Phase I Environmental Site Assessment

Former Military Mid Canada Line Radar Site 203
BOA-Hunt Lake, 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 Mid Canada Line (MCL) Radar Site 203 known as BOA - Hunt Lake (Site or Property) located approximately 47 kilometers west of the Town of Hopedale, Newfoundland and Labrador (NL). The BOA - Hunt Lake facility operated as a Doppler Detection Station. Each Doppler location consisted of an upper Site containing radar equipment and ancillary support services and a lower Site, several kilometers away, situated on the shores of a lake/river. The lower Site is essentially a fuel storage facility from which fuel was hauled in winter to the upper Site. The Sites were remote and accessible only by helicopter at the upper Site and by fixed wing or helicopter at the lower Site. Based on the information provided to GHD as part of the initial call-up for services under the Impacted Sites Liability Assessment Program, the Site was part of the MCL.

The MCL was a series of radar stations located along the 55th parallel between Alaska and Newfoundland built to supplement the less-advanced Pinetree Line, which was located further south. Around 1951, the US military began construction of the Pinetree Line that was a network of Aircraft Control and Warning (AC&W) stations that acted as a radar curtain to detect Soviet aircraft flying toward potential US and Canadian targets during the Cold War. Construction of the Pinetree Line had only just begun when there were concerns about its capabilities and the fact it would be possible for Soviet bombers to evade detection by flying lower. They would eventually be seen as they approached the stations, but possibly so late that there would be no possibility of intercepting them. The MCL Doppler detection radar system was built to avoid this problem by using a transmitter and receiver, separated by approximately 90 km. Any aircraft flying between the antennas would be detected when it entered the beam, causing the received signal to change, thus allowing the identification and interception of enemy aircraft. Around 1953, the MCL had been approved; however, unlike the jointly-operated Pinetree Line and future Distant Early Warning Line (DEW Line), the MCL would be funded and operated entirely by the Royal Canadian Air Force (RCAF).

Construction of the MCL began in 1956, and was declared fully operational on January 1, 1958. The BOA - Hunt Lake facility formerly contained a one story operations building housing the radio equipment, a heating and power plant, sleeping area, and a kitchen. The station was also equipped with four Communication Antennae towers linked by a cable trough and wood trestle, an emergency shelter, nine aboveground storage tanks (ASTs), and a helicopter pad, all of which were connected via gravel access roads. In

addition to the BOA - Hunt Lake station facilities on top of the hill, a lower Site was located approximately two kilometres northeast of the upper Site, situated on the shores of Hunt Lake (also known as Hunt River). The lower Site was essentially a fuel storage facility from which fuel was hauled in winter to the upper Site. The lower Site formally contained a building (unknown size) and seven ASTs.

It was not long before the RCAF started to have reservations about the costs of maintaining the Line. The extra time offered by the MCL was not considered worth the trouble of keeping the line operational. Even before the line became operational, a new and more capable line was already under study that would combine the plotting capability of the Pinetree system with the line-breaking capabilities of the MCL, and located much further north to dramatically improve the detection and response times, known as DEW Line, which became operational in 1957. The entire MCL including the BOA - Hunt Lake station was shut down in April 1965.

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. The concrete foundations of the former structures still remain at the Site.

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 Doppler detection station in a remote location, significant quantities of fuel was formerly stored at the Site in ASTs, as well as in thousands of Petroleum, Oils and Lubricants (POL) drums. The Site also formerly contained a helicopter landing pad that contained drum storage. 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 (in the area of the former ASTs), the lower Site (in the area of the former ASTs),

along the former product pipelines, and the former helicopter landing area, as well as in the former landfill area.

- **Solid Waste/Recyclables:** During the operation of the facility from 1957 to 1965 solid waste was historically disposed in an unlined landfill (unknown location). Based on historical activities at the Site, the landfill may contain former asbestos-containing building materials; 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. It is noted that the contractor typically buried the debris in at least two locations when the Site contained an upper and lower site. This was completed due to the distance and effort required to transport metal/other debris from the lower Site to the upper Site. Although not documented, it can be assumed this was the case during the Site decommissioning at the BOA - Hunt Lake station. The location of the burial sites was not identified in the documents review; however, the tender documents for the 1987 site restoration program required the debris to be buried in a 150 metre radius from the former Site infrastructure. 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.
- **Heavy Metals:** Possible sources of heavy metals may be associated with past operations. The former on-Site buildings were constructed in the 1950s; 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 of PCBs was 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 BOA - Hunt Lake station was in operation from approximately 1957 to 1965.

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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 Mid Canada Line (MCL) Radar Site 203 known as BOA - Hunt Lake (Site or Property) located approximately 47 kilometers west of the Town of Hopedale, Newfoundland and Labrador (NL). The BOA - Hunt Lake facility operated as a Doppler Detection Station. Each Doppler location consisted of an upper Site containing radar equipment and ancillary support services and a lower Site, several kilometers away, situated on the shores of a lake/river. The lower Site is essentially a fuel storage facility from which fuel was hauled in winter to the upper Site. The Sites were remote and accessible only by helicopter at the upper Site and by fixed wing or helicopter at the lower Site. Based on the information provided to GHD as part of the initial call-up for services under the Impacted Sites Liability Assessment Program, the Site was part of the MCL.

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 a Site Plan of the Lower Site, and Upper Site are included as Figure 3, and 4; respectively.

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

The MCL was a series of radar stations located along the 55th parallel between Alaska and Newfoundland built to supplement the less-advanced Pinetree Line, which was located further south. Around 1951, the US military began construction of the Pinetree Line that was a network of Aircraft Control and Warning (AC&W) stations that acted as a radar curtain to detect Soviet aircraft flying toward potential US and Canadian targets during the Cold War. Construction of the Pinetree Line had only just begun when there were concerns about its capabilities and the fact it would be possible for Soviet bombers to evade detection by flying lower. They would eventually be seen as they approached the stations, but possibly so late that there would be no possibility of intercepting them. The MCL Doppler detection radar system was built to avoid this problem by using a transmitter and receiver, separated by approximately 90 km. Any aircraft flying between the antennas would be detected when it entered the beam, causing the received signal to change, thus allowing the identification and interception of enemy aircraft. Around 1953, the MCL had been approved; however, unlike the jointly-operated Pinetree Line and future Distant Early Warning Line (DEW Line), the MCL would be funded and operated entirely by the Royal Canadian Air Force (RCAF).

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It was not long before the RCAF started to have reservations about the costs of maintaining the Line. The extra time offered by the MCL was not considered worth the trouble of keeping the line operational. Even before the line became operational, a new and more capable line was already under study that would combine the plotting capability of the Pinetree system with the line-breaking capabilities of the MCL, and located much further north to dramatically improve the detection and response times, known as DEW Line, which became operational in 1957. The entire MCL including the BOA - Hunt Lake station was shut down in April 1965.

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. The concrete foundations of the former structures still remain at the Site.

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 March 4, 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 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.
- Correspondences 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 (Titan Holdings 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 accepting the contractors (Titan Holdings Limited) additional costs for the removal and disposal of approximately 35 drums, garbage dump and other debris along the shoreline and woods east of Site 203 (lower).
- 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 11 and April 7, 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.) 20 - '57	1957
	(M. & R. 3 –'57)	(1957)
To NL:	(M.A. & R. 3 (c) - '65	(1965)
	Privy Council (P.C.) 1965-1125	

Conveyed to Department of National Defence (DND) in connection with the Mid Canada Line negotiation. The lots were transferred back to the Province on June 18, 1965 by federal P.C. (See M.A. &R. 3(C) –'65) and approved 29 10 1965 but no M.C. has been found for any of the lots. Conditions of original transfer were that the lands of all times had to be used for the purposes of and in connection with Mid Canada Line and were to revert to Newfoundland in the event that they ceased to be used for that purpose.

Reference is in Federal Reservation Book (FRB) Vol. 1, Folio 50.

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

3.3 AERIAL PHOTOGRAPHS

Aerial photographs from 1968 and 2010 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 1968 aerial photograph shows both the upper and lower part of the Site. Due to the scale of the aerial photography, specific details regarding the Site are not visible; however, both areas appear to be cleared and developed with structures (buildings, and/or communication towers) present.

The 2010 aerial photograph shows the former Site as decommissioned with only the concrete foundations from the former structures remaining.

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 Site 203 BOA - Hunt Lake), details of land transfers for the various sites, the potential for PCB impacts at these former radar locations, inventories of ASTs, PCBs 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. Based on a review of the report, the following information was obtained for the BOA - Hunt Lake station:

- Site closed in 1965
- Infrastructure was decommissioned in 1986
- Residual fuel in the ASTs was burned off during the decommissioning program
- All debris (cut barrel/tanks, demolished buildings, garbage, etc.) was buried on-Site in various locations
- Site restoration contractor returned to the upper Site to dispose of approximately 900 barrels found approximately 190 metres east of the former helipad
- Inspection completed September 4, 1996
- Evidence of a major forest fire in the area of the former Site
- Only concrete foundations remain in the upper Site
- Several rusted barrels/drums were noted in lower Site area (possibly hidden prior to recent forest fire removing trees)
- Approximately 50 barrels/drums noted at base of cliff scattered among large boulders

3.5 INTERVIEWS

GHD was unable to contact anyone to interview regarding the former US Military Mid Canada Line Radar Site 203 known as BOA - Hunt Lake.

4.0 ENVIRONMENTAL PROPERTY ASSESSMENT

At the request of ENVC, a Site visit was not be 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.

4.1 PROPERTY OVERVIEW

The Site is located approximately 47 kilometers west of the Town of Hopedale, NL. The BOA - Hunt Lake facility formerly contained a one story operations building housing the radio equipment, a heating and power plant, sleeping area, and a kitchen. The station was also equipped with four Communication Antennae towers linked by a cable trough and wood trestle, an emergency shelter, nine aboveground storage tanks (ASTs), and a helicopter pad, all of which were connected via gravel access roads.

In addition to the BOA - Hunt Lake station facilities on top of the hill, a lower Site was located approximately two kilometres northeast of the upper Site, situated on the shores of Hunt Lake (also known as Hunt River). The lower Site was essentially a fuel storage facility from which fuel was hauled in winter to the upper Site. The lower Site formally contained a building (unknown size) and seven ASTs.

Following the installation of the new DEW Line further north in 1957, which improved the detection and response times dramatically there was no longer a need for the MCL. The BOA - Hunt Lake station closed in April, 1965 along with the other MCL Stations. The former buildings, towers, ASTs and equipment remained abandoned until the Provincial government tendered a contract to dismantle and decommission the remaining structures at the Site in 1987. The concrete foundations of the former structures still remain at the Site. A Site Location Map is included as Figure 1, a Site Overview is shown as Figure 2, and a Site Plan of the Lower Site, and Upper Site are included as Figure 3, and 4; respectively.

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 less than

1 percent). Both surface and groundwater at the upper Site are anticipated to follow the surface contours in the area and flow north and south depending on your location on the Site. Surface and groundwater at the lower site are anticipated to follow the surface contours and flow north toward Hunt Lake (also known as Hunt River), which is located adjacent to and north of the lower portion of the Site. The elevation at the upper portion of the Site is approximately 350 metres above sea level (masl), while the elevation at the lower is approximately 40 masl.

The Site is not currently serviced with water or sewer, historically domestic drinking water was imported to the Site and septic was discharged via an above ground pipeline to a septic tank. 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 upper portion of the Property is bordered to the north, east, south, and west by undeveloped land. The lower portion of the Property is bordered to the north by Hunt Lake and to the east, south, and west by undeveloped land (see Figure 2).

A review of the “Granular-Aggregate Resources of the 13J/12 NTS Map Sheet”, issued by the Government of Newfoundland and Labrador, Department of Natural Resources, Geological Survey (Map 2010-42) indicates that the Site surficial geology consists of commonly gravel or sand, having silt-clay content of less than 5%. Deposits are commonly graded and stratified. A soil sample collected from the vicinity of the Site was analyzed for grain size analysis and indicated the material is made up of 55.4% gravel, 42.6% sand and 2% silt and clay, otherwise coarse-grained.

