone to measure 30 m on either side of road centreline.
- .11 Dismantle, remove and dispose of structural steel frame storage building, measuring 7.5 x 14.5 m. Cleanup zone to measure 30 m radius from building.
- .12 Removal and disposal of steel baseplates and anchor bolts cut flush with top of concrete foundations. Concrete foundations to remain.
- .13 Complete burial with suitable fill material, suitably graded to facilitate drainage without significant surface erosion, of all debris and rubbish gathered for disposal within defined clean-up zones.
- .14 Any salvaged items must be removed from project site no later than September 30, 1987.

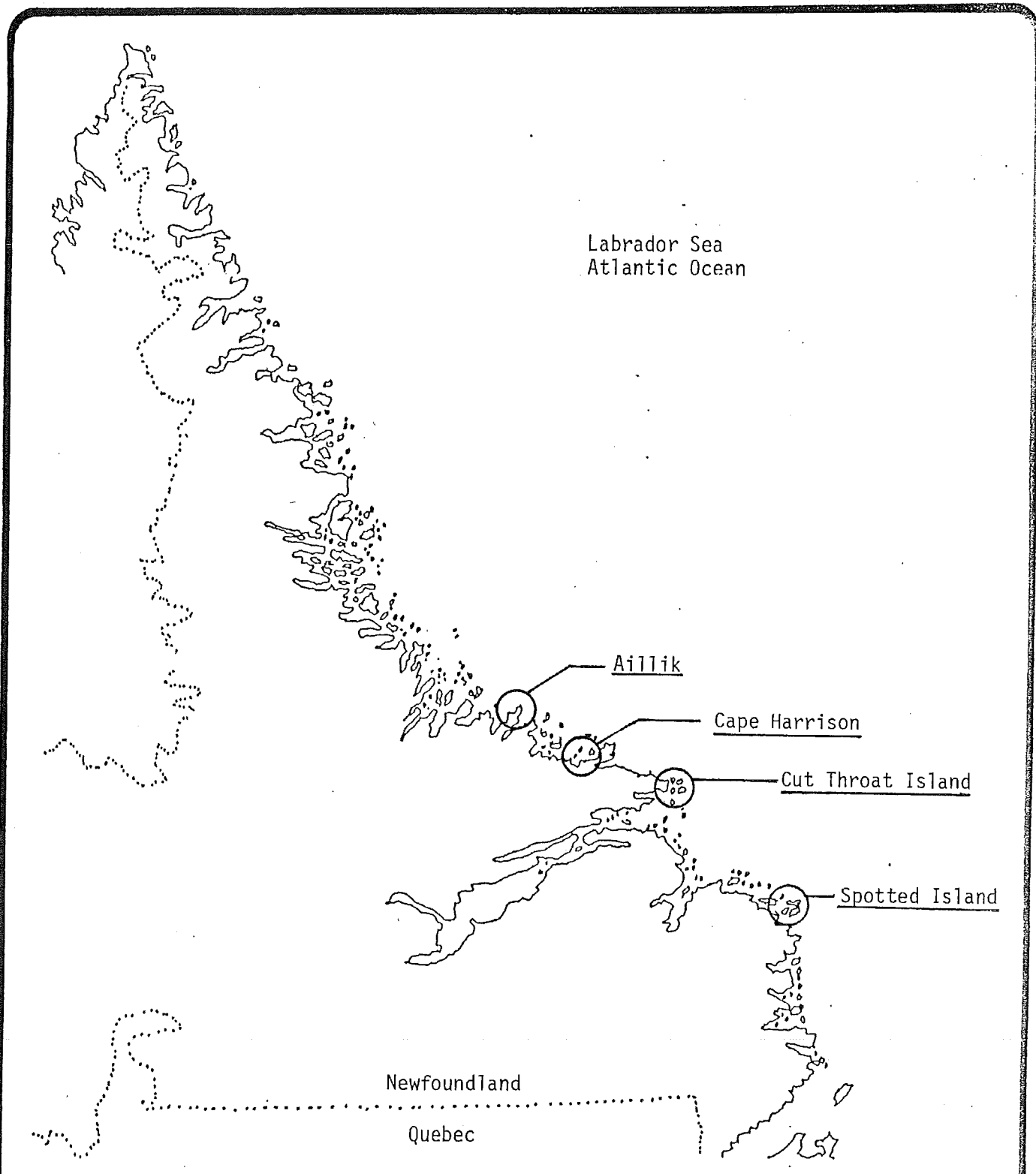
1.2 Work Excluded
for Aillik

- .1 Removal of reinforced concrete footings, piers, beams, structural slabs and slabs on grade.
- .2 Collection and removal of all incidental debris outside boundary of clean-up areas.

1.3 Work Included
for Cape Harrison

- .1 Purpose of cleanup work is to bring the site as close as possible to its original condition within the defined cleanup area.
- .2 Collection and disposal by burial of all debris including fuel caches, small tanks, scrapped equipment and vehicles, utility poles, water/sewer/fuel pipelines, fallen antennae towers and building structures. Debris also included scattered fuel drums and other related materials located on the peninsula.

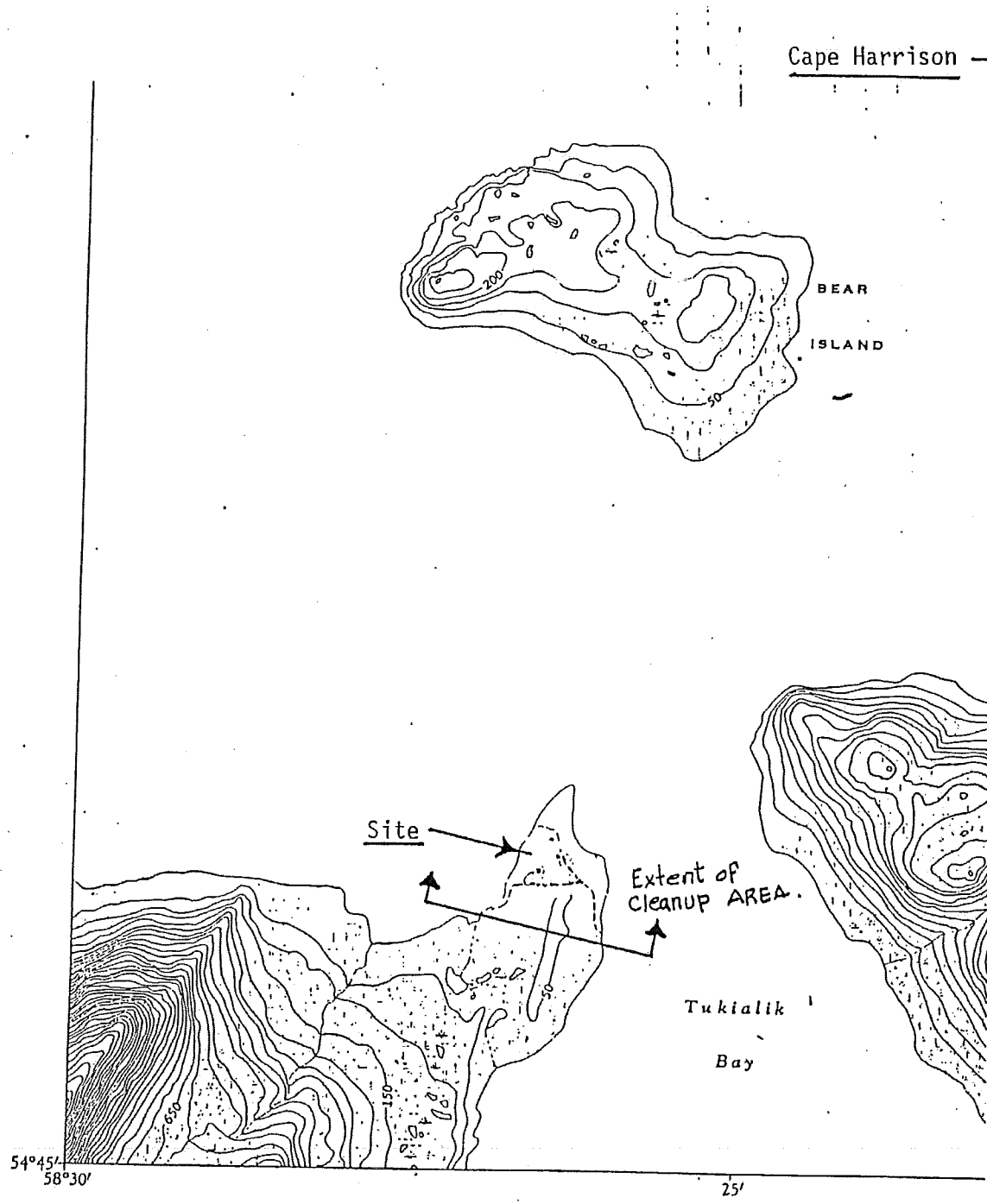
- .3 The cleanup area is defined as the total area of the peninsula indicated on sketch number SK-CH-01, Location Map, Cape Harrison.
 - .4 Complete burial with suitable fill material, suitably graded to facilitate drainage without significant surface erosion, of all debris and rubbish gathered for disposal.
 - .5 Any salvage items must be removed from site no later than September 30, 1987.
- 1.4 Work Excluded for Cape Harrison
- .1 Removal of two (2) rusting and overturned barges located on beach.
- 1.5 Work Included for Cut Throat Island
- .1 Purpose of clean-up work is to bring the site as close as possible to its original condition within the defined clean-up areas.
 - .2 Demolition, removal and burial of all building structures located at upper site.
 - .3 Removal and disposal of by burial of all building contents.
 - .4 Collection and disposal by burial of all loose scattered debris, fuel drums, small tanks, scrapped materials, equipment and vehicles, within 100 m radius measured from any point of the Operations Building foundation walls, located at the upper site and within 30 m from either side of access road centreline from the lower site up to and around the upper site.
 - .5 Dismantling, removal and disposal of summit bulk fuel storage tank. Tank approximately 18.0 m diameter x 6.20 m high. Clean up of any loose debris within zone of 30 m from containment dyke.
 - .6 Removal and disposal of ventilated and non-ventilated pressure gas cylinders and ancillary equipment.
 - .7 Removal and burial of all former site utilities, power conductors, post delineators, utility poles, pipe lines, water, sewer including septic tank and fuel lines.
 - .1 Water line, approx. - 300 m
 - .2 Sewer line, approx. - 300 m
 - .3 Fuel line, approx. - 200 m



