



Phase I Environmental Site Assessment

**Former United States Military Site
Cartwright, NL**

Department of Environment and Conservation

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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 Military Site (Site or Property) located approximately 4 kilometers northeast of the Town of Cartwright, Newfoundland and Labrador (NL).

The Site was established in 1953 as a General Surveillance Radar station, funded by the United States Air Force (USAF). The station functioned as a Ground-Control Intercept (GCI) and warning station as part of the Pinetree Line. As a GCI station, the squadron's role was to guide interceptor aircraft towards unidentified intruders picked up by the unit's radar scopes. The facility formally contained 4 Troposcatter Communication Antennas, 4 Radomes, barracks, and recreation facilities, all connected together as one complex on the hillside overlooking the Town of Cartwright. Near the community dockside were the fuel storage facilities (known as the lower Petroleum, Oils and Lubricants (POL)) which were connected to the upper POL tank at the radar Site. The fuel was pumped via an aboveground pipeline to a large steel aboveground storage tank (AST) on the hill, which in turn supplied smaller ASTs for the diesel generators used to power the station. Access to the Site from the Town of Cartwright was provided via a 10 kilometre gravel roadway. Supplies/equipment for the former military Site were shipped to the dockside facilities in the community of Cartwright via supply ship or cargo planes equipped with water pontoons (summer) or skies (winter). In addition, supplies/personnel and/or equipment were transported directly to the Site via helicopter or air drop. In 1968 the USAF transferred control of the Site to the Canadian Forces; it was deactivated and closed shortly after. The former Site was officially decommissioned in 1987 with the razing of the remaining buildings/structures. With the exception of the Bell microwave station and the Canadian Coast Guard (CCG) Navtex and MF Rx Communication Towers located on the hill, only the concrete foundations of the former buildings and radar towers 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 Standards 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 air station in a remote location, significant quantities of fuel was formerly stored at the Site in ASTs, as well as in thousands of POL drums. The Site also formerly contained a garage building with service bays (known as the motor pool) that was used to service numerous on-Site vehicles and heavy equipment, a helicopter landing pad that contained drum storage and a portable fuel tank used for refueling helicopters, as well as reports of a significant quantity of drum storage and garage/service bay facilities in the former contractor's village (operated from 1951 to 1953). A 1954 historical record indicates that on September 12 the USAF delivered 12,000 bbls (over 1.9 million litres) of diesel fuel to the squadron's tanks. The potential for petroleum hydrocarbon impacts exist as a result of the historical petroleum storage and distribution activities conducted at the Site. The main areas of concern would include the former main Site area, former AST areas, along the former product pipelines, the former contractor's village, former helicopter landing area, as well as in the former landfill area.
- **Solid Waste/Recyclables:** During the operation of the facility from 1953 to 1968 solid waste was historically disposed in an unlined landfill located to the east of the Site. The landfill was re-graded and covered following a Site decommissioning and subsequent remediation program completed in 1988. Based on historical activities at the Site, the landfill may contain former ACM building materials; wooden building materials containing preservatives (i.e. creosote), 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. Solid waste (including metal and other materials) were also reported as being buried and covered in a ravine located between the former main radar station and the main AST (i.e. upper POL) as part of the 1987 Site decommissioning program. The Site decommissioning program was completed under the approval of ENVC, 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 remaining materials. As a Site visit was not part of the scope, it is unknown if these areas remain covered as reported in the 1987 and 1988 field programs.
- **Heavy Metals:** Possible sources of heavy metals may be associated with vehicle repairs at the former garage (i.e. motor pool) building and helicopter repairs at the former helicopter pad area. A Site visit in 1980 indicated over 30 barrels of waste oil remained on-Site in the former garage building. In addition, the former on-Site

buildings were constructed in the early 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.