A review of the “Geological Map of Labrador”, Geology Survey Branch, Department of Mines and Energy, Government of Newfoundland and Labrador (Map 97-07) indicates that the bedrock in the vicinity of the Site consists of Meso-Archean of Archean age tonalitic to granodioritic migmatic orthogneiss containing abundant mafic to ultramafic inclusions and relict mafic dykes of the Southern Nain and Makkovic Provinces.

4.3 UNDERGROUND STORAGE TANKS (USTs)

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

The following ASTs were previously located on-Site:

- Five steel 6,819 Litre (L) ASTs (listed as 1,500 gallon), located at the upper Site (exact locations unknown), which contained diesel fuel.
- Four steel 9,547 L ASTs (listed as 2,100 gallon), located at the upper Site (exact locations unknown), which contained diesel fuel.
- Seven steel 9,547 L ASTs (listed as 2,100 gallon), located at the Lower Site (exact locations unknown), which contained diesel fuel.

Based on the 1981 report entitled: "*PCB Spills and General Environmental Mismanagement at EX-USAF Bases in Labrador"* the 1980 Site inspection revealed approximately 21,300 litres of diesel fuel remaining in the ASTs at the upper Site and approximately 2,850 litres of diesel fuel remaining in the ASTs at the lower Site.

In addition to the ASTs noted above, Site records also indicate the supply and use of Petroleum, Oils and Lubricants (POL) drums for the storage of fuel. Below are known locations in which drums were used/stored to supply fuel:

- Drums for refueling of helicopters at the former helicopter pad
- Upper Site
- Lower Site

The 1980 Site inspection report discussed above also revealed approximately 80 - 45 gallon fuel oil drums scattered throughout the upper Site and approximately 350 – 45 gallon drums located at the lower Site (see Appendix B).

Past use of other ASTs was not revealed from the records review, historical searches, 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 on-Site latrine was equipped with a septic tank (unknown location). 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, 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 1957 to 1965 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. It is noted that the contractor typically buried the debris in at least two locations when the Site contained an upper and lower site. This was completed due to the distance and effort required to transport metal/other debris from the lower Site to the upper Site. Although not documented, it can be assumed this was the case during the Site decommissioning at the BAO - Hunt Lake station. The location of the burial sites was not identified in the documents review. 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.

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, or regulatory responses.

4.9 WASTEWATER

Past disposal of wastewater existed during the operation of the Site from 1957 to 1965. A washroom with a toilet and sink was present in the former building that produced wastewater, which were discharged into the on-Site septic tank. Other wastewater disposal activities were not revealed from the records review, historical searches, or regulatory responses.

4.10 STORMWATER

Stormwater run-off from the upper Site would follow local topography and would flow north or south, depending on your location on the Site. Stormwater run-off from the lower Site is mainly directed north by overland flow toward Hunt Lake (also known as Hunt River), which is located adjacent to and north of the lower portion of the Site. Sources of adverse impacts from stormwater run-off were not revealed from the records review, historical searches, 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 ACM containing building materials may 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 and/or debris pits completed during the 1987 Site decommissioning program.

No other sources of ACM were revealed from the records review, historical searches, or regulatory responses.

4.12 POLYCHLORINATED BIPHENYLS (PCBs)

Past use of 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 BOA - Hunt Lake station was in operation from approximately 1957 to 1965.

Other sources of adverse impacts from PCBs were not revealed from the records review, historical searches, 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 all terrain vehicle (ATV) and helicopter repairs. In addition, the former on-Site buildings were constructed in the 1950s; 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, 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, 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, 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, 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, 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 Doppler detection station in a remote location, significant quantities of fuel was formerly stored at the Site in ASTs, as well as in thousands of Petroleum, Oils and Lubricants (POL) drums. The Site also formerly contained a helicopter landing pad that contained drum storage. 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 (in the area of the former ASTs), the lower Site (in the area of the former ASTs), along the former product pipelines, and the former helicopter landing area, as well as in the former landfill area.
- **Solid Waste/Recyclables:** During the operation of the facility from 1957 to 1965 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. It is noted that the contractor typically buried the debris in at least two locations when the Site contained an upper and lower site. This was completed due to the distance and effort required to transport metal/other debris from the lower Site to the upper Site. Although not documented, it can be assumed this was the case during the Site decommissioning at the BOA - Hunt Lake station. The location of the burial sites was not identified in the documents review. 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.

- **Heavy Metals:** Possible sources of heavy metals may be associated with past operations. The former on-Site buildings were constructed in the 1950s; 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 of PCBs was 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 BOA - Hunt Lake station was in operation from approximately 1957 to 1965.

All of Which is Respectfully Submitted,

GHD Limited

James O'Neill, P. Eng.

Hubert Anderson

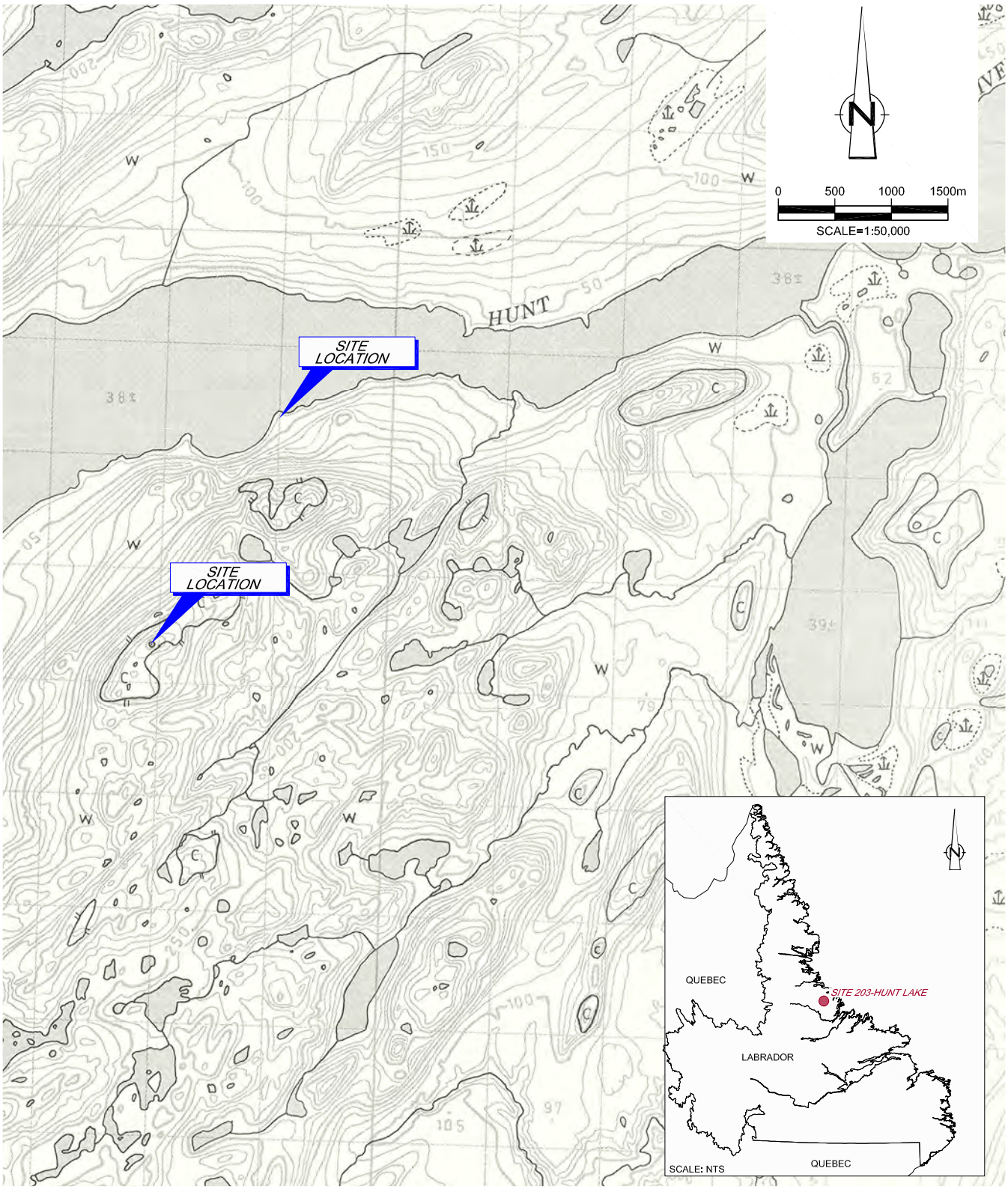


figure 1

SITE LOCATION MAP
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Site 203-BOA, Hunt Lake/River, Labrador, NL

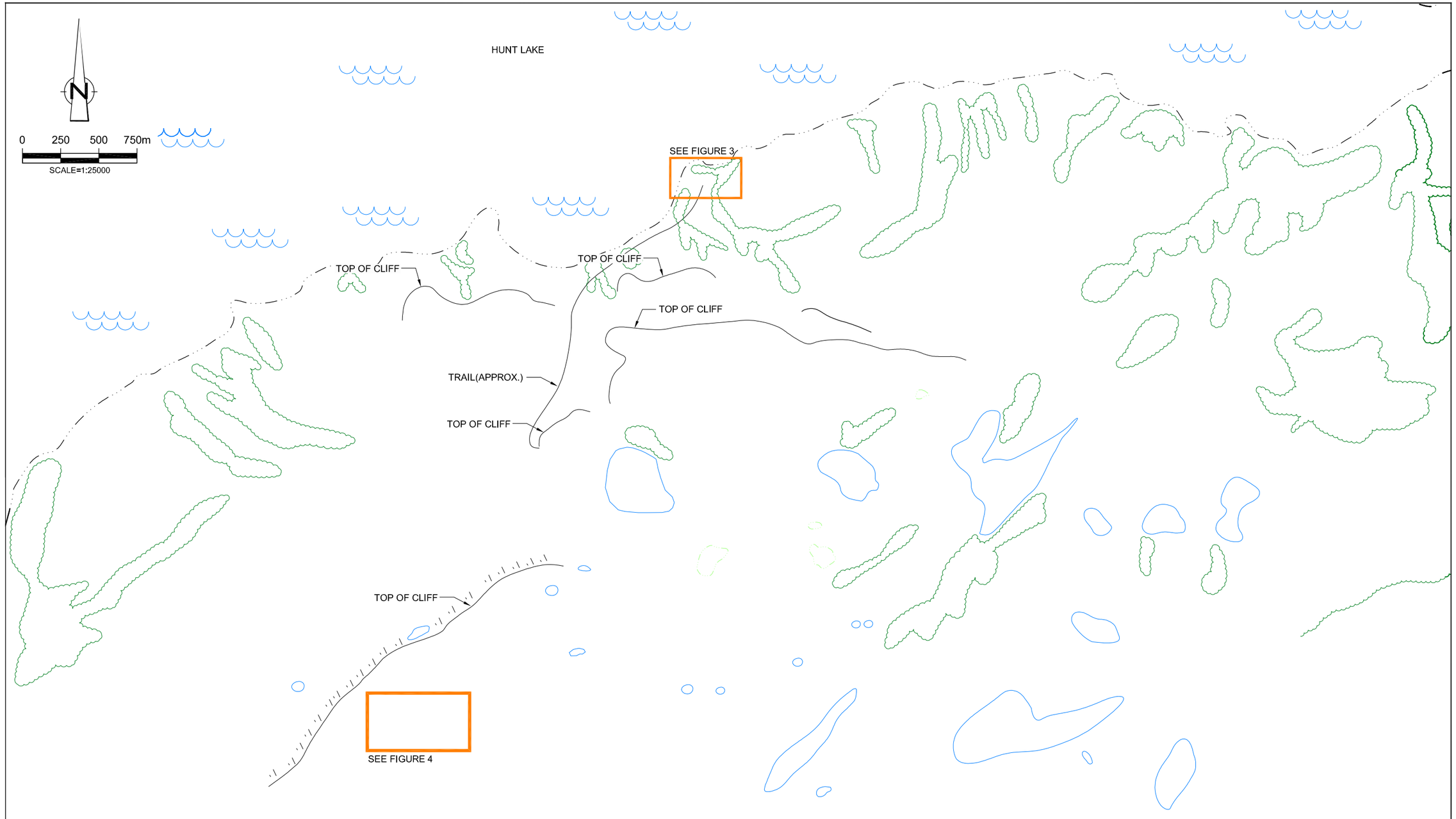


figure 2

SITE OVERVIEW
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Site 203-BOA, Hunt Lake/River, Labrador, NL