PROJECT Demolition & Site Restoration of Former Dew Line Radar Sites, Labrador		JOB NO. 86096	
TITLE Site Location Plan		PAGE SK-01	
DIVISION Civil	DRAWN G.L.	CHECKED	DATE November, 1986

THE BAE GROUP

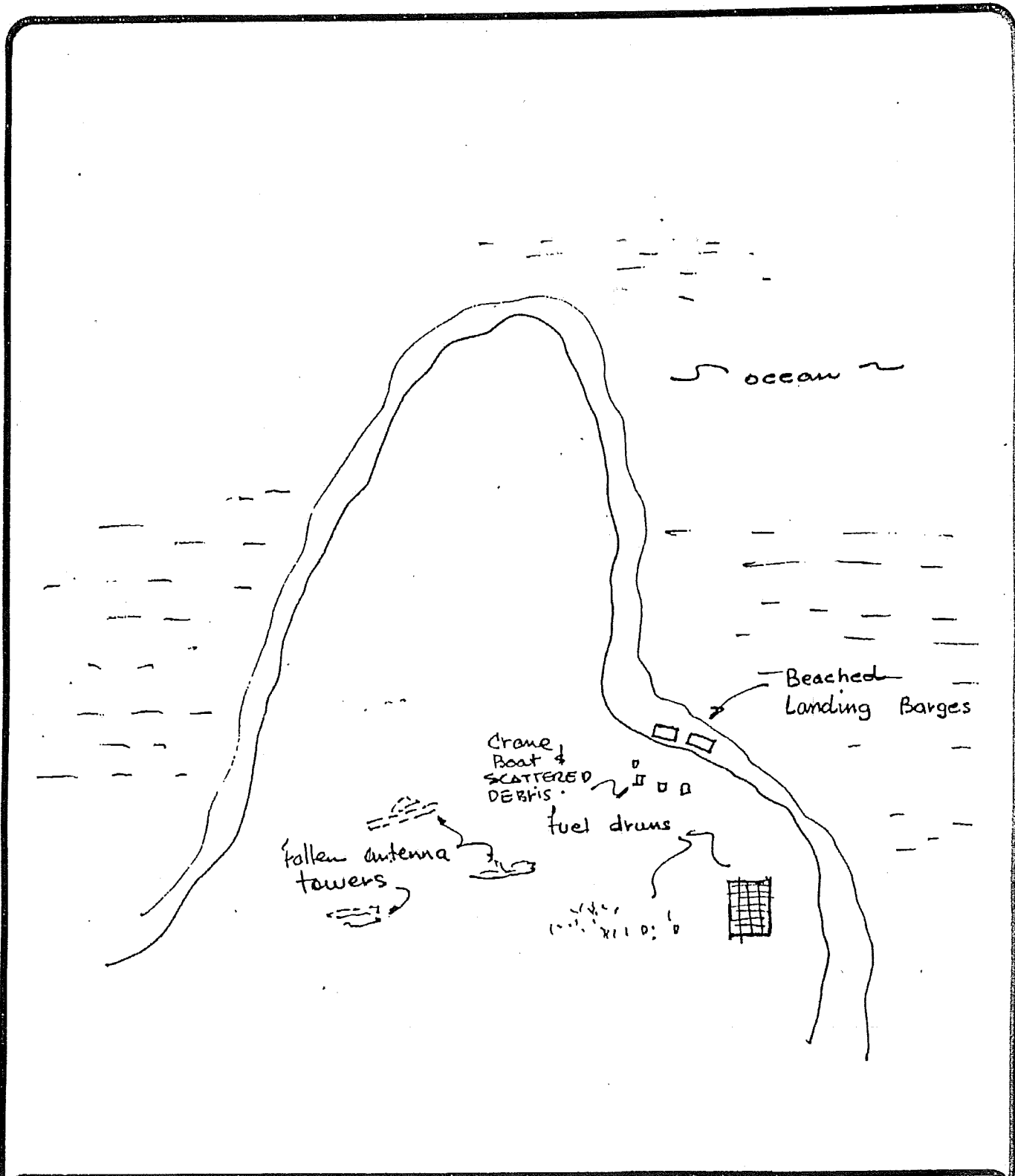
BOND ARCHITECTS and ENGINEERS LIMITED
BOND STREET P O BOX 6900 ST JOHN'S NF
A1C-0M3 TLX 016-4676 TEL (709) 722-4822



PROJECT Demolition & Site Restoration of Former Dew Line Radar Sites, Labrador		JOB NO. 86096	
TITLE Location Map - Cape Harrison		PAGE SK-CH-01	
DIVISION Civil	DRAWN G.L.	CHECKED	DATE November, 1986

THE BAE GROUP

BOND ARCHITECTS and ENGINEERS LIMITED
 BOND STREET P. O. BOX 8900 ST. JOHN'S N.F.
 A1C-8M3 TLX 016-4879 TEL (709) 722-4822



PROJECT		Demolition & Site Restoration of Former Dew Line Radar Sites, Labrador		JOB NO.	86096
TITLE		Site Sketch - Cape Harrison		SKETCH NO.	SK-CH-02
DIVISION	Civil	DRAWN	G.L.	CHECKED	DATE
					November, 1986

THE BAE GROUP

BONO ARCHITECTS and ENGINEERS LIMITED
 BONO STREET P. O. BOX 8900 ST. JOHN'S NF
 A1C-8H3 TLX 016-4676 TEL 17091 722-4822

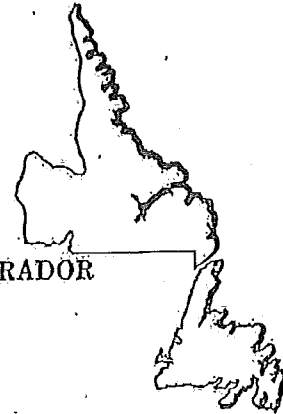


GOVERNMENT OF NEWFOUNDLAND & LABRADOR

Department of Environment

P. O. BOX #750
ST. JOHN'S, NEWFOUNDLAND
A1C 5T7

1987 04 27



OFFICE OF THE MINISTER

Labrador Construction Limited
P.O. Box 8274, Stn. A
St. John's, NF
A1B 3N4

Attention: Mr. B. Power

Dear Sir:

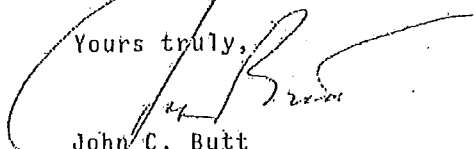
RE: Demolition and Site Restoration
Former Dew Line Radar Sites
Contract Package - CP3
Spotted Island, Cut Throat Island, Cape Harrison,
Aillik, Labrador

Further to our review of tenders submitted for the captioned tender package, I am pleased to inform you that your tender, in the amount of \$738,000.00 has been accepted subject to the following conditions:

Letter from Labrador Construction Limited dated 1987 03 27,
- 30-day extension to contract award date.

Please forward the specified bonding and insurance policies to our consultant, The BAE Group, for review. Your bid security will be retained until these documents are received. Upon receipt of bonding and insurances a contract will be executed and a copy forwarded to you. Work will not be permitted to start until the bonding and insurances are received and formally approved by my Department and The BAE Group.

Yours truly,


John C. Butt
Minister

cc: Workmen's Compensation Board

SITE RESTORATION
FORMER DEW LINE RADAR SITES
LABRADOR
STATUS REPORT #1
PERIOD ENDING JULY 31, 1987

SITE RESTORATION
FORMER DEW LINE RADAR SITES
LABRADOR
STATUS REPORT #1
PERIOD ENDING JULY 31, 1987

PROJECT TEAM

PREPARED FOR: Department of Environment
P. O. Box 4750
St. John's, Newfoundland
A1C 5T7

PREPARED BY: Bond Architects & Engineers Limited
(The BAE Group)
P.O. Box 6900
Third Floor
Baine Johnston Centre
10 Fort William Place
St. John's, Newfoundland
A1C 6H3

DATE: August 17, 1987

PROJECT NO. 86096

MONTHLY STATUS REPORT

Project No. 86096
Report No. 1
From: June, 1987
To: July 31, 1987

Client: Department of Environment Date Submitted: August 15, 1987

Project: Demolition and Site Restoration - Former Dew Line Radar Sites
Secondary Coastal Sites, Labrador - Contract Package CP-3

Consultant: Bond Architects & Engineers Limited (The BAE Group)

A. Tender Data:

Tender Closing Date: <u>March 2, 1987</u>	Contract Award Date: <u>April 27, 1987</u>
Contractor: <u>Labrador Construction Ltd.</u>	Contract Amount: <u>\$738,000.00</u>
Completion Date: <u>October 30, 1987</u>	Change Order Amount: <u>-</u>
	Revised Contract Amount: <u>\$738,000.00</u>
	Revised Completion Date: <u>Sept. 30/87</u>

B. Construction Equipment Resources Deployed During Month:

	<u>Aillik</u>	<u>Cape Harrison</u>	<u>Cut Throat Is.</u>	<u>Spotted Is.</u>
(1)	1 - D6 Dozer	No work in	Not mobilized	Not mobilized
(2)	1 - Front End Loader	progress.	to date.	to date.
(3)	1 - Pick-Up			
(4)	1 - ATV Quad Runner			
(5)	Welders, Pumps, Etc.			
(6)	1 - Barge			
(7)	1 - Ship (Lady Johnson II)			

C. Construction Work Force Deployed During Month:

- Aillik
 - (1) 1 - Foreman
 - (2) 3 - Labourers
 - (3) 2 - Equipment Welders
- Cape Harrison
 - No work in progress.
- Cut Throat Island
 - Not mobilized to date.
- Spotted Island
 - Not mobilized to date.