- **Chemical Spills/Releases:** Review of historical documents has confirmed at least one large PCB spill at the main radar Site (former operations building) and confirmation of PCB impacts in the former landfill. Although documentation discusses the remediation of these areas, a report outlining the confirmatory sampling results and/or locations was not part of the historical documents reviewed. In addition, it appears that the 1988 PCB remediation program in the former landfill area was confined to an area of heavily impacted soil and only extended to a depth of 0.2 metres.
- **Other Issues:** Based on historical photographs, wooden cribbing and building supports were used beneath the former Site structures. These potentially contained preservatives such as creosote which may have potentially impacted the surface soils. This material may have also been disposed of in the former landfill area. In addition, the wharf decking in the area of the former pumphouse was also comprised of wood containing preservatives.

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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 Air Force (USAF) Cartwright Air Station (Site or Property) located approximately 4 kilometres northeast of the Town of Cartwright, Newfoundland and Labrador (NL). Based on the information provided to GHD as part of the initial call-up for services under the Impacted Sites Liability Assessment Program, the Cartwright site was part of the Pinetree Line.

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 is included as Figure 3.

The Phase I ESA was conducted in general accordance with the Canadian Standards 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

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 AC&W stations began in 1951 and by the fall of 1953, the 922nd Aircraft Control and Warning Squadron (922nd AC&W) was established at USAF Cartwright Air Station N-27 (Call Signs Dividend, Ink Bag, and Suzie Q) that included three types of radars: one for range, one for height, and one for a back-up for the range radar. The Pinetree Line acted as a back-up for the Dew Line radar curtain located further north across the Arctic of North America.

As an AC&W station, the squadron's role was to guide interceptor aircraft towards unidentified intruders picked up by the unit's radar scopes. The main facility formerly contained 4 Troposcatter Communication Antennae, 4 Radomes, barracks, power plant, garage (i.e. motor pool), dispensary, heating plant, operations room, Fire Department and recreation facilities, all located together as an inter-connected complex on a hillside overlooking the Town of Cartwright. The AC&W station was also equipped with a water pumping station, a large aboveground storage tank (AST), a helicopter pad, a landfill area, an ammunition storage building, and radio towers (located to the north of the main air station), all of which were connected via a series of gravel access roads. The Site was supported by docking facilities and ASTs located in the adjacent community of Cartwright. Personnel assigned to the Station ranged from about 150 during regular operations to almost 500 during the early days of construction and operation.

In addition to the facilities at the AC&W station, a 10 kilometer gravel roadway was constructed to connect the air station to the Town of Cartwright. The roadway was used to transport supplies from the dock area located adjacent to the Cartwright harbour. In addition, a pipeline was constructed which pumped diesel fuel from the dock to two ASTs located in the Town of Cartwright (known as the lower Petroleum, Oils and Lubricants (POL)), which in turn supplied fuel to the AST located at the air station (known as the upper POL). The pipeline from the lower to the upper POL followed the gravel access road and, based on historical pictures, was predominantly aboveground. The fuel was then pumped via a network of aboveground/underground pipelines at the station to supply various diesel generators used to power the Station.

Based on the website outlining the history of the 44 former Pinetree Line sites (<http://web.archive.org/web/20090221163100/> <http://www.pinetreeline.org/>), the USAF Cartwright Air Station closed on June 18, 1968 after which the facility was transferred to the Canadian Armed Forces; it was deactivated and closed shortly after. The former buildings and equipment remained abandoned until the Provincial government tendered a contract to dismantle and decommission the remaining structures at the Site in 1987. With the exception of the Bell microwave station and the Canadian Coast Guard (CCG) Navtex and MF Rx Communication Towers located on the hill, only the concrete foundations of the former buildings and radar towers 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 Newfoundland and Labrador Department of Environment and Conservation (ENVC) completed a file review and provided the following relevant information:

- Correspondence (date unknown) between the Government of Newfoundland & Labrador and the Government of Canada regarding the clean-up and funding of the abandoned radar sites.
- Chronology of the 1979 to 1980 PCB spill and cleanup at the Cartwright facility, in the form of excerpts dated Oct 12, 1979 to August 26, 1980
- Report on “PCB Spills and General Environmental Mismanagement at EX-USAF Bases in Labrador” dated April 15, 1981.
- Correspondence between the Government of Newfoundland & Labrador and the consultant regarding the 1987 Site decommissioning, including pre-tender scopes and official tender review, dated January 16, 1987.
- Correspondence between the Government of Newfoundland & Labrador and the sub-contractor awarded the contract to decommission the Site, dated January 16, 1987.
- Site demolition/disposal requirement documentation (i.e. bonding, tender documents, Certificates of Good Standing, etc), dated March 15, 1988.
- Correspondence with the Cartwright Town Counsel regarding the planned Site decommissioning, dated December 3, 1986.
- Correspondence from Newfoundland Telephone including a plot plan of their leased portion of the Property, dated December 12, 1986.
- Correspondence between the Government of Newfoundland & Labrador and the consultant regarding the 1987 PCB sampling program completed at the former air station landfill area, along with analytical results of soil samples collected, dated September 14, 1987.
- Minutes from meetings between consultant and sub-contractor during the 1987 Site decommissioning program outlining progress and providing details of the decommissioning program as well as Site photographs. Minute meetings dated June 25, July 31, August 3, and September 11, 1987.
- Correspondence between the Government of Newfoundland & Labrador and the consultant regarding the 1988 PCB spill cleanup at the former landfill area, dated August 4, 1987.
- Copy of the 1988 PCB remediation report at the former station landfill area, dated September 30, 1988.
- Historical photographs, circa 1987-1988.

In addition to the abovementioned documentation, ENVC file review also provided additional correspondence between DND, the Provincial government, and the Town of Cartwright, regarding the construction of a new North Warning Site (known as Lab-6) in the Cartwright area. Based on a review of the documentation dated between 1985 and 1986, the North Warning Site was constructed in 1986 to the southeast of the Town of Cartwright and was not in the vicinity of the former USAF Cartwright Station.

Environment Canada (EC) was requested to undertake a search of their records with respect to documentation of environmental issues regarding the subject Property. A receipt acknowledgement letter was issued by EC (received by GHD on March 9, 2015 and April 8, 2015), indicating the request was being processed and a response will be provided as soon as possible. It is noted that ENVC document review did reveal EC's involvement in the PCB spill investigation and subsequent clean-up program conducted in 1979 and 1980.

Copies of the requests by GHD along with relevant correspondence from Service NL and EC are provided in Appendix B. As for the information/reports from ENVC file review, the relevant documentation referenced through this report has been provided on a CD.

3.2 PROPERTY TITLE SEARCH

Property title information was obtained from the Government of Newfoundland and Labrador Crown Land Division in the form of a 1981 report on land transfers. In addition, a review of ENVC archived files provided some supplemental information regarding title of the Property, which is included below.

<u>To Canada:</u>	(1) M.C., 709 - '61 (M&R 2 (f) -'61)	1961 (1961)
	(2) M.C., 720 - '62 (M.A. &R. 109 -'62)	1962 (1962)
	(3) M.C., 883 - '62 (M&R 2 (f) -'61)	1962 (1961)
	(4) M.C., 265 - '65	1965

To NL: (2), (3), & (4)

P.C. 1071	1971
M.C. 119 - '73	1973
(1) No Records Found	

- (1) Transferred 14.32 acres to the Department of Transportation (DOT) for use in connection with radio station subject to usual conditions. No record of transfer to Newfoundland & Labrador was found.
- (2) Transferred 3 acres to the Department of National Defense (DND) in connection with Pinetree project. Conditions included mineral and gas rights for the Province and a return clause stating that when lands are no longer used by DND, they will be assumed by Newfoundland & Labrador.
- (3) Transferred 16.85 acres to DND in connection with Pinetree project. Conditions included mineral and gas rights for the Province and a return clause stating that when lands are no longer used by DND, they will be assumed by Newfoundland & Labrador.
- (4) Transferred a water lot to DND. Conditions included mineral and gas rights for the Province and a return clause stating that when lands are no longer used by DND, they will be assumed by Newfoundland & Labrador, except that water lot shall be used at all times in connection with DND's docking facilities.