089758-00(008) GN-NL002

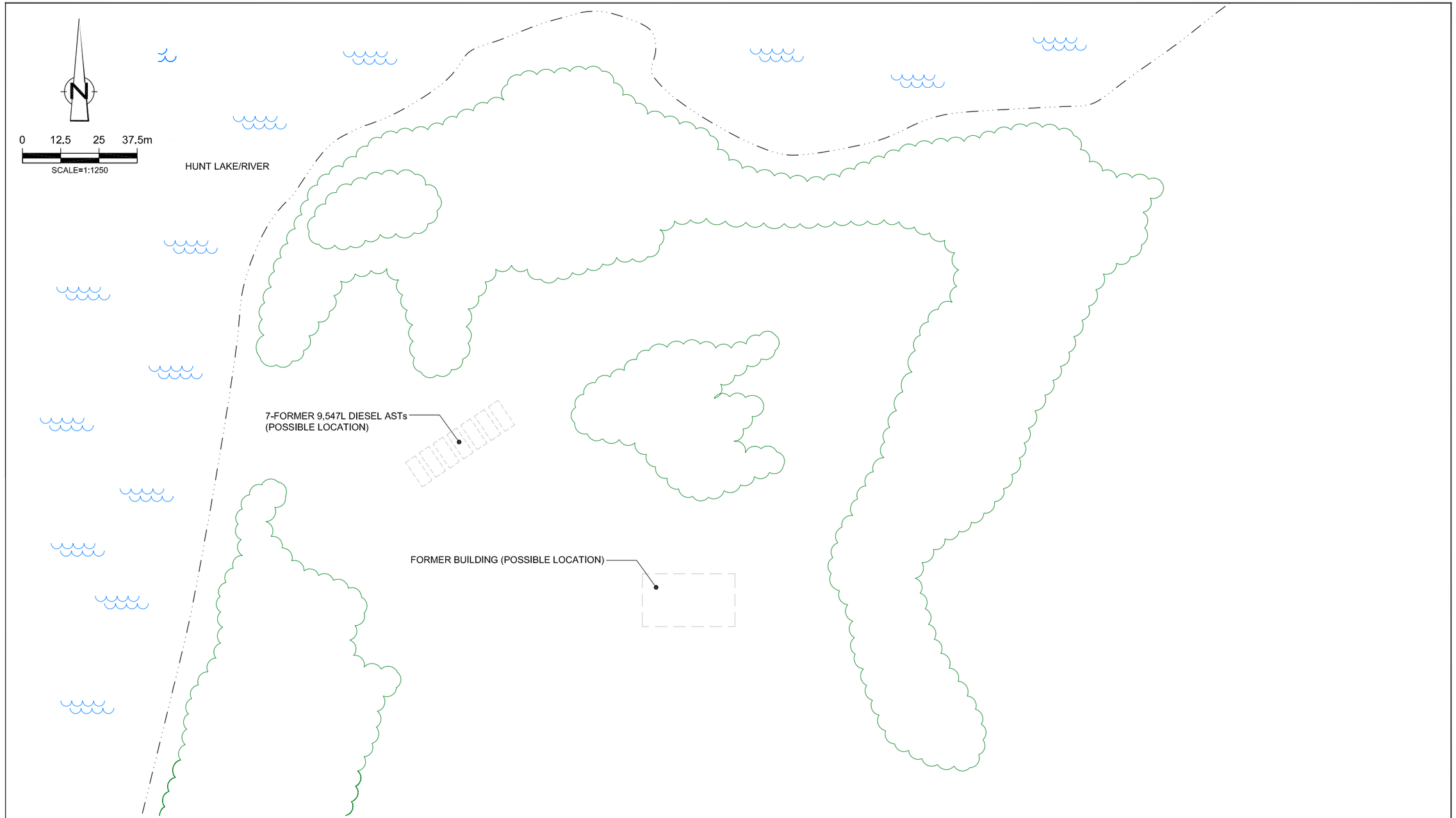


figure 3

SITE PLAN - LOWER SITE
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Site 203-BOA, Hunt Lake/River, Labrador, NL

089758-00(008) GN-NL003

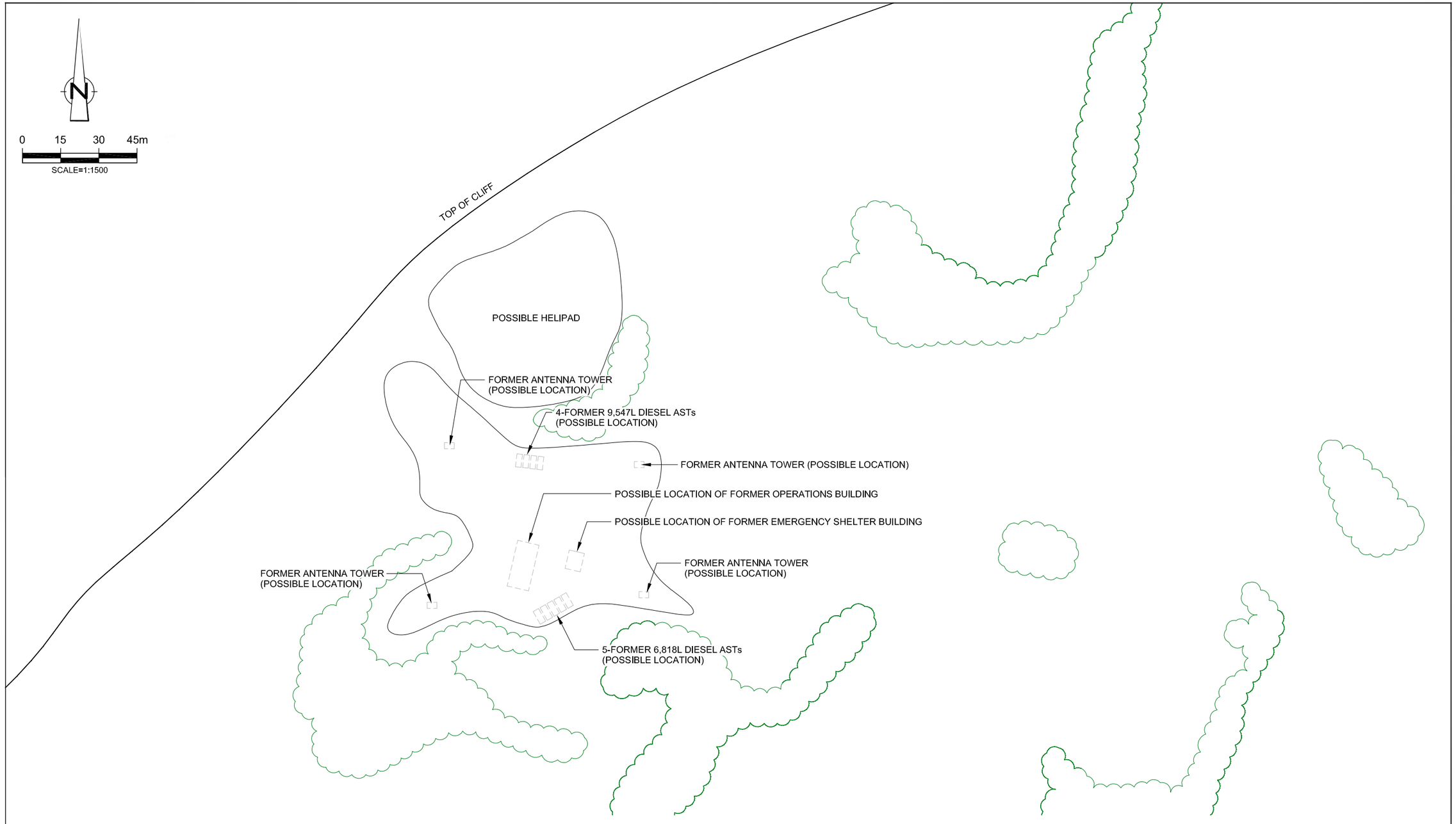


figure 4

SITE PLAN - UPPER SITE
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Site 203-BOA, Hunt Lake/River, Labrador, NL

089758-00(008) GN-NL004

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 4, 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 203 – Doppler Detection Station, (Hunt Lake/River), NL

MESSAGE

Conestoga-Rovers & Associates Ltd. (CRA) is currently conducting a Phase I Environmental Site Assessment of the former United States Military Site 203 – Doppler Detection Station (Hunt Lake/River), 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

Newfoundland Labrador

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
Site 203 – Doppler Detection Station, Hunt Lake/River, NL (Call Sign BOA)

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 as part of the Mid-Canada Line, a network of communication posts across Canada funded by the United States Air Force. The Site was activated in the late 1950's and continued to operate until the mid 1960's.

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 1965 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 55° 26.5' North Latitude and 61° 00' 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,

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

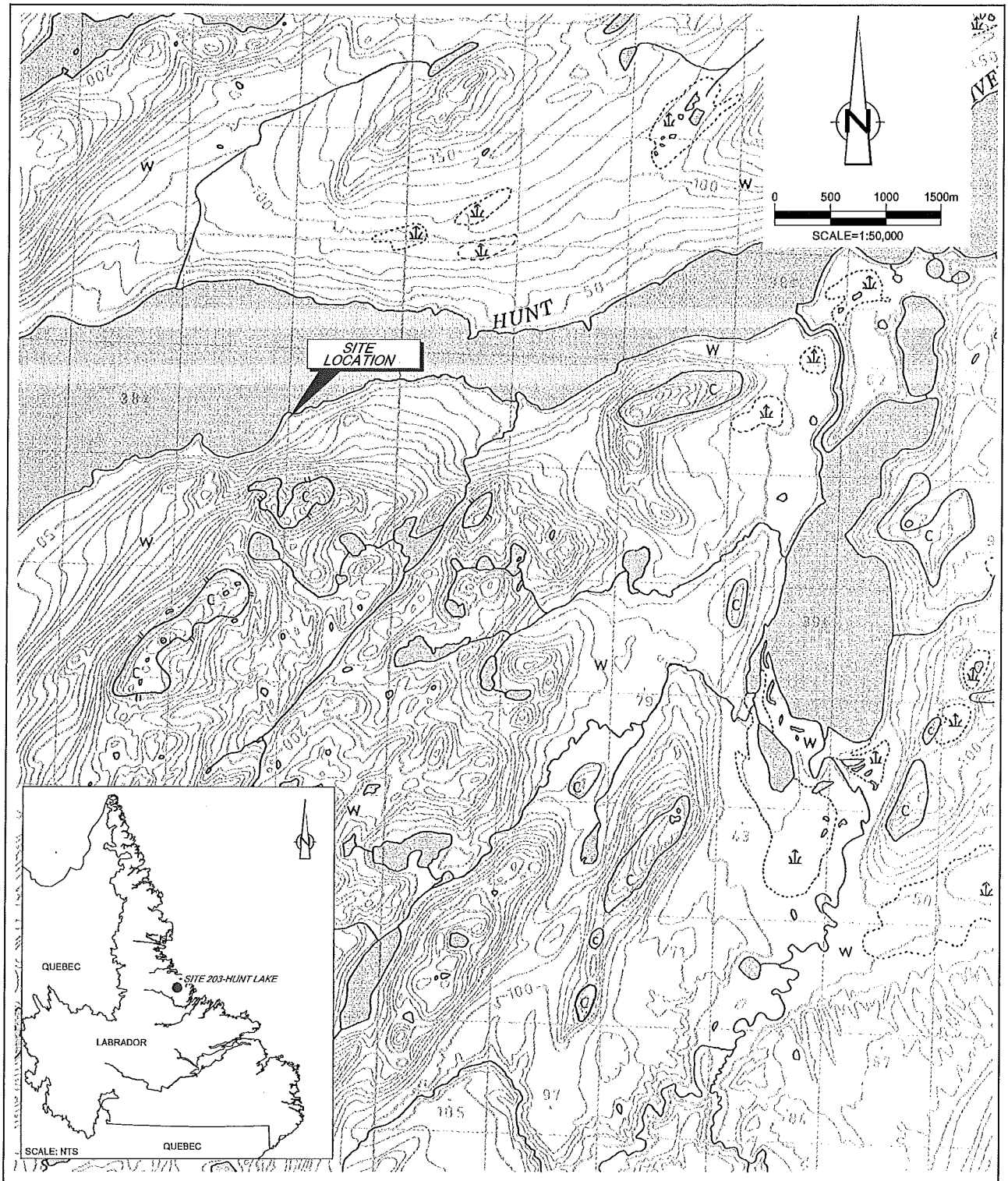


figure 1

SITE LOCATION MAP
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Site 203-Hunt Lake, Labrador, NL

089758-00(008) GN-NL001

Newfoundland Labrador

Government of Newfoundland and Labrador
Service NL

March 4, 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 203, Hunt Lake/River, NL

This refers to your request dated March 4, 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

However, it was determined that Melville Station was never returned and, therefore, it did remain a federal responsibility.