D. Summary of Contemplated Change Order/Change Order to Month End

- No change orders issued under contract to date.

E. Summary of Progress

Aillik

- .1 Restoration work at upper and lower sites is approximately 95% complete.
- .2 Completion of work on this site is consistent with schedule commitments.
- .3 BAE site representative to visit site for final inspection in early August.

Cape Harrison

- .1 Initial start of work on Cape Harrison was terminated on June 13, 1987 due to inadequate accommodations, provisions and communication. Also, workmanship was considered substandard.
- .2 Workforce/Equipment scheduled to be mobilized to Cape Harrison upon completion of Aillik restoration.
- .3 Work completed at Cape Harrison to date will be assessed by BAE site representative prior to recommencement of work.
- .4 Contractor has committed to secure proper provisions, accommodations and communication facilities on site.

F. Project Construction Costs

Contract: Secondary Coastal Sites - CP-3

Contract Description	Contract Amount	Change Orders Approved	Anticipated Change Orders	Const. Cost This Month	Const. Cost Month Ending	Percent Complete	Amount to Finish	Total Estimated to Completion
1. Aillik	\$210,000.00	-	-	\$198,500.00	\$198,500.00	94.5	\$ 11,500.00	\$ 210,000.00
2. Cape Harrison	\$150,000.00	-	-	-	-	-	\$150,000.00	\$ 150,000.00
3. Cut Throat Island	\$210,000.00	-	-	-	-	-	\$210,000.00	\$ 210,000.00
4. Spotted Island	\$168,000.00	-	-	-	-	-	\$168,000.00	\$ 168,000.00
TOTAL	\$738,000.00	-	-	\$198,500.00	\$198,500.00	26.9	\$539,500.00	\$ 738,000.00

Baine Johnston Centre
Third Floor, 10 Fort William Place
P. O. Box 6900, St. John's, NF
A1C 6H3 Tel: (709) 722-4622
Tlx: 016-4676 Fax# (709) 722-2733



86096.1

September 22, 1987

TELECOPIED: Sept. 22/87
Bond Architects & Engineers Ltd.

Department of Environment
P.O. Box 4750
St. John's, Newfoundland
A1C 5T7

Attention: Mr. Randy Vallis

Dear Sir:

RE: Former Dew Line Radar Sites
Secondary Coastal Sites - CP#3

Subsequent to our findings of September 11, 1987, and our follow-up letter dated September 14, 1987 confirming our dissatisfaction with the performance of Labrador Construction, it has come to my attention that there may be some desecration within the NDOE ranks regarding our most recent position taken against Labrador Construction.

The following is a brief recap of the project history:

- o Subsequent to tender closing of CP#3, a decision was made to award a contract to the second lowest bidder, Labrador Construction Limited. Our reasons for this decision is clearly covered in our letter dated March 31, 1987.
- o On July 14, 1987, threat of default was issued to the Contractor. Reason for this decision was due to the Contractor's non-conformance with requirements of the contract. The items of concern were acknowledged with a plan to remedy per Labrador Construction's letter of July 20, 1987.
- o On September 14, 1987, a second default threat was issued to the Contractor. The second default notification was precipitated by the following events:

.../2

BOND ARCHITECTS & ENGINEERS LIMITED

86096.1
September 22, 1987
Page 2

On September 10 and 11, 1987 during a site visit of all four (4) sites under CP#3. The following is a brief recap of our findings:

1. Cut Throat Island: (September 10, 1987)
 - o Demolition complete.
 - o Burial apparently complete, however the General Contractor did not know where the burial sites were located, nor was any approval requested for burial sites selected by the Contractor.
 - o Contractor was demobilized with work remaining to complete.
2. Cape Harrison: (September 10, 1987)
 - o Demolition substantially complete.
 - o Substantial burial of debris remaining.
 - o Contractor demobilized from site.
3. Aillik: (September 10, 1987)
 - o Work substantially complete.
 - o Only minor deficiencies remaining (this work could be handled by hand).
4. Spotted Island: (September 11, 1987)
 - o Demolition had commenced.
 - o No superintendent on site. The spokesman for the Contractor was an equipment operator (Dennis O'Keefe).
 - o We were told by Mr. O'Keefe that "99% of equipment" belonged to Eastern Shredding, and not Labrador Construction.
 - o Our site representative, Mr. W. Oakley, advised that based on work-force list provided on site, all site personnel had been employed by Eastern Shredding in Hopedale (CP#1).

.../3

86096,1
September 22, 1987
Page 3

On September 10, 1987 we met with Mr. B. Powers in Hopedale. During our meeting the following questions posed by the Consultant could not be answered:

1. Where is workforce currently mobilized?
2. Who is Labrador Construction's site superintendent?
3. What is current workforce deployed?
4. Confirm exact list of equipment deployed?

In accordance with the Contract Documents, the Contractor must fulfill the following obligations in the best interest of the project:

1. GC.32 - Contractor's Responsibilities and Control of Work
(32.1, 32.2, 32.3, 32.4)
2. GC.33 - Superintendence
3. GC.13 - Assignment

The success of this project revolves around the Contractor's Construction Methodology, complete control of the work and provision of competent superintendence to ensure that all requirements of the contract are met, and execution of work is carried out in a safe and effective manner.

In our assessment, the Contractor has displayed non-conformance with the intent of the contract as follows:

- o GC.32:
 - o Demobilization of specific sites prior to completion.
 - o Selection/Use of burial sites without authorization.
 - o Contractor's Project Manager's inability to provide critical project control information.
- o GC.33:
 - o Superintendent not committed to jobsite during construction.
- o GC.33 - Assignment:
 - o All equipment/manpower on-site was deployed by subcontractor without any evidence of General Contractor's presence.

.../4

86096.1
September 22, 1987
Page 4

Based on the latest events, we have no choice but to find the Contractor in default of contractual obligations.

The foregoing events precipitated our letter of September 14, 1987 requesting the Contractor to cease work until this whole situation was remedied and brought under control.

As we stated at Day One, we felt that Labrador Construction had the resources and capabilities to execute the specified work successfully. Our position on this matter has not changed, however, for some reason we are not receiving cooperation from Labrador Construction realized on past projects. Further, in the best interest of the project we are not creating a case to officially default Labrador Construction, nor do we feel that a default at this stage would be effective.

In the construction industry there are a number of mechanisms to control contractors. It just so happens that GC.10 "Owner's Right to Stop Work/Terminate Contract" is the strongest tool. Without such mechanisms we cannot control the Contractor's insistence on violating contractual responsibilities. In consideration of Labrador Construction's track record on this project, we had no choice but to use the strongest tool at our disposal.

In our opinion, we have demonstrated a sincere effort to regain/maintain a sufficient level of control to ensure that contractual obligations are met. I feel that we have acted promptly and diligently as problems have arisen in the best interest of the Client and the successful completion of this project.

This project may be over-simplified and deemed to be merely an exercise in "knocking down" and burying structures. However, there are a number of concerns which one must not lose site of which are specifically addressed under Section 02060 - 1.14, the major aspects being safety and fulfilling requirements of all regulatory agencies. These aspects, in addition to logistics and performance of effective work, must be carefully controlled at all times in order to ensure that the best finished product is realized.

Normally, we would attempt to resolve problems such as this in a more diplomatic manner. However, the Contractor has been virtually inaccessible day and night since this project commenced. Hence, we have no choice but to take forceful action.

.../5

86096.1
September 22, 1987
Page 5

We trust you concur with our efforts to achieve the best possible results on this project. If you or any NDOE personnel have any concerns, I would be pleased to discuss this matter further at your convenience.

Yours very truly,

THE BAE GROUP



B.J. Holley, P. Eng.

DJH/amj

**ENVIRONMENTAL INSPECTION
ABANDONED MILITARY SITES IN LABRADOR**

Prepared by: Toby Matthews
Environmental Management Division
Department of Environment and Labour
October 1996

tanks, disposal of residual fuel and burial of debris. Concrete footings and concrete dyke walls (2 sites) were permitted to remain in place.

Inspection

Date: September 5, 1996

A surveillance flyover of the lower site reveals only a few isolated barrels and a concrete dyke at the lower site and area.

A road several kilometres in length leads to the upper site and a water reservoir. The upper site is clean. Only the concrete dyke and concrete building foundations remain. Debris disposal areas were identified. All debris has been backfilled on both upper and lower areas.

A trail leads to the water supply reservoir with a concrete dam. Three barrels were observed, one of which in on a ledge at the water's edge. Contents of barrels is unknown.

North west of the lower site some kilometres distance at position 55°12.58N, 59°10.55W, a drum dump was located on a beach area. Upon examination of this site, 63 rusted empty barrels were counted. The wetlands area above the beach were scattered other barrels and along a bogland (path route) to Makkovik, a motor and scattered other fuel drums were spotted during the flyover. The area is referred to as the head of Banana Lake.