Reference is in FRB Vol. 2, Folio 45, 48, & 57.

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

3.3 AERIAL PHOTOGRAPHS

Aerial photographs from 1951, 1968, 1970, 1983, 1991, 1992, 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 1951 aerial photograph shows the Site and surrounding properties as undeveloped.

The 1968 aerial photograph now shows the Site is fully cleared and developed with over 25 structures (buildings, radar towers, etc.) comprising the main air station. Gravel roadways are constructed to the east (toward the former air station landfill site and ammunition building) and to the southwest (toward the Town of Cartwright). Side roads along the north side of the gravel access road to the Town are also visible. These side roads include access to the adjacent freshwater pond (and water pumphouse building), helicopter pad, and former contractor's village (abandoned in 1953). A large AST (known as the upper POL) is also visible to the southwest of the Site.

The 1970 and 1983 aerial photographs continue to show the Site and surrounding areas as relatively unchanged compared to the 1968 aerial photograph.

The 1991 aerial photograph shows the former Site as decommissioned with only the concrete foundations from the former structures remaining. The Bell and CCG facilities to the west of the former air station are still in operation with minor work completed to the access roads to each tower site. Also, the area of the former landfill site appears to have been cleared (as compared to the 1983 aerial photograph).

The 1992 and 2010 aerial photographs continues to show the Site and surrounding areas as relatively unchanged compared to the 1991 aerial photograph.

3.4 PREVIOUS ENVIRONMENTAL REPORTS

The following historical reports were provided regarding the general issues associated with the former military sites in Labrador and outlined the PCB sampling and remediation program in 1987 and 1988. 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-USAFA Bases in Labrador*", dated April 15, 1981. The report discusses the history of the former US military installations (including Cartwright), details of land transfers for the various sites, the potential for PCB impacts at these former radar locations, as well as provides a discussion on responsible parties for the impacts at the sites. The report also provides details of the 1979 and 1980 PCB clean-up completed at the Cartwright site.

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. Although the report provides details of locations, structures remaining and overall conditions/issues with a number of the former US military sites, Cartwright was not visited during the inspection due to distance and time constraints.

A report on the Cartwright PCB Action Plan was prepared by The BAE Group, on behalf of the Government of Newfoundland and Labrador, in September 1987. The report outlined the field sampling program completed to test the soils in the former landfill area and provided estimates for a PCB cleanup program, as well as construction costs to implement the remediation program. Based on the work, The BAE Group confirmed that 66 of the 90 samples analyzed contained concentrations of PCBs ranging from <1 mg/kg to 15,780 mg/kg. The report estimated a total of approximately 380 cubic metres (m³) of PCB impacted soil was present at the former landfill facility. The report indicated that the area of concern in the former landfill was approximately 60 metres long by 20 metres wide and was littered with debris and garbage. Further details are provided in the report entitled: "Report on Cartwright PCB Action Plan", dated September 14, 1987.

A Final Status Report was also prepared by The BAE Group, on behalf of the Government of Newfoundland and Labrador, outlining the PCB clean-up program undertaken in 1988. The report outlined the minutes of the meeting between ENVC, the Consultant and the sub-contractor at the end of the PCB remediation program. The report confirmed that all work had been completed as per the tender and that the PCB impacted material was stored in 228 sealed containers, with an estimated quantity of 306 m³. The sealed containers were stored in locked chain-linked fenced areas, constructed on former air station concrete foundations remaining at the main Site, and were known as Disposal Area No. 1 and Disposal Area No. 2. The report confirmed that 148 samples were collected during the program, 118 from the soil in the containers, 28 from the final grade at the landfill, and 2 water samples. The report also included Site photographs of the final grading at the former landfill site and provided a PCB Exposure register outlining the names and time duration of the construction workers that completed the remediation program. No other details (i.e. analytical results or Site drawings) were provided in the report. In addition, the report documented the turn over of the keys to the Disposal Areas to ENVC; however, did not provide any details of the transportation of the containers to Goose Bay facility (as previously discussed in the tender documents reviewed by GHD). Historical Site photographs taken in 2000 confirm the containers were removed from the Site.