Largely as a result of questions asked at the Commons' Standing Committee on fisheries and forestry meeting on November 8, 1979, the EPS identified several other locations where the possibility of finding spilled PCBs existed. The EPS listed Argentia, Corner Brook, Port-au-Port, Gaultois, St. John's, Springdale, Bishops Falls in Newfoundland and Cape Aillik, Hunt River, Pottles Bay, Spotted Island and Fox Harbour in Labrador. The list of concerns for Labrador has later been refined to the list described in Table I earlier, and this provided the basis for the upcoming site inspection.

Hunt River 203: - The upper site is comprised of two buildings on top of a hill. In the main building were found: -

- 1, Gyro-Flo (125) generators on the ground near the fallen tower
- 3, diesel generators (Dorman) in good condition with associated electrical equipment
- 1, kitchen area
- 1, all-terrain vehicle
- 1, felled tower

Contaminants include:

- 80, 45-gal. drums jet B fuel, some full and some empty. Total is estimated at 800 gals
- 4, 2100-gal. capacity diesel tanks are 5/8 full. Total is estimated at 5250 gals.
- 5, 1500-gal. capacity diesel tanks are 3/4 full
  Total is estimated at 5,625 gals.

The lower site is located on the shore of a lake. There are no buildings left. The area is littered with an estimated 350 empty 45-gal. drums which are rusted. 7, 2100-gal. capacity diesel tanks with a few inches of fuel in each (the tanks are inter-connected) totalling about 750 gallons are left. This lower site is a hazard to the acquatic environment if drums do leak.

Site 206: - The upper site has two buildings similar to site 203 at Hunt River. The main building contains 3 diesel generators and associated electrical equipment in excellent condition. A smaller building contains a large diesel heater. On the site, towers have been felled and approximately 150, 45-gal. empty drums litter the upper site. A diesel generator lies on the ground near the towers. Contaminants at the upper site include 4, 2100-gal. capacity diesel tanks which are 1/4 full or less. Total capacity is estimated at 1800 gallons. Also 5 diesel tanks of about 1500 gals. capacity are present. Each tank has a few inches of fuel in the bottom for an estimated total of 250 gals.

At the lower site there are two cabins and a metal frame building (8 ft. by 8 ft.). Contaminants include 7, 2100 gal. empty fuel tanks and 55, 45-gal. full drums of Jet B fuel (total is 4475 gals.).

The local acquatic environment is also threatened if the tanks or drums leak. Disposal is recommended, preferably by burning fuels.

Site 209: - The upper site's main building contains electronic (radio) equipment in good condition. (The site is similar to the 203 and 206 sites) Three diesel generators with associated equipment including batteries in series are noted. One of the generators is scrapped. One other diesel generator is on the ground outside the building. A second small building is located on the upper site.

In the main building are six capacitors (capacity is one pint) containing Aerowax Hyvol Oil (PCBs). They are on a beach in the building and are not leaking. Also there are:

- 4, 2100-gal. diesel tanks, 1/2 to 1/3 full (total is estimated 2800-4200 gals.)
- 1, 1 lb. tin alkali "R" cannister in small building next to the main facility at the upper site
- 5, 1500 gal (approx.) diesel tanks which are 1/3 full (Total is estimated at 2500 gals.)
- 1, 100 lb. compressed gas fire extinguisher, dry chemical 1500 psi, full

SAGLEK:

To Canada:	M.C. 163-'65 (M.A.&R. 8-'65)	1965 (1965)
To Nfld:	P.C. 1976-2983 M.C. 1111-'77	1976 1977

Conveyed along with Hopedale to the Department of National Defense. Conditions included mineral and gas rights for the Province and a return clause stating that when lands no longer used by DND, they will be assumed by Newfoundland.

Reference is in Federal Reservation Book (FRB), Vol. 2 Folio 46/49.

HUNT RIVER - BORDER BEACON (INLAND HOPEDALE):

To Canada:	M.C. 20-'57 (M.&R. 3-'57)	1957 (1957)
To Nfld:	(M.A.&R. 3(c)-'65) P.C. 1965-1125	(1965) 1965

Conveyed to DND in connection with Mid Canada Line N gotiation on Lot 212 indicates it was transferred to the control of the Department of Transport (Federal). The other lots were transferred back to the Province on June 18, 1965 by federal P.C. (See M.A.&R. 3(c)-'65) and approved 29-10-1965 but no M.C. has been found for any of the lots. Conditions of original transfer were that the lands of all times had to be used for the purposes of an in connection with mid Canada Line and were to revert to Newfoundland in the event that they ceased to be used for that purpose.

Reference is in FRB Volume 1, Folio 50.

HOPEDALE

To Canada:	M.C. 163-'65 (M.A.&R. 8-'65)	1965 (1965)
To Nfld:	P.C. 1976-2983 M.C. 111-'77	1976 1977

Conveyed along with Saglek to DND. Conditions are same as for Saglek.

Reference is in FRB Volume 2, 46/49.

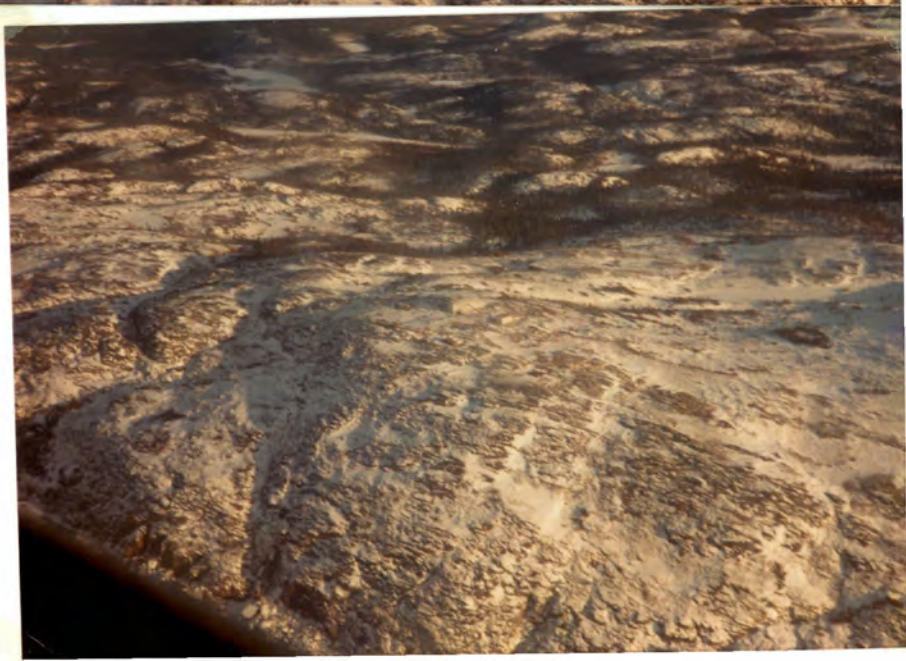
CHURCH ISLAND: No records available.

CAPE AILLIK (MAKKOVIK):

To Canada:	M.C. 697-'57 (M.&.R. 39(c)'57)	1957 (1957)
To Nfld:	M.C. 203-'63	1963

Two pieces of land transferred to Canada for use by DND in connection with mid Canada Line. Area A is 16.64 acres; Area B is 104.23 acres. Use and conditions the same as for Inland Hopedale.

Reference is in FRB Volume 1, Folio 60.



EXECUTIVE COUNCIL
NEWFOUNDLAND AND LABRADOR

NDHQ

Sous-Ministre de la Défense Nationale
JAN 30 1986
Deputy Minister of National Defence

600444

CONFEDERATION BLDG.
ST. JOHN'S, NFLD.
A1C 5T7

January 28, 1986

NDHQ/Ottawa Ont.
Referred to
Transmis à

JAN 31 1986

File No.
Dossier No. 1266-3-2
Charged to/Chargé à ID 6031

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

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,
Deputy Minister.

ABANDONED MILITARY SITES

1. Cartwright
2. Hopedale
3. Spotted Islands
4. Hopedale Island
5. Cape Makkovik (Allik)
6. Cutthroat Island
7. Cape Harrison
8. N.W. Point (2 sites)
9. Boa
10. Harbour Lake
11. Wild Boar
12. Border Beacon
13. St. Anthony

Subject: Environmental Cleanup of Ex-military Sites, Labrador

OBJECTIVE:

To brief colleagues on the status of environmental cleanup of ex-military sites in Labrador.

BACKGROUND:

The Intergovernmental Affairs Secretariat, Department of Environment and other provincial agencies have been dealing with this issue since 1979, and we may now be close to a conclusion. There occurred in 1979 a serious spill of "PCBs" at Hopedale, and subsequent investigations found similar problems at Cartwright. A detailed investigation in 1980 of all major ex-military sites in Labrador found an incredible mess left on these former U.S. Air Force installations, some of which posed an immediate environmental threat, some of which were simply eyesores.

In March 1980, Cabinet ordered IGA, Environment, Justice and Forest Resources and Lands to undertake a detailed investigation of who was responsible. After extensive research, the Province was ready by September, 1982 to write National Defence to say that the Province considered that federal agencies or their sub-contractors were responsible for the poor environmental conditions at the Labrador sites since the 1970's. Ultimately, that responsibility rests with National Defence.

Officials from the Department of National Defence (DND) met with provincial officials in January, 1983. They acknowledged some degree of moral responsibility for the problem, but noted that they may not be legally responsible, as these sites had all returned to the Province by the mid-1970s. (This opinion has been confirmed by our Department of Justice). In any case, it was agreed that a legal battle be avoided, and that both governments should work to determine the actual costs of clean-up, and to do their best to undertake the priority work involved.

As a result of the January, 1983 meeting, preparations were made to conduct a tour of the sites to burn off dangerous fuels and to prepare more detailed estimates of the remaining clean-up costs. Local engineering consultants accompanied DND, and federal and provincial environment officials on a trip in June 1984. The mission was successful in burning off the fuels and inspecting each site. DND assumed most of the costs by providing their helicopter and labour.

The most pressing environmental problems have been handled already: almost all "PCBs" were removed in 1980*(at a cost to the federal government of $39,000, and to the Province of $148,000). And some of the potentially harmful fuels and oils were burned during the inspection tour in June, 1984.

Since then local consultants have submitted cost estimates for the remaining clean-up to Provincial Environment, who has forwarded them to DND. These estimates include cleanup of all sites; one consultant has estimated a total cleanup cost of eight million six hundred thousand dollars ($8,600,000). A list of the sites, locations and their clean-up requirements is attached. The only site which would definitely not be included in the planned clean-up is Saglek which will be restored under the auspices of the North Warning System.