Recommendation

Consider cleanup of empty barrels and debris at the beach site and water supply area. Recover other barrels and isolated debris along route; Banana Lake to Makkovik.

Note 1:

It is not known if beach site was part of Mid Canada Line site operational activity. It appears that the lower site and the barrel littered beach are connected.

2.4 Cape Harrison

Situated: Location is some 65 kilometres generally south of Cape Allik.

Cape Harrison was transferred to Canada in 1951 for use as a radio range station by the Department of Transport. It served as a radar and communications site. The land was formerly occupied by American military who installed the station.

In 1986 a cleanup commissioned by the Department of Environment involved demolition of a building, levelling of a tower and disposal of residual fuel and fuel drums. All debris was to be buried on a designated area of the site. Eastern Demolition was the cleanup contractor.

Inspection

Date: September 5, 1996

No coordinates of the former Cape Harrison site were found in the course of the file review. An extensive flyover of Cape Harrison and area did reveal evidence of a former communications site. Forty-one propane cylinders and felled towers are remnants of a communications or radio range site. It cannot be confirmed if the site inspected is the former American and Government of Canada radio range station site.

Recommendation

Attempt to confirm ownership/control of the site inspected. If determined, require the removal of the propane cylinders and tower. There is no soil cover on Cape Harrison.

2.5 Cutthroat Island

Situated 54°30' (Lat), 57°07'(Long)

Cutthroat Island was a Terminal site on the Mid Canada Line and is referred to as a GAP Filler site. It was financed and manned by Government of the United States (USAF) until 1962. In 1962, the properties CCE and CADC (Government of Canada) assumed control of the site and assets. Buildings were sold to a Newfoundland Construction and Development Corporation by the Government of Canada (CADC).

Newfoundland's Intergovernmental Affairs Secretariat (IGA) file indicates the three parcels of land which were originally transferred for use by DND(GOC) in connection with Mid Canada Line. These transfers are referenced in appendices to this report. Pottle's Bay, South Harbour and Smoky Island are references associated with Cutthroat Island. All three are in relative close proximity to one another.

In 1986, the Department of Environment commissioned Eastern Demolition to carry out a demolition and cleanup of the Cutthroat Island site. An upper and a lower area were involved in the cleanup contract. The contract involved disposal of residual fuel, dismantling and burial of a 5 unit building above ground oil storage tank systems and the cleanup/disposal of all debris at the upper and lower sites and vicinity. The contract also included removal and disposal of a pumphouse building at the water reservoir site.

FACILITY LOCATION	SYSTEM	FINANCED & MANNED	DEACTIVATED	DOCUMENTATION	BUYER	CLEAN-UP PROBLEM
Cutthroat Island Lat 54-30 Long 57-07	NEAC Terminal MCL (Cap Filler)	USAF	1962	Properties CCE/Prop to CADC 716 date 8 Jan 62. File No. 10-F26	Buildings sold to Newfoundland Construction and Development Corp. Ltd. This company was to make arrangements with the Newfoundland Gov't for use of buildings on site.	Structures in various states of disrepair, 45 gallon and solid waste fuel dump and large fuel tank. Transformer with possible PCB liquid.
Cape Harrison	Radar & Communications					Felled towers, machinery, thousands of 45 gallon drums (empty) and one half-full drum.
North West Point (Lake Melville) 2 sites		USAF	1966	CADC S.O. 323890 and 333104 (1972)	Land was returned to province by D Prop letter 7830-G66 TD 105P (D Prop 4) 2 May 84. Buildings sold to Lincoln Construction of Happy Valley and Transport Canada.	Single felled tower plus 30 rusted 45 gallon drums (empty).
St. Anthony	Radar & Communications	USAF	1970	CADC S.O. 329148 17 May 72 and CADC S.O. 329898	Ministry of Transport (Canadian National Telecommunications) acquired some of the buildings on the site and the rest were sold by CADC to the Newfoundland Dept. of Public Works. Land transferred to Newfoundland by PC 1971-1932, 14 Sep 71.	
Fox Harbour	NEAC Terminal MCL (Cap Filler)	USAF	1962	Properties CCE/Prop to CADC 716 dated 8 Jan 62. File No. 10-F26	Buildings sold to Newfoundland Construction and Development Co. This company was to make arrangements with the Newfoundland Gov't for use of the buildings on site.	Debris, sewage tanks, dykes.
J203 Boa 55-25-48 60-58-50	MCL	Canada	1965		Land reverted to Newfoundland. Facilities sold to Newfoundland and Labrador Power Commission.	Buildings, generators, large quantities of fuel in tanks and drums.
J205 Harbour Lake 55-18-45 61-49-28	MCL	Canada	1965	S.O. 269753 9 Mar 65	Land reverted to Newfoundland. Facilities sold to Newfoundland and Labrador Power Commission.	Buildings, generators, large quantities of fuel in tanks and drums.
J207 Boa 55-24-26 62-25-00	MCL	Canada	1965	S.O. 269753 9 Mar 65	Land reverted to Newfoundland. Facilities sold to Newfoundland and Labrador Power Commission.	Buildings, generators, large quantities of fuel in tanks and drums.
J212 Border Beacon 55-20-01 63-16-15	MCL	Canada	1965		Facilities at site transferred to Transport Canada 31 Mar 64. Transport Canada to cancel provincial reservation on land.	Buildings, generators, large quantities of fuel in tanks and drums.
Typical Supplier Site:					- living quarters, equipment room, diesel room - Heliport and diesel fuel in above ground storage tanks.	

26/10/82
203
Doff
266
Doff
207

CAPE HARRISON - SOUTH HARBOUR:

To Canada: M.C. 1020-'51 1951
(N.R. 64-'51) 1951

To Nfld: None Found

Transferred to Canada for use as radio range station by D.O.T. Land formerly occupied by American military who installed the station. Condition for D.O.T. taking over was that it would remain as a radio range. Area will revert to Newfoundland from the time land ceased to be used and on the understanding that a plan survey and description of the area be forwarded to the Government of Newfoundland as soon as convenient.

Reference is in FRB Volume 1, Folio 10.

CUTTHROAT ISLAND (Pottles Bay, South Harbour, Smokey Island)

To Canada: (1) M.C. 696-'57 1957
(M.&R. 39(b)-57) (1957)

(2) M.C. 1081-'58 1958
(M.&R. 159-'58) 1958

To Nfld: (1) M.C. -'61 1961
(M.&R, 25A-'61) (1961)

(2) P.C. 1963-693 1963

- (1) three peices of land for use by DND in connection with Mid-Canada ~~Time~~. Conditions same as Inland Hopedale. *Line (c)*
- (2) 15.18 acres to be used in connection with USAF Gap Filler Unit by Canada.

For (1) M.&R. 25A-'61 verified that the property reverted to the Crown but M.C. status not clear.

For (2) the land was returned to the Province by federal P.C. according to Crown Land's file 395/28-55, but no provincial M.C. is available on recorded.

Reference is in FRB Volume 1, Folio 61 and 77.

RIGOLET: No records available.

NORTHWEST POINT:

No transfer took place.

1105.12 acres of land was used by DND to construct transmitter site. In 1974, when DND wished to return lands to province, it was noted that DND could not determine how it occupied the lands in the first place. Crown Lands told DND that when lands were requested, they were under a NALCO concession and that DND had to negotiate with that Company. No further information is contained on file. Presumably, a legal transfer

Environment Canada Responses



Government of Newfoundland and Labrador
Department of Environment & Conservation

Pollution Prevention Division
(Environment)

March 3, 2015

**RE: Phase I Environmental Site Assessment
Government of Newfoundland & Labrador
Former United States (US) Military Site
Cape Harrison (Located at "Lucyville"), NL**

To Whom It May Concern:

As a representative of the primary owner of the above listed property, I certify that Conestoga-Rovers & Associates (CRA) has been contracted to complete a Phase I Environmental Site Assessment on the above-noted property.

The Site was established in the late 1950's as a manned Gap Filler radar station that was constructed by the United States Air Force under operational control of the Cartwright Air Station and part of the Pinetree Line of Ground-Control Intercept (GCI) radar sites.

The property was originally transferred from the Province of Newfoundland and Labrador to the Government of Canada in the 1950's after which permission was granted to the US Government for their use. Operations ceased in 1961 when the property reverted back to the Government of Canada. It is my understanding the Site was transferred back to the Province of Newfoundland & Labrador in 1986.

The former Site is located at 54° 47' North Latitude and 58° 28' West Longitude. A site location map illustrating the approximate location of the property is attached.

Please release any information pertaining to this property to CRA.

Sincerely,

A handwritten signature in cursive script, appearing to read "Christa Curnew".