3.5 INTERVIEWS

Mr. Nelson Flynn, a former Newfoundland and Labrador Housing employee from 1988 to 2008, was interviewed by telephone on March 11, 2015 and provided information regarding the Site. Mr. Flynn informed GHD the Site operated a communications station by USAF, from the early 1950's to the late 1960's. He recalls visiting the Site approximately 25 to 30 years ago and the remaining buildings were falling down, with a

4" to 6" diameter pipeline remaining, with sections cut out. The aboveground storage tank was removed and the remaining equipment and building materials were being salvaged by local residents. Mr. Flynn also stated that he is unaware of any environmental issues or concerns with the Site.

Mrs. Shirley Hopkins is a resident of Cartwright and has been the Town clerk for the last 15 years. Mrs. Hopkins indicated that the remaining former radar Site buildings were razed and buried on-Site in the late 1980's with only concrete foundations remaining. She confirmed that none of the former Site infrastructure/debris was transported off-Site and disposed of at the municipal landfill and indicated that a lot of the former Site infrastructure (building supplies, tables, doors, chairs, etc.) were removed by local residents prior to the Site decommissioning program. She confirmed the location of the present-day municipal landfill and two former landfill locations to the southwest of the former radar air station Site. She confirmed that the Site is currently vacant with the exception of the structures/antennas associated with the Bell and CCG tower sites. Mrs. Hopkins also confirmed the former air station landfill was located along a gravel roadway to the east of the former main station Site and that the former structure east of the landfill was an ammunition storage location.

In addition to interviews, GHD reviewed personal accounts posted by former contractor and USAF personnel station at the Cartwright site during construction and operation of the facility in the 1950's and 1960's. The personal accounts were taken from a website outlining the history of the 44 former Pinetree Line sites (<http://web.archive.org/web/20090221163100/> <http://www.pinetreeline.org/>). Below is a summary of the relevant issues noted in each former employees personal account:

- Mr. Ches Lethbridge (1951-1953 - Former contractor employee) – Mr. Lethbridge was living in Paradise River in 1951 when he heard of the construction project in Cartwright. He moved to Cartwright on November 1, 1951 and settled in as a timekeeper and official "elections officer" for the area. Mr. Lethbridge indicated that Fraser Brace Construction Company (with head office at Moncton, New Brunswick) was contracted to construct the radar station at Cartwright. At the peak of construction, he estimated that over 400 employees were on Site in Cartwright. Mr. Lethbridge walked to work on a daily basis until a road was built, and then was transported to the Site by truck. He lived in an "Army tent" in the contractor's village located close to the beach (some 600 feet below the Site and approximately two miles east of the Town of Cartwright). He left Cartwright in September 1953. He indicated that, for all intent and purposes, the work on the Site construction was completed at that time and there were already 25 to 30 American military personnel on-Site.