* Presently in storage at Goose Bay.

CURRENT STATUS:

At a meeting of federal and provincial officials August 13, 1985, the federal government offered an ex gratia payment of five million ($5,000,0000) to the Province in recognition of and compensation for any past responsibility that DND may have had in reference to the sites.

Arrangements for the payment will have to be concluded by an exchange of letters in which the federal government would be absolved of all legal responsibility for those sites on the attached list.

The $5 million sum, assuming the Province did not wish to supplement this amount, may not be enough to complete clean-up of every problem at every site. However, it should be possible, with cost effective methods, to restore all of the most troublesome sites within this budget.

FINANCIAL AND OPERATIONAL CONSIDERATIONS:

The Province would receive the federal funds with "no strings attached". The funds will then be deposited into the Consolidated Revenue Fund. The $5 million has been allocated assuming that all PCB's have been cleaned up. However, the Department of National Defense has indicated that if a large deposit of PCB's were discovered, additional funds up to $500,000 may be available.

In order to initiate and complete the cleanup over a single season in 1986, it will be necessary to hire a consultant to manage the entire project as soon as possible. A consortium of St. John's engineering and consulting firms has already been awarded the general consultant contract for the North Warning System by DND. This group is the "New North Consulting" firm, and they would be the most appropriate group to undertake the clean-up supervision for government.

ABANDONED US SITES

SITE	PURPOSE	FINANCED & MANNED
Cartwright	Pine Tree	USAF
Hopedale	Pine Tree	USAF
Spotted Islands	Terminal Mid-Canada Line MCL (Gap Filler)	USA
Hopedale Island Doppler Sites	MCL	Canada
Cape Makkovik (Allik)	MCL (Gap Filler)	USAF
Cutthroat Island	MCL (Gap Filler)	USAF
Cape Harrison	Radar & Communications	USAF
North West Point (Lake Melville) 2 sites	-	USAF
St. Anthony	Radar & Communications	USAF
Boa	MCL	Canada
Harbour Lake	MCL	Canada
Wild Boar	MCL	Canada
Border Beacon	MCL	Canada

Typical Doppler Site:
- Living quarters, equipment room, diesel Room
- Heliport and diesel fuel in above ground storage tanks.

Nature of Clean-up Problems: General debris, some waste oil, buildings and generators, etc.

10/00/05 10:30 8204 1033 5102 AIRCOM DCOS CR GODSHDAY ... 0003/004

EXECUTIVE COUNCIL
NEWFOUNDLAND AND LABRADOR

Sous-Ministre de la Défense Nationale
JAN 30 1986
Deputy Minister of National Defence

CONFEDERATION BLDG.
ST. JOHN'S, NFLD.
A1C 5T7

600444

January 28, 1986

NDHQ/SCDDN 604
Referred to / Transmis à D.N.R. ...
JAN 31 1986
File No. / Dossier No. 1266-13-2
Charged to / Chargé à T.D. 6031

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

Dear Mr. Dewar:

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Yours truly,

H. H. Stanley
Deputy Minister.

(4)

ABANDONED MILITARY SITES

1. Cartwright
2. Hopedale
3. Spotted Islands
4. Hopedale Island
5. Cape Makkovik (AXIAL)
6. Cuthroat Island
7. Cape Harrison
8. N/W. Point (2 sites)
9. Boat
10. Harbour Lapp
11. Wild Boat
12. Border Beacon
13. St. Anthony

THE BAE GROUP

MINUTES OF MEETING

PROJECT: Dopler Site Restoration - CP#4 DATE: March 9, 1987

PROJECT NO. 86096-CP#4 LOCATION: BAE Group Boardroom

The following is a summary of subjects discussed and decisions reached at the above noted meeting. Please advise of any errors or omissions.

IN ATTENDANCE:

R. Vallis
G. Laing
G. Leja
D. Holley

Purpose of the meeting was to review particular requirements for the Dopler Site Restoration - CP#4.

ACTION BY

SITE 212

1. Air-lift heavy equipment to site.
2. Bury debris on site.
3. Designate upper site only for clean-up.
4. Exclude runway area, ramp and all structures at lower site.
5. Camp facilities: as required by Contractor.
6. First Aid/Communication, etc. to be provided at the site.
7. Existing building cannot be used as temporary camp facilities. Contractor must provide their own camp facilities.

SITE 209

- Upper Site

  1. Salvage of material is permissible except following:

     - 3 generators and associated electrical must be transported to border beacon and left in accessible location at runway.
     - generators must be totally discharged and approved by Engineer prior to air-lift.

ACTION BY

2. Dispose of all debris on site or lift to alternate site approved by Engineer.

- Lower Site:

1. Fuel oil drums - burn fuel, compact drums and disposal.

2. Burial in bog not acceptable.

SITE 206

- Upper Site

1. Similar to 209 except no equipment to be retained.

- Lower Site

1. Exclude log structures from demolition.

2. Controlled burning of oil from drums and tanks. All burning to be done under direction of Environment personnel.

3. Environment to witness burning at Site 206 only.

SITE 203

1. Similar to Site 209 except no equipment to be retained.

GENERAL

1. Control of air lifting debris over water was discussed. It was generally agreed that an Owner/Engineer's representative would accompany all such airlifting operations to ensure that material is not disposed of in the ocean.

2. Contractor's methodology should indicate sites selected for disposal.

3. BAE to confirm feasibility of lifting equipment to border beacon.

DEMOLITION AND SITE RESTORATION
FORMER DEW LINE RADAR SITES
CONTRACT PACKAGE - CP4
DOPLER SITES, LABRADOR
86096 - CP#4

SPECIFICATIONS FOR
DEMOLITION AND SITE RESTORATION
FORMER DEW LINE RADAR SITES
CONTRACT PACKAGE - CP4
DOPLER 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:

March 28, 1987

JOB NO.:

86096

SPECIFICATIONS FOR
DEMOLITION AND SITE RESTORATION
FORMER DEW LINE RADAR SITES
CONTRACT PACKAGE - CP4
DOPLER SITES - LABRADOR

LIST OF DRAWINGS

Project No.	Sheet No.	Description	Date
86096	SK-203-1	Site Location Plan Dopler Site 203	November, 1986
86096	SK-203-2	Operatons Building Dopler Site 203	November, 1986
86096	SK-206-1	Site Location Plan Dopler Site 206	November, 1986
86096	SK-206-2	Operations Building Dopler Site 206	November, 1986
86096	SK-209-1	Site Location Plan Dopler Site 209	November, 1986
86096	SK-209-2	Operations Building Dopler Site 209	November, 1986
86096	SK-212-1	Site Location Plan Dopler Site 212	November, 1986
86096	SK-212-2	Operations Building Dopler Site 212	November, 1986

PART 1 - GENERAL

1.1 Work Included for Dopler Site 203

.1 Purpose of clean-up work is to bring the upper and lower sites as close as possible to its original conditions within the defined cleanup 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 Collect and dispose by burial of all loose scattered debris, fuel drums, small tanks, scrapped materials and equipment within 150 m radius measured from any point of the Operations Building foundation walls located at the upper site.

.5 Dismantling and disposal of cable trough and wood trestle, linking to the former antenna towers.

.6 Dismantling and disposal of two antenna towers, approximately 16 m and 40 m in length, including dish antenna affixed to the top of the towers.

.7 Dismantling and disposal of two smaller antenna towers, approximately 15 m in length.

.8 Demolition, removal and disposal of structural steel framed Operations Building, measuring approximately 18 m long by 8.4 m wide.

.9 Demolition, removal and disposal of wood framed Emergency Shelter, measuring approximately 7.4 m long by 6.1 m wide.

.10 Removal and disposal of six (6) 1.25 m diameter by 2.75 m long fuel oil storage, and associated piping, valves and fittings.

.11 Removal and disposal of ventilated and non-ventilated pressure gas cylinders and ancillary equipment.

.12 Removal and burial of all former above ground utilities, power conductors, utility poles, pipe lines and pipe supports.

.13 Removal and disposal of all wood post foundations. Concrete foundations, if incurred, to remain however, steel baseplates are to be removed and anchor bolts cut flush with top of concrete foundations.

.14 Removal and disposal of seven (7) fuel storage tanks at the Lower Site on the shore of Hunt River, along with associated fuel piping and supports, valves and fittings. Two (2) tanks measure approximately 1.75 m in diameter by 2.75 m long and five (5) tanks measure approximately 1.4 m in diameter by 2.75 m long.

.15 Collect and dispose of abandoned fuel oil drums located at the lower site. Cleanup zone to encompass an area of 100 m radius from the lower site primary fuel storage tankage.

.16 Complete burial with suitable fill material, suitably graded to facilitate without significant surface erosion, of all debris and rubbish gathered for disposal from the defined cleanup zones.

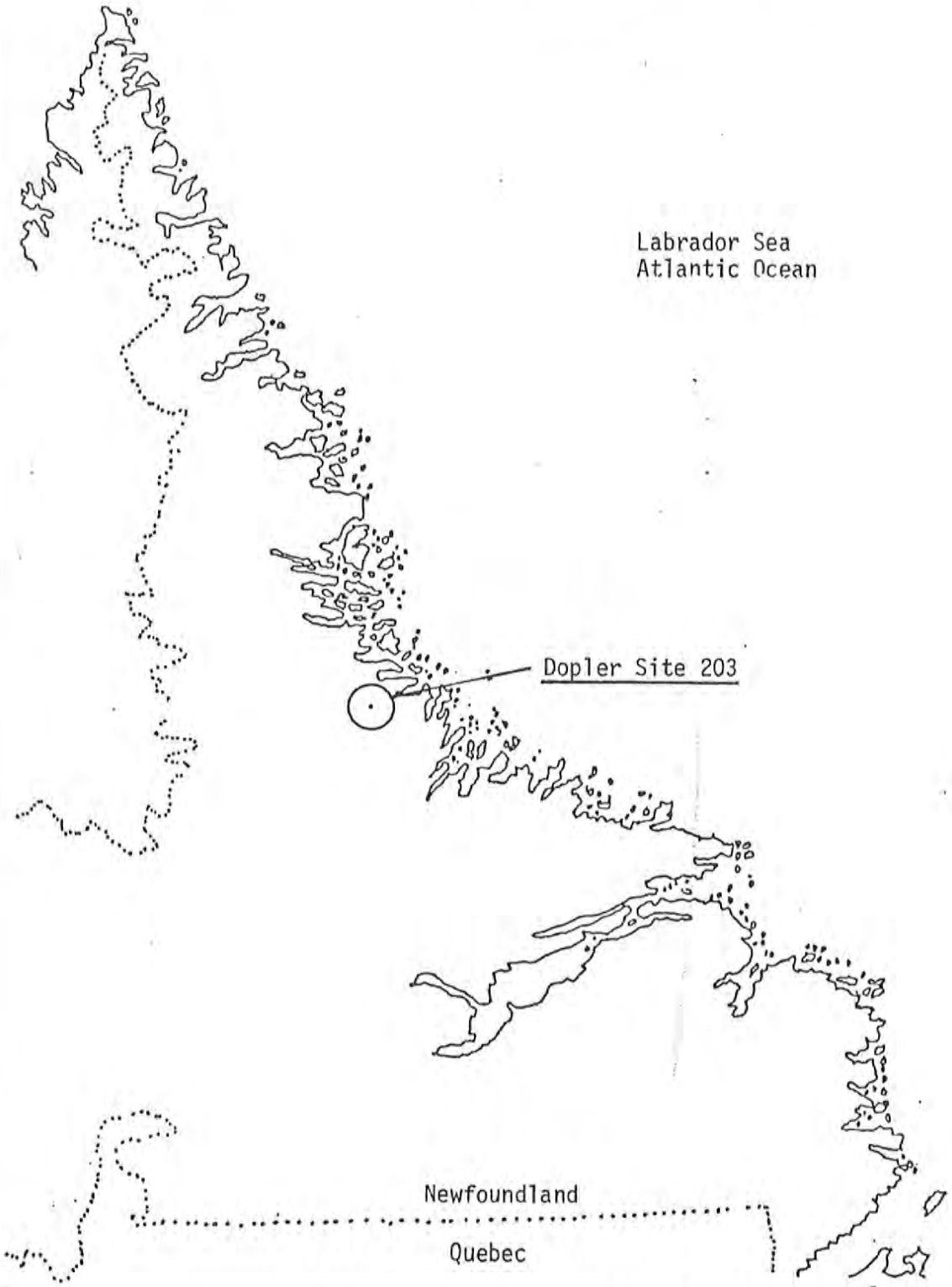
1.2 Work Included for Dopler Site 206

.1 Purpose of clean-up work is to bring the upper and lower sites as close as possible to its original condition within the defined cleanup areas.