Ms. Christa Curnew, M.Env. Sci., P.Eng.
Project Manager – Impacted Sites
Pollution Prevention Division
Department of Environment and Conservation
Government of Newfoundland & Labrador

c.c. Brian Luffman, CRA

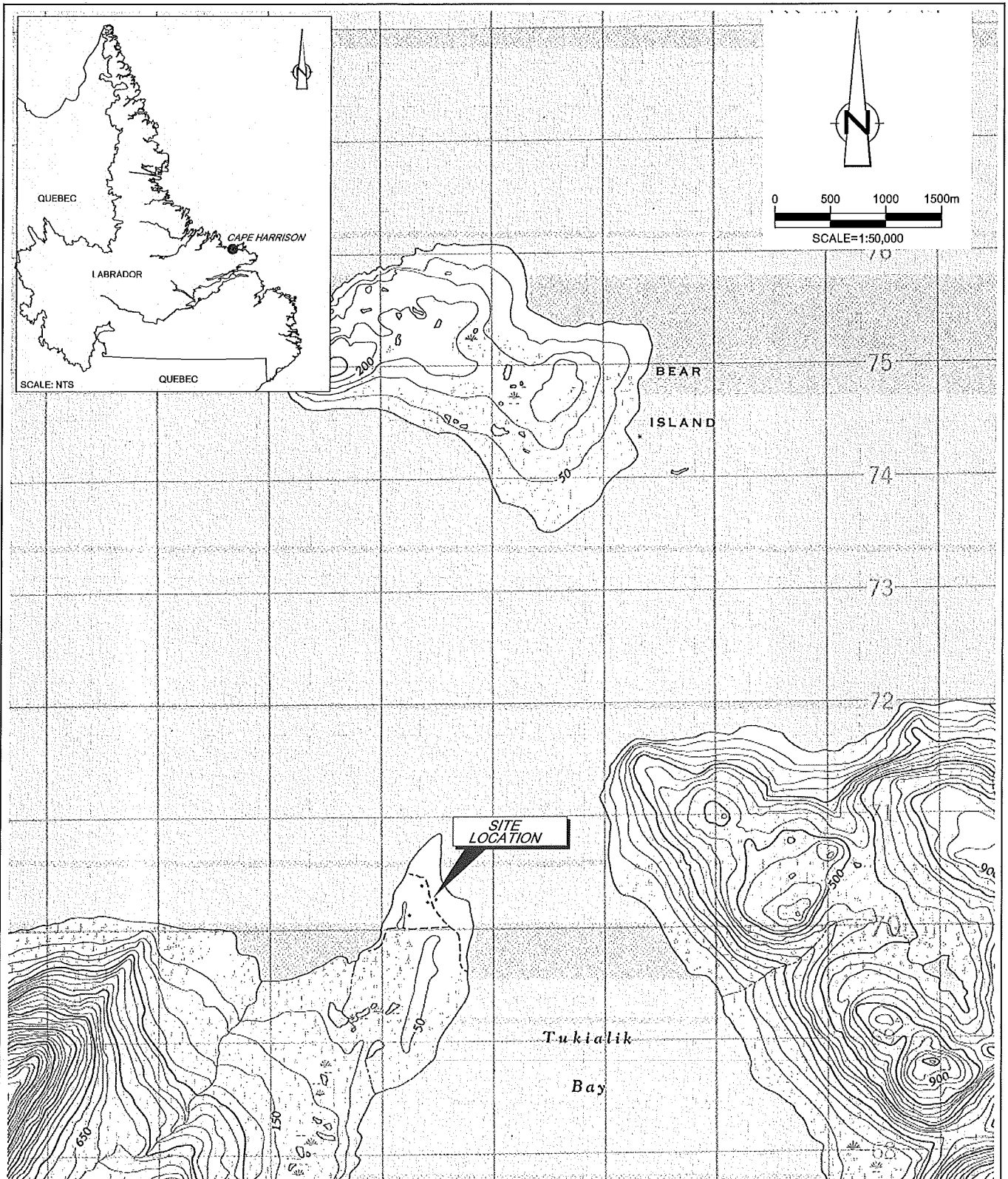


figure 1

SITE LOCATION MAP
 PHASE I ENVIRONMENTAL SITE ASSESSMENT
 DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Cape Harrison, Labrador, NL





Environment Environnement
Canada Canada

*Terrasses de la Chaudière
10 Wellington Street, 4th Floor
Gatineau, Québec K1A 0H3*

Your File Votre référence

ID: 252708

Our File Notre référence

E-2014-01713 / TL

March 9, 2015

Mr. Peter Gillingham
Conestoga-Rovers & Associates Limited
1118 Topsail Road
P.O. Box: 8353
Mt. Pearl, Newfoundland and Labrador A1B 3N7

Dear Mr. Gillingham,

This is to acknowledge receipt on March 9, 2015 of your request under the *Access to Information Act* for:

“Owner: Government of Newfoundland and Labrador

Address: The former United States Military Site, Cape Harrison (Located at “Lucyville”), NL

Please review your records and provide any available information pertaining to the environmental status of the property, such as: 1. storage tank registration, or records of tank decommissioning; 2. knowledge or records of past environmental infractions; and/or, 3. any known existing environmental concerns.

Authorized by: {Christa Curnew}”

We have started processing your request and will contact you as soon as possible. Please find enclosed our principles for assisting your request.

If you have any questions regarding this request, do not hesitate to contact me at 819-953-9390. Please quote the above file number on all future correspondence concerning this request.

Yours sincerely,

Travis Lamothe
Access to Information and Privacy Secretariat

Enclosure

Canada

Our principles for assisting your request

In processing your request under the *Access to Information Act* or *Privacy Act*, we will:

1. Process your request without regard to your identity.
2. Offer reasonable assistance throughout the request process.
3. Provide information on the *Access to Information Act* or *Privacy Act*, including information on the processing of your request and your right to complain to the Information Commissioner of Canada or Privacy Commissioner of Canada.
4. Inform you as appropriate and without undue delay when your request needs to be clarified.
5. Make every reasonable effort to locate and retrieve the requested records/personal information under the control of Environment Canada.
6. Apply limited and specific exemptions to the requested records/personal information.
7. Provide accurate and complete responses.
8. Provide timely access to the requested information/personal information.
9. Provide records/personal information in the format and official language requested, as appropriate.
10. Provide an appropriate location to examine the requested information/personal information.



*Terrasses de la Chaudière
10 Wellington Street, 4th Floor
Gatineau, Québec K1A 0H3*

Your File Votre référence

ID: 252708

Our File Notre référence

E-2014-01713 / TL

April 8, 2015

Mr. Peter Gillingham
Conestoga-Rovers & Associates Ltd.
1118 Topsail Road
P.O. Box: 8353
Mt. Pearl, Newfoundland and Labrador
A1B 3N7

Dear Mr. Gillingham,

This is further to your request under the *Access to Information Act* (the Act) for:

“Owner: Government of Newfoundland and Labrador

**Address: The former United States Military Site, Cape Harrison (Located at “Lucyville”),
NL**

Please review your records and provide any available information pertaining to the environmental status of the property, such as: 1. storage tank registration, or records of tank decommissioning; 2. knowledge or records of past environmental infractions; and/or, 3. any known existing environmental concerns.

Authorized by: {Christa Curnew}”

Pursuant to paragraphs 9(1)(a) and (c) of the Act (copy attached), an extension of 150 days is required beyond the statutory 30-day limit allowed for the processing of your request. Due to the large number of records/significant search of records involved, meeting the original time limit would unreasonably interfere with the operations of the Department. Notifications to third parties pursuant to subsection 27(1) of the Act are also required and cannot reasonably be completed within the original time limit.

Please note that the notification process pursuant to paragraph 9(1)(c) of the Act approximately takes 60 days but it could be much more if a third party challenges the release of the records in court.

Please be advised that you are entitled to complain to the Information Commissioner concerning the processing of your request within sixty days of the receipt of this notice. In the event you decide to avail yourself of this right, your notice of complaint should be addressed to:

Information Commissioner of Canada
30 Victoria Street
Gatineau, Québec K1A 1H3

.../2

Access to Information Act

EXTENSION OF TIME LIMITS

9.(1) The head of a government institution may extend the time limit set out in section 7 or subsection 8(1) in respect of a request under this Act for a reasonable period of time, having regard to the circumstances, if

(a) the request is for a large number of records or necessitates a search through a large number of records and meeting the original time limit would unreasonably interfere with the operations of the government institution,

(b) consultations are necessary to comply with the request that cannot reasonably be completed within the original time limit, or

(c) notice of the request is given pursuant to subsection 27(1)

by giving notice of the extension and, in the circumstances set out in paragraph (a) or (b), the length of the extension, to the person who made the request within thirty days after the request is received, which notice shall contain a statement that the person has a right to make a complaint to the Information Commissioner about the extension.

Notice of extension to Information Commissioner

(2) Where the head of a government institution extends a time limit under subsection (1) for more than thirty days, the head of the institution shall give notice of the extension to the Information Commissioner at the same time as notice is given under subsection (1).

Appendix C

Property Title Search Information

CONFIDENTIAL

REPORT ON PCB SPILLS AND GENERAL
ENVIRONMENTAL MISMANAGEMENT AT
EX-USAF BASES IN LABRADOR

Resource Programs Division
Intergovernmental Affairs Secretariat
Government of Newfoundland and Labrador

April 15, 1981

CAPE HARRISON - SOUTH HARBOUR:

To Canada: M.C. 1020-'51 1951
(N.R. 64-'51) 1951

To Nfld: None Found

Transferred to Canada for use as radio range station by D.O.T. Land formerly occupied by American military who installed the station. Condition for D.O.T. taking over was that it would remain as a radio range. Area will revert to Newfoundland from the time land ceased to be used and on the understanding that a plan survey and description of the area be forwarded to the Government of Newfoundland as soon as convenient.

Reference is in FRB Volume 1, Folio 10.

CUTTHROAT ISLAND (Pottles Bay, South Harbour, Smokey Island)

To Canada: (1) M.C. 696-'57 1957
(M.&R. 39(b)-57) (1957)

(2) M.C. 1081-'58 1958
(M.&R. 159-'58) 1958

To Nfld: (1) M.C. -'61 1961
(M.&R, 25A-'61) (1961)

(2) P.C. 1963-693 1963

(1) three peices of land for use by DND in connection with Mid-Canada ~~Time~~, Conditions same as Inland Hopedale. *Line @*

(2) 15.18 acres to be used in connection with USAF Gap Filler Unit by Canada.

For (1) M.&R. 25A-'61 verified that the property reverted to the Crown but M.C. status not clear.

For (2) the land was returned to the Province by federal P.C. according to Crown Land's file 395/28-55, but no provincial M.C. is available on recorded.