.2 Demolition, removal and burial of all building structures located at upper site.

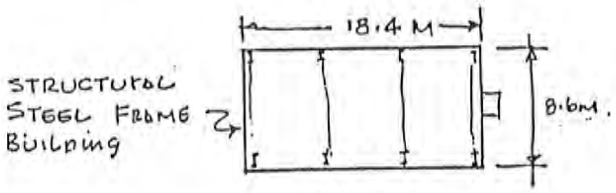
.3 Removal and disposal of by burial of all building contents.

.4 Collection and disposal by burial of all loose scattered debris, fuel drums, small tanks, scrapped materials and equipment within 150 m radius measured from any point of the Operations Building foundation walls located at the upper site.

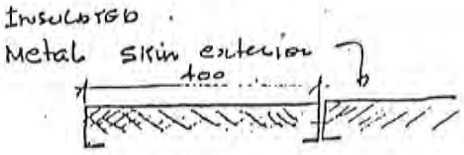


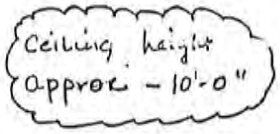
PROJECT Demolition & Site Restoration of Former Dew Line Radar Sites, Labrador			JOB NO. 86096
TITLE Site Location Plan - Dopler Site 203			PAGE SK-203-1
DIVISION Civil	DRAWN G.L.	CHECKED	DATE November, 1986

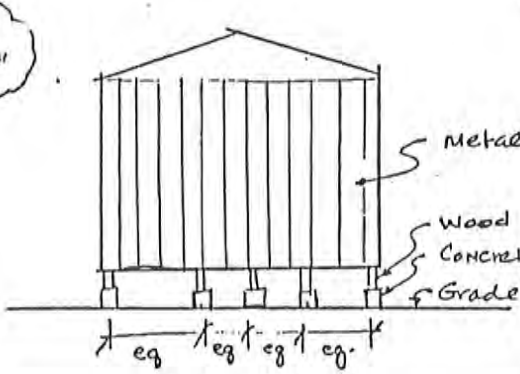
THE BAE GROUP
BOND ARCHITECTS and ENGINEERS LIMITED
BOND STREET P O BOX 8900 ST JOHN'S NF
A1C-6H3 TLX 016-4676 TEL (709) 722-4822



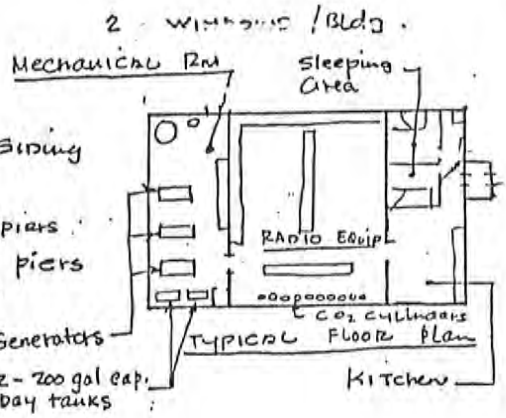
Plan



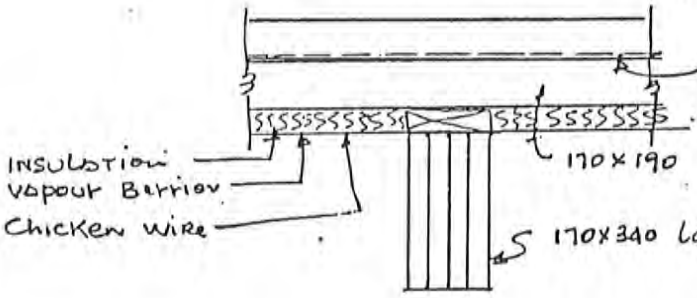




End Elevation

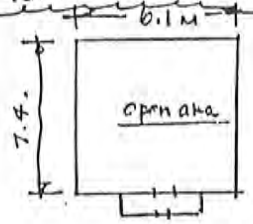


TYPICAL FLOOR Plan



TYPICAL SECTION THRU FLOOR. ——— NTS.

This Building has been torn down on site 212.



EMERGENCY SHELTER Bldg

Building plumbing system was under the floor
Heating system was from Heat reclaim system on the generator exhaust.

NOTE
This Building is all Wood frame CONSTRUCTION

PROJECT Demolition & Site Restoration of Former Dew Line Radar Sites, Labrador			JOB NO. 86096
TITLE Dopler Site 203 - Operations Building			PAGE SK-203-2
DIVISION Civil	DRAWN Ch	CHECKED	DATE November, 1986

THE BAE GROUP
BOND ARCHITECTS and ENGINEERS LIMITED
BOND STREET P O BOX 6900 ST JOHN'S NF
A1C-6H3 TLX 016-4676 TEL (709) 722-4822

F. Project Construction Costs

Contract: Dopler Sites - CP-4

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. Site 212	$103,020.00	$12,066.00	-	$ 12,066.00	$112,926.00	98.1	$ 2,160.00	$115,086.00
2. Site 209	$195,030.00	$ 6,418.66	$3,614.30	$201,448.66	$201,448.66	98.2	$ 3,614.30	$205,062.96
3. Site 206	$218,600.00	-	-	$ 27,950.00	$ 27,950.00	12.8	$190,650.00	$218,600.00
4. Site 203	$150,750.00	-	-	-	-	0	$150,750.00	$150,750.00
TOTAL	$667,400.00	$18,484.66	$3,614.30	$241,464.66	$342,324.66	49.7	$347,174.30	$689,498.96

GOVERNMENT OF NEWFOUNDLAND & LABRADOR

Department of Environment

OFFICE OF THE MINISTER

P. O. BOX 4750
ST. JOHN'S, NEWFOUNDLAND
A1C 5T7

1987 05 25

Titan Holdings Limited
P.O. Box 7306
St. John's, NF
A1B 3Y5

Attention: Mr. B. Imhoff, P. Eng.

Dear Sir:

RE: Demolition and Site Restoration
Former Dew Line Radar Sites
Contract Package - CP4
203-Upper & Lower, 206-Upper & Lower, 209-Upper & Lower, 212-Upper Only.

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 $667,400.00 has been accepted.

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

cc: The BAE Group

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

SECTION VI

Contract No. CP-4
- Dopler Sites

MONTHLY STATUS REPORT

Project No. 86096
Report No. 1
From: June 22, 1987
To: July 31, 1987

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

Project: Demolition and Site Restoration - Former Dew Line Radar Sites
Dopler Sites, Labrador - Contract Package CP-4

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

A. Tender Data:

Tender Closing Date: April 21, 1987
Contractor: Titan Holdings Limited
Completion Date: September 30, 1987

Contract Award Date: May 25, 1987
Contract Amount: $667,400.00
Change Order Amount: $ 18,484.66
Revised Contract Amount: $685,884.66
Revised Completion Date: Sept. 15/87

B. Construction Equipment Resources Deployed During Month:

- Site 212: Complete
- Site 209:

  (1) 2 - K18 Kobuta
  (2) 2 - ATV Quad Runners
  (3) 4 - Trailers
  (4) Miscellaneous small tools, equipment and pumps.

- Site 206: Not mobilized to date.
- Site 203: Not mobilized to date.

C. Construction Work Force Deployed During Month:

- Site 212: Complete
- Site 209:

  (1) 1 - Foreman
  (2) 3 - Labourers
  (3) 1 - Cook/Labourer

  Work Force demobilized on July 28, 1987 awaiting final inspection. remobilization of work force scheduled for August 5, 1987.

- Site 206: Not mobilized to date.
- Site 203: Not mobilized to date.

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT
P.O. Box 4750
St. John's, Newfoundland
A1C 5T7

In Reply Please Quote
File Ref. No.

August 25, 1987

Walter Oakely, C.E.T.
BAE Group
via Goose Bay
Fax 896-3237

Dear Mr. Oakely,

As per our discussion of 1987 08 24 this Department concurs with the price of $2250 for this removal and disposal of approximately 35 drums, garbage dump and other debris along the shoreline and woods east of Site 203 lower, CP-4. Please inform the contractor to put his cost in writing and then submit a change order for our approval.

Randy B. Vallis
Regional Environmental
Supervisor (Labrador)

RBV/pdb

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT
P.O. Box 4750
St. John's, Newfoundland
A1C 5T7

In Reply Please Quote
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Randy B. Vallis
Regional Environmental
Supervisor (Labrador)

RBV/pdb

RETAIN THIS COPY FOR FOLLOW-UP

FROM WALTER OAKLEY DEPARTMENT B&E Group

TO GERALD DAVIS
TITAN HOLDINGS
GOOSE BAY

DATE AUG 24 1987

SUBJECT Extra - DOPLER SITE
203 Tower - 86096CP4

MESSAGE

You are hereby given notice to proceed with the removal and disposal of Approximately 35 drums, garbage dumps and other debris located along Shoreline and in woods east of Contract limits for the total Sum of $2250.00 - Twenty Two Hundred & FIFTY Dollars.

We request that a breakdown follow outlining your manhours and equipment used to Complete the Extra.

Walter Oakley
B&E Group
Aug 29 1987

USE LOWER PORTION FOR REPLY REPLY FROM DATE

s-marque INTER-OFFICE MEMO

TO REPLY: RETAIN WHITE ORIGINAL — RETURN PINK

ENVIRONMENTAL INSPECTION
ABANDONED MILITARY SITES IN LABRADOR

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

1.0 INTRODUCTION

1.1 Purpose

To conduct files review and preliminary site assessment at selected former military sites in Labrador. U.S. and Canadian governments formerly operated the sites. The inspection of sites provides an update to 1986 cleanup contracts and to respond to media and public concerns over contamination identified at two of these sites.

1.2 Previous Work in the Area

In January 1986 as part of a Reversion of Land Letter of Agreement, the province accepted a $5.5 million offer from the Government of Canada for 13 listed sites. The Province in accepting these monies absolved the GOC of any further responsibility and liability for the cleanup of 13 sites identified.

In 1986, the province contracted cleanup of these sites. The BAE Group for the Province provided project management and to oversee two cleanup contractors, Titan and Eastern Demolition.

1.3 Selected Sites List

(1) Cartwright
(2) Hopedale
(3) Spotted Islands
(4) Hopedale Island
(5) Cape Makkovik (Allik)
(6) Cutthroat Island
(7) Cape Harrison
(8) North West Point (2 sites)
(9) BOA (Doppler Site 203, Upper and Lower)
(10) Harbour Lake (Doppler Site 206, Upper and Lower)
(11) Wild Boar (Doppler Site 209, Upper and Lower)
(12) Border Beacon (Doppler Site 212, Upper and Lower)
(13) St. Anthony

2.0 INSPECTION

2.1 Doppler Sites

The sites located inland Hopedale range from Border Beacon on the west to Hunt River on the east. They were operated as part of the Department of National Defence "Mid Canada Line" sites throughout northern Canada. Changes in frequency of electronic waves generated by the stations enabled Canada (DND) to detect domestic

and foreign aircraft into Canadian airspace. The sites were strategically located on high elevations and made use, of ponds and lakes for bases areas. Each station had an upper and lower area:

Site 212	Border Beacon	(Upper and Lower)
Site 209	Wild Boar	(Upper and Lower)
Site 206	Harbour Lake	(Upper and Lower)
Site 203	Boa	(Upper and Lower)

Doppler sites land transfers are summarized in Attachment. (IGA File 160.16.03 refers).