Reference is in FRB Volume 1, Folio 61 and 77.

RIGOLET: No records available.

NORTHWEST POINT:

No transfer took place.

1105.12 acres of land was used by DND to construct transmitter site. In 1974, when DND wished to return lands to province, it was noted that DND could not determine how it occupied the lands in the first place. Crown Lands told DND that when lands were requested, they were under a NALCO concession and that DND had to negotiate with that Company. No further information is contained on file. Presumably, a legal transfer

Appendix D

Aerial Photographs



figure D1

AERIAL PHOTOGRAPH - 1953
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cape Harrison, Labrador, NL



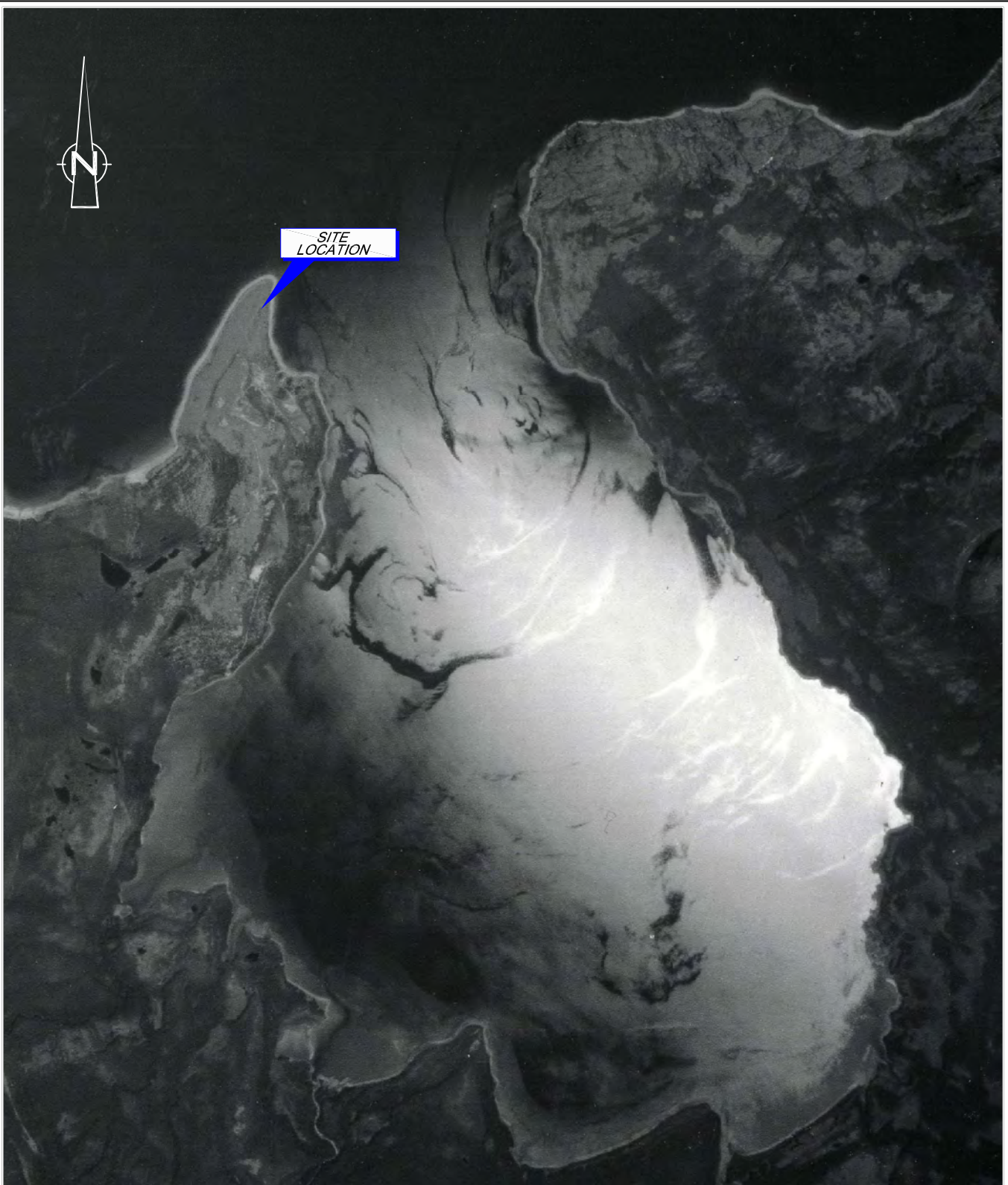


figure D2

AERIAL PHOTOGRAPH - 1968
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cape Harrison, Labrador, NL





figure D3

AERIAL PHOTOGRAPH - 2014
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cape Harrison, Labrador, NL



Appendix E

Internet Search Information

"A Friendly Invasion" 1990.

ISBN 0-920911-85-4

810.000.161

US Military Locations ~ Newfoundland

Legend

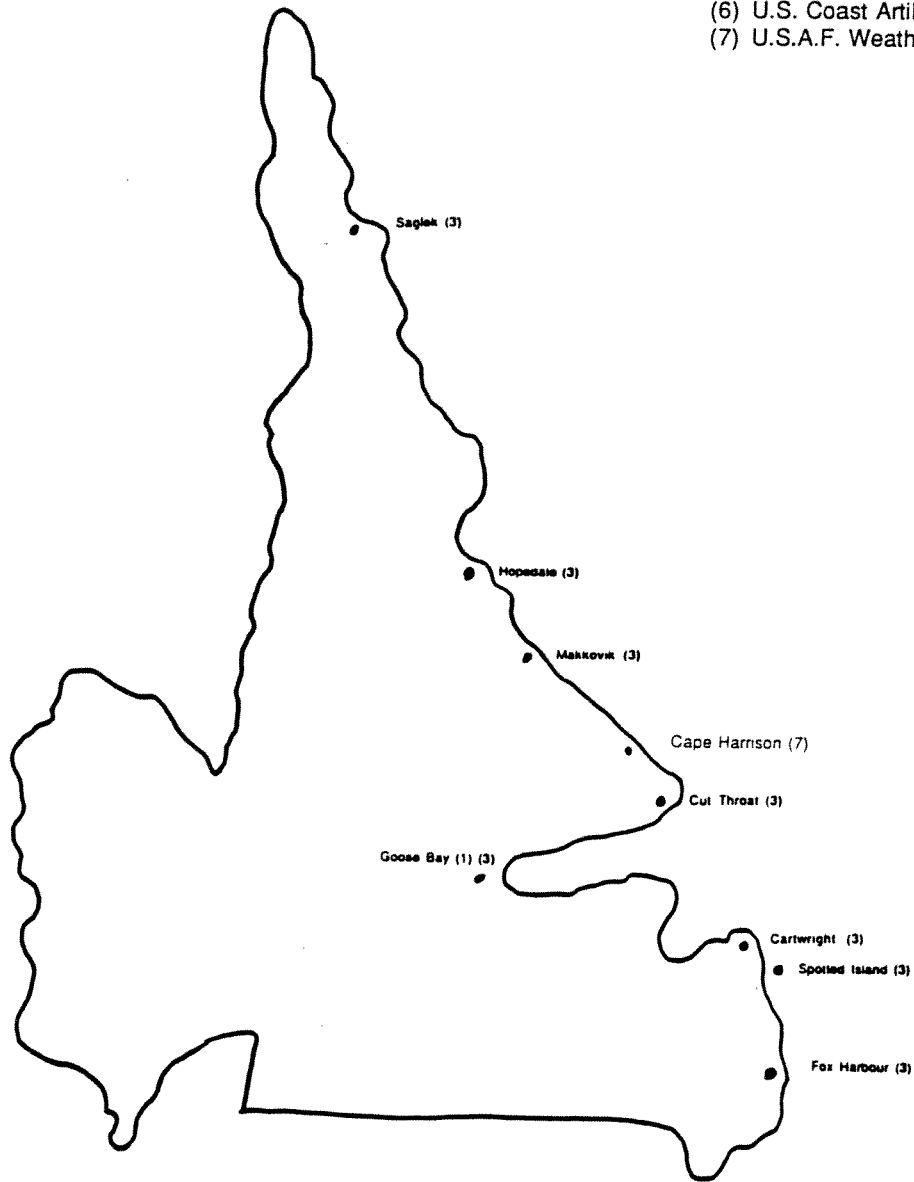
- (1) Air Force Bases
- (2) U.S. Naval Station
- (3) U.S.A.F.A.C. & W. Site
- (4) U.S. Army Repeater Station
- (5) U.S. Infantry Site
- (6) U.S. Coastal Artillery Site
- (7) Meeting location Roosevelt and Churchill 10 Aug. 1941
- (8) Transmitter Sites
- (9) Radar Site
- (10) Direction Finding Station
- (11) U.S. Army Camp Site
- (12) C.O.T.C. and U.S.A.F. Cable Buildings



US Military Locations ~ Labrador

Legend

- (1) Air Force Bases
- (2) U.S. Naval Station
- (3) U.S.A.F.A.C. & W. Site
- (4) U.S. Army Repeater Station
- (5) U.S. Infantry Site
- (6) U.S. Coast Artillery Site
- (7) U.S.A.F. Weather Station



APPENDIX A

**US Military Locations
in Newfoundland and Labrador
1940-1990**

US Air Force and Army Bases

Pepperrell AFB, St. John's
McAndrew AFB, Placentia
Gander Air Base, Gander
Torbay Airport Air Base, St. John's
Ernest Harmon AFB, Stephenville
Goose Bay Air Base, Labrador

US Army Camp Sites

Colinet
Camp 4, Salmonier Line
Camp Alexander, St. John's
Camp Morris, Stephenville
Camp 33, St. George's