Doppler sites represent four of the list of thirteen sites and area that reverted to the Province of Newfoundland arising from negotiations with the Government of Canada in 1986. (January 28, 1986 correspondence from H.H. Stanley, DM, Executive Council to D.B. Dewar, DM, Department of National Defence refers).

2.1.1 Doppler Site 212: Border Beacon
Situated 55° 20" 01" (Lat) 63 degrees 16' 15" (Long)

The Government of Canada reportedly deactivated the site part of the Mid Canada Line in 1965. The site was operated as a weather station and had an airstrip (a gravel surface).

(a) Upper 212

TITAN, a cleanup contractor, under supervision of the BAE Group (the project manager) was contracted by the Department of Environment to carry out clean up of the site in 1986. At Upper 212, a wood and metal frame building was burned before the site cleanup contract.

Under the contract, Titan:

(1) Removed and buried the survival shack.
(2) Buried all garbage at the area garbage dump site.
(3) All residual fuel on site was burned off under a controlled burn.
(4) All fuel barrels were buried.
(5) Within the defined limits of the contract there were no items or objects left exposed.

In 1987, the BAE Group did a follow up inspection and observed minor soil settling in areas that were backfilled (to cover wastes).

2.1.3 Doppler Site 206 - Harbour Lake
Situated 55° 18' 45"; 61° 49' 28"

The Site 206 on the Mid Canada Line was closed in 1965 by the Government of Canada. As with Site 209, the site had upper and lower areas. In 1986, the cleanup contractor, TITAN, burned off residual fuels, cut and buried oil barrels and tanks, demolished buildings and buried all residual debris and garbage.

Inspection

The September 4, 1996 inspection revealed only concrete footings and two empty, rusted barrels near the site.

Lower 206 site could not be identified after an extensive surveillance flyover of the area.

Recommendation

No action required.

It is noted that the BAE Group indicated only a wooden shack was left standing in 1986 at site 206. It was not found.

2.1.4 Doppler Site 203 -BOA, Hunt Lake
Situated 55° 25' 48"; 60° 58' 50" (Upper Site)
55° 27.93'N; 60° 57.55 W (Lower Site)

The Site 203 on the Mid Canada Line of sites is also called Hunt River. It was closed in 1965 by the government of Canada. This site has two components; upper and lower areas.

As with other sites on the Doppler Line, TITAN burned off residual fuels, cut barrels, demolished buildings and buried all garbage and debris in designated areas of the site. Only concrete footings remained. In 1987 the cleanup contractor was recalled to additional disposal of up to 900 barrels. These were found some 190 metres east of the helipad at Site 203.

Inspection

On September 4 there was evidence of a recent major forest fire that engulfed the region at Site 203. Only footings remain at upper site 203. At lower 203 and in the

vicinity, only a few rusted barrels could be seen. The barrels observed were likely hidden by trees and scrub growth before the forest fire.

At the base of the cliff at Site 203, approximately 50 rusted barrels were observed scattered among large boulders. At the edge of upper 203, thirty rusted food tins were found.

Recommendation

No action required.

2.2 Hopedale, BMEWS & TACAN
Situated 58° 58'(Lat), 60° 14' (Long)

The site at Hopedale is referred to as one of the PINE TREE sites that was established and operated by the Government of the United States (USAF). The site was deactivated in 1968. There was some US presence at the site into mid-1970s and portions of the site and buildings were used on a temporary basis by Eastcan Exploration Limited and Petrocan in 1970s.

The site was comprised of main areas; TACAN area and BMEWS area at upper site. A road leads to the lower site docking facility and wharf. The site complex was massive and included many buildings and dish antennae.

In attachment is a scale drawing of TACAN and BMEWS sites Hopedale, as prepared and provided by the BAE Group, dated November 1986; entitled "Demolition and Site Restoration of Former DEWLINE Radar Sites." This drawing denoted the area encompassed by the 1986 cleanup contract in demolition and removal of buildings, equipment, dish antennae, fuel drums, tanks and all associated garbage and debris.

The 1986 contract did not reportedly require any sampling of soils or waters at or near the site. The project involved demolition and disposal of a massive area of buildings at TACAN area and dish antennae and building removal at BMEWS area.

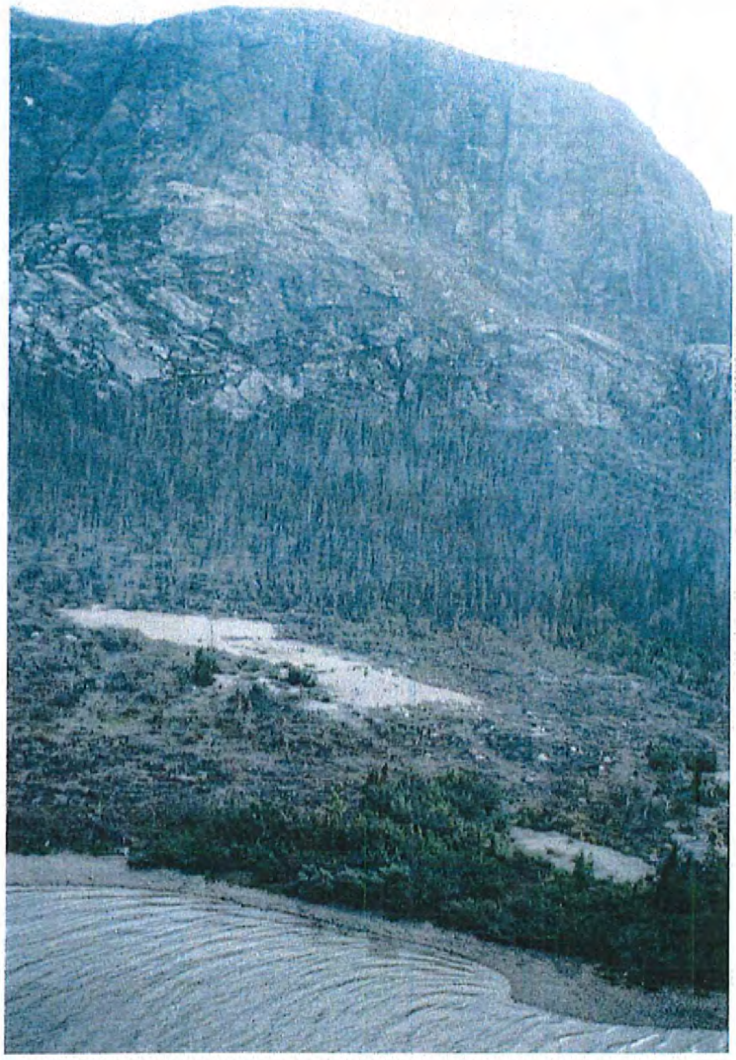
All debris from demolition was reportedly buried on site close to where buildings and equipment once stood.[1]

Inspection

At the BMEWS area only the massive concrete footing of dish antennae remains. There is almost no soil on this high elevation site. There was no evidence of the

[1] BMEWS refers to Ballistic Missile Early Warning System

FACILITY LOCATION	SYSTEM	FINANCED & MANNED	DEACTIVATED	DOCUMENTATION	BUYER	CLEAN-UP PROBLEM
Cutthroat Island Lat 54-30 Long 57-07	NEAC Terminal MCL (Gap 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 Harrision	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 1971-1922, 14 Sep 71.	
Fox Harbour	NEAC Terminal MCL (Gap 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.
0203 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.
0205 Harbour Lake 55-18-45 61-49-28	MCL	Canada	1965	S.O. 209753 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.
(0207) Wild Boar 55-24-28 62-25-00	MCL	Canda	1965	S.O. 209753 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.
Belz 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 Doppler Site:	- Living quarters, equipment room, diesel room - Heliport and diesel fuel in above ground storage tanks.					



Doppler Site 203 "Hunt River"
(Lower Site)

Oct, 1997

BRIEFING NOTE

Environmental Conditions at Former and Current Military Sites in the Province

Labrador Sites

- From 1979 to 1980, the Department conducted site inspection visits to 12 former military sites in Labrador which were either abandoned at that time or were scheduled for closure (list attached). St. Anthony was included among these sites for a total of 13 sites. For each of these sites, land transfer documents contained provisions for abandonment or closure, as well as provisions requiring clean-up and restoration.

- Negotiations between Newfoundland and Canada to address the problems at these 13 sites started in 1980. An internal report of the Department of Environment at the time estimated that it might cost $12.5 million to clean-up these 13 sites (the Fifth Estate has this report). In 1985, the Province agreed to a settlement of $5.5 million and absolved the Federal Government from further responsibility for these sites.

- In 1985, the Province tendered contracts for clean-up and restoration of the 13 sites in the agreement. A summary of clean-up efforts is as follows:

  - 4 doppler radar sites were cleaned-up: BOA (203), Harbour Lake (206), Wild Boar (209) and Border Beacon (212). Each has an upper and lower site. However, the Border Beacon site requires further clean-up and is still presently in use by hunting/fishing camp outfitters and native peoples.

  - Hopedale (a Ballistic Missile Early Warning Site) and Cartwright, another major communications station, were both cleaned-up. However, further inspection of Hopedale revealed a need for clean-up of residual debris, etc. The Province has recently funded clean-up of surface debris at this site. Further assessment is required to determine soil contamination.

  - Smaller stations such as Spotted Island, Hopedale Island, Cape Makkovik, Cape Harrison and Cutthroat Island were also contracted for clean-up. These sites were communication sites at high elevations with a small building or two.

  - Northwest point was inspected in 1979 by way of a fly-over inspection of the 1100 acre site. The site had already been decommissioned and dismantled many years prior. Because of overgrowth, the abandoned drums currently being cleaned-up were not detected. The Province has recently funded a clean-up of surface debris from this site. Further assessment for soil contamination is required.

  - Clean-up work was undertaken at St. Anthony as well. PCBs are still in storage at St. Anthony.

.../2

Saglek

- For Saglek, the Department of National Defence maintains control of the property. When it was closed out in 1979, the Crown Assets Disposal Corporation divested themselves of residual assets on the property under contract to a Quebec based company. The contractor in salvage burned the entire upper complex to the ground. In 1979, the Newfoundland Environment Department with Environment Canada conducted inspections of the property. Extensive debris and contamination was found, as well as many thousands of barrels, derelict equipment, etc. DND is responsible for the cost of the clean-up. In 1997, DND continues to clean-up residual contamination at the site (PCB and oil contaminated soil). Marine studies are ongoing in association with native peoples in the region to assess potential impacts of PCB on marine flora and fauna.

Military Bases

- There were five military bases located in the Province: Stephenville, Argentia, Gander, St. John's and Goose Bay. In addition to the bases, there were numerous smaller sites established for communications purposes; eg. radar stations, beacon sites, antenna locations, etc. It is estimated that there may be nearly 100 sites. The condition of all these sites is unknown because they have not all been assessed, and there has never been a need to conduct such an assessment.

- Prior to 1995, the only sites thought to require extensive clean-up and restoration were Goose Bay and Argentia. However, recent studies indicate major environmental problems at the Harmon Base in Stephenville. To date, there has not been sufficient reason to undertake expensive studies to determine if problems exist at Gander or Pleasantville.

Stephenville

- Government will receive a thorough briefing on the extent of environmental problems at Stephenville. A press conference was held in Stephenville on Friday, October 24, 1997 to announce the findings of the AGRA study into environmental conditions at the former US Harmon Air Base and Government's plans to address the problems.

Argentia

- At Argentia, the Department of Environment and Labour is represented on a working group committee with the Public Works Government Services Canada (PWGSC) property managers to mange the preparation of Environmental Site Assessments and Remedial Action Plans and to coordinate the remediation and clean-up at Argentia. $80 million over 10 years has been committed for clean-up in Argentia by the Government of Canada.

.../3

Goose Bay

- In Goose Bay, The Department of National Defence (DND) have conducted Environmental Site Assessments and Remedial Action Plans to address contamination at Melville station as well as other areas of the base which were used for dumping and disposal of a wide variety of oil, chemical and other contaminants. Remediation and clean-up began a decade ago and is ongoing. The costs are measured in the millions, but total cost are not yet known because work is still underway. DND has maintained seasonal briefing sessions with the Department of Environment and Labour to keep us informed of the clean-up.