US Naval Station

Argentia Naval Air Station

US Transmitter Sites

Snelgrove
St. John's
Table Mountain
St. Andrew's
Wesleyville

US Army Coast Artillery Sites

White Hills, Pepperrell, St. John's
George's Pond, Signal Hill,
St. John's
Red Cliff, St. John's
Placentia
St. George's
Stephenville
Port-au-Port
Flatrock
Cape Spear
Robin Hood Bay
Fox Island, Dunville

US Direction Finding Stations

Wesleyville
Gander
Harmon
Goose Bay
Argentia

**US Army Infantry Sites
(Look-out Towers)**

Logy Bay
Middle Cove
Torbay
Outer Cove
Flatrock
Robin Hood Bay
Pouch Cove
Placentia
Stephenville
Arnold's Cove
Port-au-Port
Cape St. Francis
Fox Island, Dunville

NASA and NRCC

**Observatory Station and
NASA Satellite Tracking Station**

Shoe Cove
Pouch Cove

US Army Signal Corps

Repeater Stations

Fort Pepperrell
Whitbourne
Shoal Harbour
Gander
Grand Falls
Millertown Junction
Howley
Corner Brook
Stephenville Crossing
Stephenville

US Army Radar Sites

Sandy Cove, Fogo Island
 Cape Bonavista
 Torbay
 St. Bride's
 Allan's Island

USAF and COTC Cable Buildings

Hampden
 Deer Lake

Current (1990) Locations of US Military in Newfoundland

Argentia Naval Station
 Gander
 Goose Bay, Labrador

USAF Weather Station

Cape Harrison, Labrador

Master Control AC&W Stations, USAF and Navy

Argentia Naval Station
 Ernest Harmon AFB, Stephenville
 Goose Bay, Labrador
 Thule Air Force Base, Greenland

US Air Force AC&W Stations and Radar Gap Filler Stations

Red Cliff, St. John's
 McAndrew AFB, Placentia
 Elliston Ridge, Bonavista Bay
 LaScie, White Bay
 Gander

Stephenville
 St. Anthony
 Jerry's Nose, Port-au-Port
 Goose Bay, Labrador
 Cartwright, Labrador
 Hopedale, Labrador
 Sagalek, Labrador
 Cape Makkovik, Labrador
 Cut Throat Island, Labrador
 Spotted Island, Labrador
 Fox Harbour, Labrador

Other US Military Locations with Headquarters at Pepperrell Air Force Base 1941 to 1961

Indian House Lake, Quebec
 (weather station)
 Fort Chimo, Quebec
 (weather station)
 Frobisher Bay, Baffin Island
 (AC&W station)
 Ungava, Ungava Bay
 (weather station)
 Mingan, Quebec
 (weather station)
 Resolution Island, Resolute Bay
 (AC&W station)
 Thule Air Force Base, Greenland
 Sonderstrom Air Base, Greenland
 Narsarsuak Air Base, Greenland
 Padloping Island, NWT
 (weather station)
 T-3 Floating Ice Station,
 Thule, Greenland
 (experimental Arctic laboratory)

WEATHER STATIONS IN THE CANADIAN NORTH AND SOVEREIGNTY

Gordon W. Smith, Edited and introduced by P. Whitney Lackenbauer

Gordon W. Smith, Ph.D. (1918-2000) dedicated much of his life to researching Canada's sovereignty in the Arctic. A historian by training, his 1952 dissertation from Columbia University on "The Historical and Legal Background of Canada's Arctic Claims" remains a foundational work on the topic, as does his 1966 chapter "Sovereignty in the North: The Canadian Aspect of an International Problem" in R.St.J. Macdonald's The Arctic Frontier. This article is derived from his unpublished manuscript, A Historical and Legal Study of Sovereignty in the Canadian North and Related Law of the Sea Problems, which was written over three decades and remained incomplete at the time of his death in October 2000. Consisting of 1600 typewritten pages (and approximately 3000 handwritten pages), this document is a treasure trove of meticulous research, rich in subtle analysis and insight. Part A, from which this article is drawn, is concerned with terrestrial sovereignty and contains 50 chapters in eight volumes. Part B deals with the law of the sea and Canadian Arctic sovereignty and contains 15 chapters in three volumes. All of the material is thoroughly and intricately footnoted, making his manuscript an invaluable base for further research into the history of Canadian sovereignty over its Arctic inheritance. I am currently working with Professor Armand de Mestral, Dr. Smith's literary executors, and the Department of Foreign Affairs to identify which sections (drawn from classified material) of this monumental study must remain closed. Our hope is to make the remainder available to scholars of Canadian and Northern history in the near future. As Arctic sovereignty and security issues return to the forefront of public debate, this invaluable resource will serve as a comprehensive foundation upon which to expand our understanding of how Canada's claims have evolved since the original transfers of the northern territories in 1870 and 1880.

* * *

A network of weather stations was established in the Canadian North during World War II, mainly by the United States, to supplement the thin scattering of Canadian stations that were already there. These weather stations were for the most part set up not specifically as projects in their own right, but rather as supportive elements in connection with the large enterprises in both the Northeast and Northwest which held the spotlight at that time. Thus, in the Northeast the weather stations were established

mainly as adjuncts to the air routes designed to facilitate the delivery of planes to the European theatre of war. In the Northwest, they were similarly designed to help in the flying of planes to the U.S.S.R. and they were also considered to be essential supplements to the huge projects which were being carried to completion in that area. During the later stages of the war, and following it, the United States embarked on a massive withdrawal from these northern projects, and almost complete American abandonment of the weather stations took place as part of this general withdrawal. After only a short interval, however, the Cold War was looming on the horizon; and the United States, and to a lesser extent Canada, began to fret once again about the safety and security of their northern regions. Partly because of this growing sense of danger, but also for economic, scientific, and technical reasons not directly related to the Cold War, there was a revival and expansion of activity in the North. As had been the case during the war, the United States was the chief instigator and principal participant in most of this activity. A major feature of it was the further development of the existing system of meteorological services, which involved both the reactivation of abandoned stations and the establishment of new ones, as well as extension to regions not previously covered. By far the most sensitive new region, in relation to both the Cold War and Canadian-American relations, was the remote, most northerly part of the Canadian Arctic Archipelago.

Weather Stations in the Northeast during World War II

In the Northeast, during the early stages of the war, about the only flights across the North Atlantic, relating to the delivery of planes, were those of bombers taking off

from Newfoundland. Such weather services as were available and useful were confirmed to the region from whence the planes departed. However, as alternative routes were developed using airports in the interior and northern parts of the continent, it became necessary to expand meteorological facilities and services. Meteorological services were provided at Goose Bay practically from its beginning in the summer and autumn of 1941, when construction of that huge base was undertaken. This was normal, of course, throughout the North, where the airports generally doubled as weather stations. Among the services provided were weather recording, weather reporting, and weather forecasting, in such detail as was considered necessary at each location. Following an urgent American request made initially through Permanent Joint Board of Defence (P.J.B.D.) channels in August 20, 1941, the Canadian Government agreed to construction of the three so-called "Crystal" stations in the Northeast and by late November the Americans had Crystal I (Fort Chimo), Crystal II (Frobisher Bay), and Crystal III (Padloping Island) established and in operation as radio, weather and emergency outposts.¹

When the United States decided, early in 1942, that it was necessary to embark upon a vast expansion of ferrying and staging facilities in the Northeast, it was recognized that this expansion would require a large network of meteorological stations. P.J.B.D. Recommendation No. 2S (June 9, 1942), which would become the working agreement between the two governments, provided for the construction of this network.²

¹ Library and Archives Canada (LAC), RG 25, Vol. 2908, File 2403-40, Breadner to Power, 21 August 1941, quoting Bissell to A.M.A. S., 21 August 1942; Moffat to Acting S. S. E. A., No. 467, 22 August 1941; Beaudry for Acting S. S. E. A. to U.S. Minister, No. 152, 22 August 1941; *Cabinet War Committee Meeting* No. 104, 22 August 1941, Minutes, secs. 1-2, 1; Alexander Forbes, *Quest for a Northern Air Route*, (Cambridge: Harvard University Press, 1953), pp. 17-37.

² LAC, RG 25, Vol. 5948, File 5021A-A-40, PJB Recommendation No. 26, sec. (d). See in Stanley Dziuban, *Military Relations Between United States and Canada, 1939-1945*, (Washington: Office of the

Practically all of the locations were in Northern Manitoba, Keewatin, and the northern Hudson Bay region, and thus were clearly intended to aid in the establishment and use of the Crimson Route. However, the American authorities were by no means sure of what they wanted to do or how they wanted to do it and one consequence was confusing and indecisive modifications and reversals of their plans during the months that followed. In a memo to Air Vice-Marshal Anderson of the Canadian section of the P.J.B.D. on May 29, 1943, Major General Henry outlined plans for the partial or total abandonment of a considerable number of weather stations which were either functioning or under construction. On the other hand the plans called for the installation or completion of posts at River Clyde (Baffin Island), Foxe Basin (Baffin Island), Hebron (northern Labrador), Stillwater (southwest of Fort Chimo in Northern Quebec), Mecatina (south of Goose Bay in Labrador), Seal Lake north of Goose Bay in Labrador), Cape Harrison (coast of Labrador), and Brochet (Northwest Manitoba).³ The fact that most of the stations to be abandoned were in the west, and most of those to be put into operation were in the east, shows that the intention now was to downgrade the Crimson Route and rely more extensively on the Goose Bay route as well as, in a smaller way, the Fort Chimo-Frobisher Bay route.