Gander and St. John's

- Gander is still in operation as an airport and remains under federal jurisdiction.

- St. John's (Fort Pepperrell, now known as Pleasantville) has never been assessed from an environmental perspective. There are no indictions of any environmental problems and therefore no need to conduct expensive environmental site assessments. There have been site assessments of some individual buildings by Newfoundland and Labrador Housing, but there hasn't been a full assessment of the entire base area.

Prepared by the Department of Environment and Labour, October 27, 1997.

Environment Canada Responses

Newfoundland Labrador

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
Site 203 – Doppler Detection Station, Hunt Lake/River, NL (Call Sign BOA)

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 as part of the Mid-Canada Line, a network of communication posts across Canada funded by the United States Air Force. The Site was activated in the late 1950's and continued to operate until the mid 1960's.

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 1965 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 55° 26.5' North Latitude and 61° 00' 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,

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

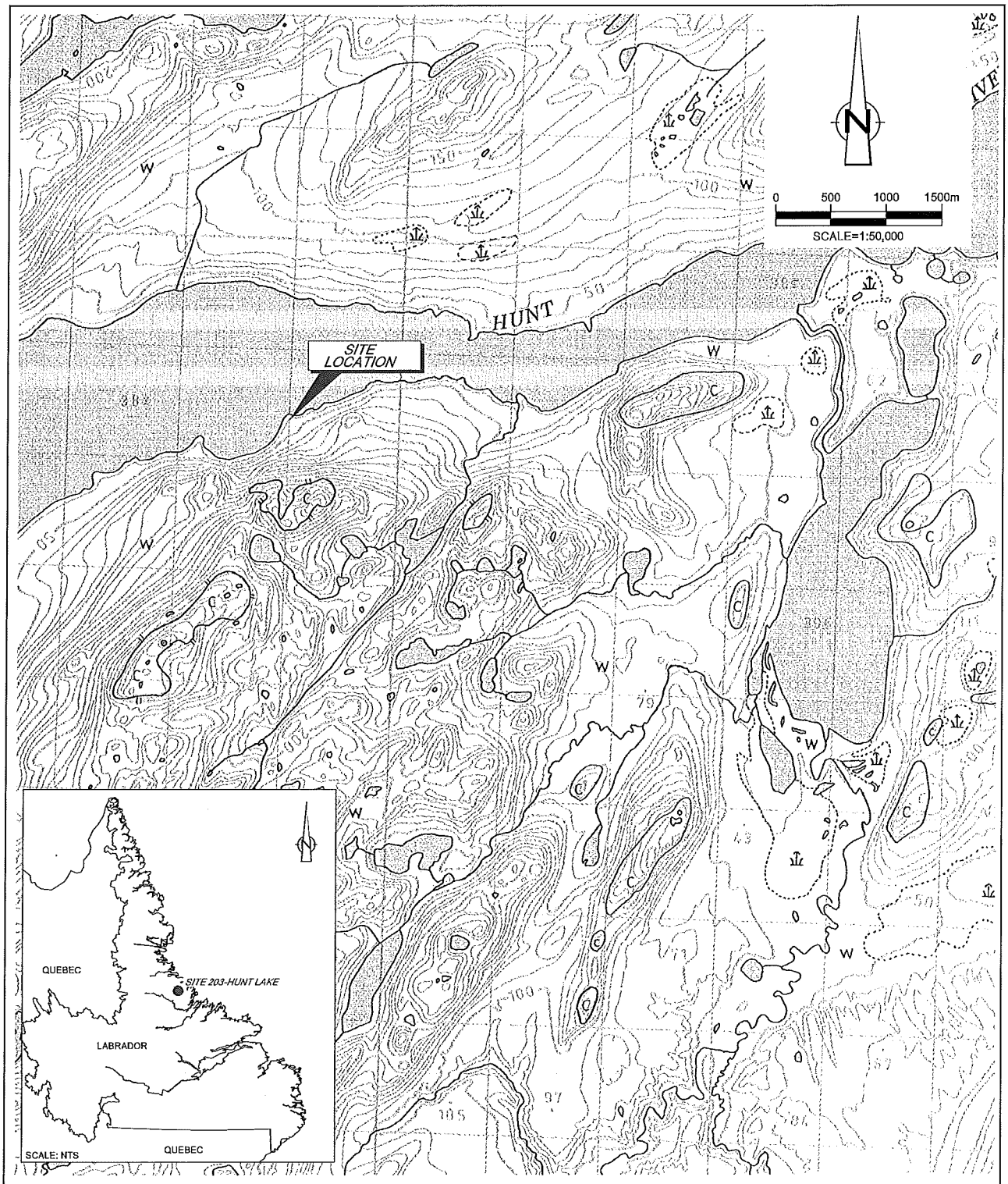


figure 1

SITE LOCATION MAP
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Site 203-Hunt Lake, Labrador, NL

089758-00(008) GN-NL001

Environment Canada | Environnement Canada

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

Your File Votre référence
ID: 252788

Our File Notre référence
E-2014-01730 / MM

March 11, 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 203, Doppler Detection Station, Hunt Lake, 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.
>
> Authorization: {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 819-934-2817. Please quote the above file number on all future correspondence concerning this request.

Yours sincerely,

Meghan McCourt
Access to Information and Privacy Secretariat

Enclosure

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.

Environment Canada | Environnement Canada

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

Your File Votre référence
ID: 252788
Our File Notre référence
E-2014-01730 / MM

April 7, 2015

Mr. Peter Gillingham
Conestoga-Rovers & Associates Ltd.
1118 Topsail Road
P.O. Box: 8353
Mt. Pearl, NL 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 203, Doppler Detection Station, Hunt Lake, 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.

Authorization: {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 and 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

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

SAGLEK:

To Canada:	M.C. 163-'65 (M.A.&R. 8-'65)	1965 (1965)
To Nfld:	P.C. 1976-2983 M.C. 1111-'77	1976 1977

Conveyed along with Hopedale to the Department of National Defense. Conditions included mineral and gas rights for the Province and a return clause stating that when lands no longer used by DND, they will be assumed by Newfoundland.

Reference is in Federal Reservation Book (FRB), Vol. 2 Folio 46/49.

HUNT RIVER - BORDER BEACON (INLAND HOPEDALE):

To Canada:	M.C. 20-'57 (M.&R. 3-'57)	1957 (1957)
To Nfld:	(M.A.&R. 3(c)-'65) P.C. 1965-1125	(1965) 1965

Conveyed to DND in connection with Mid Canada Line N gotiation on Lot 212 indicates it was transferred to the control of the Department of Transport (Federal). The other lots were transferred back to the Province on June 18, 1965 by federal P.C. (See M.A.&R. 3(c)-'65) and approved 29-10-1965 but no M.C. has been found for any of the lots. Conditions of original transfer were that the lands of all times had to be used for the purposes of an in connection with mid Canada Line and were to revert to Newfoundland in the event that they ceased to be used for that purpose.

Reference is in FRB Volume 1, Folio 50.

HOPEDALE

To Canada:	M.C. 163-'65 (M.A.&R. 8-'65)	1965 (1965)
To Nfld:	P.C. 1976-2983 M.C. 111-'77	1976 1977

Conveyed along with Saglek to DND. Conditions are same as for Saglek.

Reference is in FRB Volume 2, 46/49.

CHURCH ISLAND: No records available.

CAPE AILLIK (MAKKOVIK):

To Canada:	M.C. 697-'57 (M.&.R. 39(c)'57)	1957 (1957)
To Nfld:	M.C. 203-'63	1963

Two pieces of land transferred to Canada for use by DND in connection with mid Canada Line. Area A is 16.64 acres; Area B is 104.23 acres. Use and conditions the same as for Inland Hopedale.

Reference is in FRB Volume 1, Folio 60.

Appendix D
Aerial Photographs

figure D1

AEIAL PHOTOGRAPH - 1968
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Site 203-BOA, Hunt Lake/River, Labrador, NL

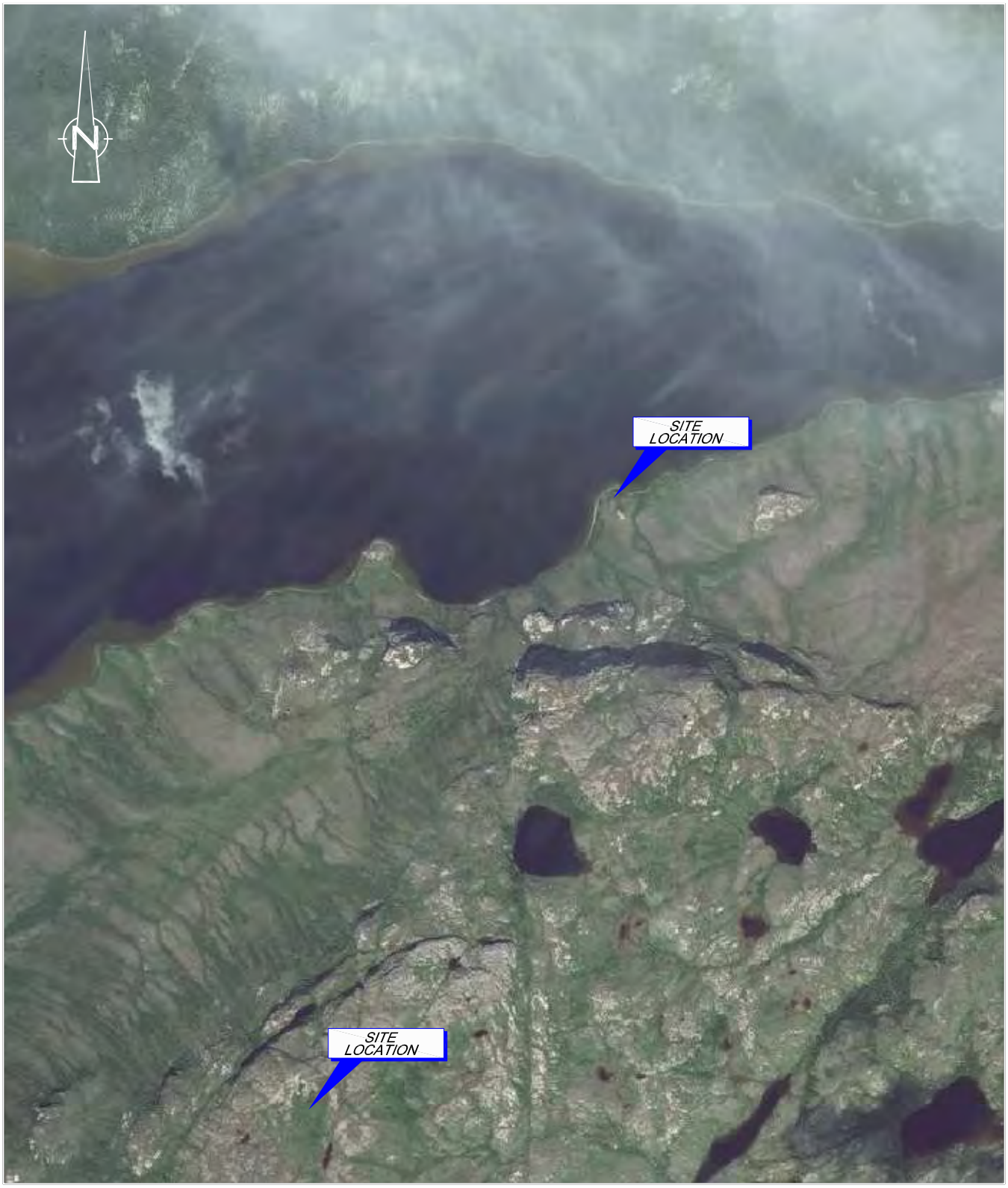


figure D2

AERIAL PHOTOGRAPH - 2010
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Site 203-BOA, Hunt Lake/River, Labrador, NL

GHD