There were more revisions, but in a letter to Keenleyside on July 23, 1943, Henry set down a plan which he hoped would not be subject to further change, and which may be summarized as follows: (a) retention of 24-hour forecasting service at Frobisher Bay

Chief of Military History, Department of the Army, 1959), p. 358; and in DHH 955. 013 (D10), Vol. 3, *PJBD Journal*, 9 June 1942, sec. 12. The Journal contains also a memo dated 23 May 1942 from Col. H. A. Craig, Assistant Chief of U.S. Air Staff Plans to the U.S. senior army member P. J. B. D., detailing expected needs for radio weather stations on the N. E. Air Route.

³ LAC, RG 24, Vol. 5201, R.C.A.F. File S15-24-30, Vol. 4, Henry to AV/M Anderson, 29 May 1943, secs. 4, 5.

and Fort Chimo, (b) retention of limited forecasting and observing stations at The Pas, Churchill, and Coral Harbour, (c) retention of the following as observing stations - Duck Lake, York Bay, Island Falls, Wabowaen, Eskimo Point, Hudson Bay Junction, Gillam, Lake Harbour, and Padloping Island, (d) installation of observing stations at Brochet, Foxe Basin, Stillwater Lake, River Clyde, Hebron, Mecatina, and Indian House Lake, (e) installation of a weather reporting station and a radio range at Cape Harrison, and (f) abandonment of stations of Flin Flon, Tavani, Cape Low, Amadjuak, Fullerton, Cape Dorset, and Amadjuak Lake.⁴ The lack of correlation between this summary of stations and earlier summaries gives an indication of the fluctuations and changes in American plans.

As American interest in the Crimson Route declined, Canadian concern about the ultimate fate of the extensive facilities which had been constructed increased. Under the agreement all such facilities of a permanent nature would revert to Canada six months after the war was over;⁵ but there were also the fundamental questions of what proportion of them the Canadian Government would want to keep in working order, what use could be made of the facilities maintained, and what would happen to the remainder. This applied, of course, in both the Northeast, and the Northwest. The predominant feeling among Canadian officials was that it would be irresponsible and wasteful simply to abandon everything that had been constructed at such labour and

⁴ LAC, RG 24, Vol. 5201, R.C.A.F. File S15-24-30, Henry to Keenleyside, 23 July 1943. An ionospheric measurement station was established by the Carnegie Institute, Washington, D. C., at Clyde River in July 1943, and was taken over by the Canadian Government in April 1945. See Department of Transport File 200-20-1, "Misc. Canadian Sovereignty in the Arctic: General," Smith to Connell, 27 July 1948.

⁵ LAC, RG 25, Vol. 5948, File 50218-A-40, PJBD Recommendation No. 26, sec. (g); DHH File 314.009 (D25), Vol. 1, U.S.A.A.F. "Appreciation of the North Atlantic Ferry Routes," 6 June 1942; Vol. 2, minutes of meeting of Canadian section of PJBD, 7 January 1944, sec. 4 (h).

expense and leave it to disintegrate in ruin; and neither should an indefinite situation be perpetuated in which the United States could later assert claims of any kind.

Under the financial settlement with the United States in June 1944, dealing generally with construction in northern Canada, the Canadian Government paid \$76,811,551 to the U.S., in return acquiring "complete title to all works of permanent value at or connected with" a number of specified projects including the Hudson Bay Air Route. In addition, Canada assumed financial responsibility for \$29,599,963 worth of projects which she had constructed for the U.S. and for which it had originally been intended that she would be reimbursed. She acquired, without payment, complete title to \$13,872,020 worth of non-permanent works which the U.S. had erected in connection with the northern projects. This was a general settlement, as indicated, which was intended to apply as comprehensively as possible to all northern projects. According to the agreement, however, these financial terms would not affect existing arrangements for the maintenance, operation, and defence of the facilities in question for the duration of the war; and any modifications of these arrangements would require the mutual agreement of the two Governments.⁶

By agreement between the two parties, the target date for American withdrawal from the weather stations connected with the Crimson Route was set at July 1, 1945;⁷ and on September 22 Canadian officials were informed that this withdrawal had been

⁶ Department of External Affairs, *Canada Treaty Series* No. 19., (Ottawa: Department of External Affairs, 1944). See also Prime Minister King's announcement of the agreement, with considerable detail, in Canada, House of Commons *Debates* 1 August 1944, pp. 5706-8.

⁷ LAC, RG 25, Vol. 2908, File 2403-40, Macdonnell to Henry, 2 April 1945; LAC, RG 12, Vol. 1415, File 5150-30, Vol. 4, Graling to Deputy Minister of Transport, 15 June 1945. On 14 February 1945, the C.W.C. had approved a recommendation of the Interdepartmental Meteorological Committee that Canada take over the weather stations on the N. E. Staging Route. See Minutes of C.W.C. Meeting No. 332, 14 February 1945, secs. 17-18; also C.W.C. Document 942.

United States to the fullest possible extent in everything that pertains to the development and security of the Arctic regions....

Canada has no desire, however, to cooperate exclusively with the United States in Arctic questions. It is in Canada's interest, and in the general interest, that each northern nation should cooperate with every other in all Arctic problems.... So far as Canada is concerned, she does not relish the necessity of digging, or having dug for her, a Maginot Line in her Arctic ice. Peaceful development in cooperation with all the northern nations is Canada's sole desire....⁶⁸

Although the American desire to establish weather stations on the more northerly islands of the archipelago had been frustrated, at least in 1946, the situation was not quite so discouraging in the more southerly parts of the vast Canadian North. Although the drastic withdrawal which had taken place during the final stages of the war and afterwards had been almost completed, the Americans nevertheless still operated several weather stations and had small numbers of personnel at several others. On August 14, 1946, Maj. Gen. Henry, senior U.S. Army member of the P.J.B.D., requested permission for the U.S.A.A.F. Weather Service to reopen its wartime stations at Padloping Island (Baffin Island) and Indian House Lake (Quebec). He requested also that the Canadian weather service provide certain observations at River Clyde and Arctic Bay (Baffin Island), where it had small stations and indicated the intention of the U.S.A.A.F. Weather Service to continue operating stations at Mingan, Fort Chimo, and Mecatina (Quebec), Cape Harrison (Labrador), and Frobisher (Baffin Island). The Department of Transport responded that the U.S.A.A.F. should be permitted to reopen and operate Padloping Island and Indian House Lake until Canada could take over, and that the U.S.A.A.F. should also take over River Clyde temporarily because it wanted more there than Canada could supply. Canada, however, should continue to operate

⁶⁸ L. B. Pearson, "Canada Looks 'Down North'," *Foreign Affairs*, Vol. 24, No. 4, (July, 1946), pp. 638-647.

Arctic Bay without American assistance. The Department of External Affairs was willing to go along with these recommendations but sought the views of the Chiefs of Staff Committee.⁶⁹ This body at a meeting on September 5 also concurred but, in its recommendations to the Cabinet Defence Committee, included the following:

... that in the circumstances, the U.S. requests be accepted, but on a temporary basis only and on the explicit understanding that Canadian personnel at the discretion of the Canadian Government, be included on the staff of any station operated by the United States with the object of eventual operation by Canada, and that US authorities be asked to employ civilian weather bureau personnel rather than military personnel in the operation of these stations.⁷⁰

This recommendation was approved by the Cabinet Defence Committee at a meeting on September 18,⁷¹ and Macdonnell informed General Henry of this decision by letter on September 24.⁷²

Thus, something had been gained from the American point of view but it did nothing to solve the problem of weather stations in the most northerly islands. The

⁶⁹ LAC, RG 25, Vol. 3347, File 9061-A-40, Vol. 1, memo, drafted by Macdonnell, for Chiefs of Staff Committee, D.N.D, 29 August 1946. See also DHH File 112.3M2 (D117), "Chiefs of Staff Committee papers," brief for C. S. C. on "U.S. Meteorological Installations in Canada and Labrador" (n. d.); DHH File 955.013 (D10), Vol. 5, U.S. Army Progress Report, 13 September 1946.

⁷⁰ DHH File 112.3M2 (D331), extract from minutes of the 362nd meeting of the CSC, 5 September 1946.

⁷¹ DHH File 112.3M2 (D125), extract from minutes of 22nd meeting of CDC, 18 September 1946.

⁷² LAC, RG 85, Vol. 823, File 7140, Macdonnell to Henry, 24 September 1946. It would seem that here may have been another instance where American eagerness got ahead of Canadian authorization. Reporting on 22 July 1946, to E.G. Frere, O/C of "G" Division, R.C.M.P. Constable M. L. Cottell at Frobisher Bay wrote as follows respecting increased American activity in the area: "A number of new men are being sent up here constantly and this base is enlarging its personnel. This base is the Number one alternate Base for B29's Bombers." He complained also of the expected imposition of American censorship at the base. Frere passed on word of these and other developments, either actual or anticipated, as reported by Cst. Cottell, to the R.C.M.P. Commissioner, observing, "We have no information in this office of any such proposed projects of the U.S. Government in the vicinity referred to." He made the rather surprising suggestion that to overcome the censorship of mail the R.C.M.P. should if necessary send mail out from Lake Harbour, 100 miles distant, where there was normally only one mail pickup per year, by the *Nascopie*. There was some discussion of the matter in Ottawa, and on 6 September Deputy Minister H. F. Gordon (D.N.D.-Air), answering a letter of 12 August from the U.S.S.E.A., stated that inquiries had been made to Maj. Gen. Henry, and "We have now been informed that the American Army Air Force have approximately fifty men on temporary duty at Frobisher Bay The base may, therefore, be looked on only as a continuing weather reporting station at which facilities will be maintained for servicing by air and at the same time it will act as an emergency landing aerodrome for any aircraft flying in that area." See above letters in LAC, RG 85, Volume 2271, File 1005-2-3, Vol. 2.