- Mr. Bernie Heard (1952-1953 - Former contractor employee) – Mr. Heard lived in Cartwright and applied for work with Fraser Brace Construction Company in 1952. He was initially hired as a laborer but later worked in the stores section. He indicated that the majority of the construction workers were flown in from Moncton, NB. Mr. Heard indicated that the American military personnel did not arrive until the summer of 1953 and recalls between 100 and 150 civilian personnel employed by the Fraser Brace Construction group. He indicated that the majority of the workers lived in barracks in the contractor's village located near the Site until the radar Site was completed in 1953. Mr. Heard indicated that the US operated the Site from 1953 to 1968.
- Mr. Lyle Foltz (1953-1954 – US military) – Mr. Foltz served as a member of the USAF Advance Party at Cartwright. He arrived in June 1953 and departed in July 1954. Mr. Foltz indicated that he was one of nine personnel bound for the new radar site at the mouth of the Sandwich Bay near Cartwright, Labrador. They were to work with the construction contractors who were finishing work on the new radar station. He indicated that there were to be a total of 123 men stationed in the Squadron at Cartwright with the rest of the personnel arriving in late September 1953. Mr. Foltz remembers arriving on the beach of the temporary town housing constructed for the construction workers (i.e. contractor's village). The radar Site was perched on a rocky, treeless promontory about one mile to the east. The Site overlooked the mouth of Sandwich Bay, a 25 mile incursion into the central coast of Labrador. The tiny village of Cartwright was about two miles to the west. He noted that the dominant feature of the contractor's village was the thousands and thousands of oil drums in a stack 20 feet high and hundreds of yards long along the gravel beach. There was a large garage (i.e. motor pool) for the earth movers, bulldozers and trucks and there were barracks, a large mess hall, a big medical dispensary and every other kind of facility needed to provide the needs of 500 construction workers. Mr. Foltz was housed in a large tent with a wood frame and floor and the officers moved into a plywood structure that was the barracks for the construction company foreman. The only road had been built by the construction contractor two years before and it went east one mile from the contractor's village up the hill to the radar Site and west around the bay two miles to the Town of Cartwright. He indicated there was a dock (substantially modified by the contractors) in the Town Cartwright for small boats. Mr. Foltz stated that in late September 1953 the base was finished and in a period of three days all the construction workers were gone. The contractor's left their village intact and all the trucks, bulldozers, machine shops, storage buildings and radios were left in place. He indicated that the radar Site buildings were connected by insulated hallways and each man had his own room with a

closet, dresser, desk, chair and three quarter bed. There was a heated garage (i.e. motor pool) big enough to hold most all of the vehicles and a fully equipped maintenance facility. Mr. Foltz stated that two ships arrived with a year's worth of supplies. It took two days for all 123 military personnel to unload those ships and another week to stow everything at the Site. Mr. Foltz departed the Site in July 1954.

- Mr. Don Wisgirda (1953-1954 – US military) – Mr. Wisgirda served as a member of the 922nd AC&W Squadron at Cartwright. He arrived in September 1953 and departed in October 1954. Mr. Wisgirda indicated that, upon his arrival, there were inadequate docking facilities at Cartwright and they had to unload everything into an LCU and transport to the local dock. He noted that the radar Site was still not ready when he arrived and they had to do a lot of the final preparations. It took about two months to get the radar operational. After the initial landing, he indicated that most of the supplies were dropped by parachute with supply planes landing in Cartwright Harbour (both summer and winter).
- Mr. Tom Kryka (1961-1962 – US military) - Mr. Kryka arrived at the Site in March 1961 and left in February 1962. He indicated that the radar Site was spread out on a mountain top to the northeast of the village of Cartwright (about three miles from the village by road). He noted that the purpose of the facility was the detection and identification of all aircraft passing through the area. He recalls that all personnel, mail, movies, pay, and urgently needed supplies were transported to and from Cartwright by helicopter from Goose Bay. The chopper typically made two trips per week. He remembers the buildings were designed to withstand high winds and cold weather and all major buildings were inter-connected by hallways. He also recalls that all windows faced away from the ocean or were blocked by other structures. Mr. Kryka indicated that the Site was completely self-sufficient and could operate for extended periods without outside help. Power was supplied by diesel generators in one of the larger buildings. Water came from a small lake about 1/2 mile to the south. The Site was home to about 200 men, including eight officers and several civilians working in various capacities. He noted that the station was a typical military installation with a headquarters, living quarters, garage (i.e. motor pool), mail room, armory, radar center, communications (heavy ground and aircraft), laundromat, latrine, medical facility, and warehouse. In addition, there was a movie theater, library, Officer's club, NCO club, Airman's club, bowling alley (constructed in the summer of 1961), ham radio operator building, photographic darkroom, store, and barber shop. There was also a radio station. Mr. Kryka was part of a small contingent (15 to 16 staff) who maintained the Polevault

communications link, a heavy ground communications system which depended on tropospheric scatter of radio waves. At Cartwright, they provided radio contact with Goose Bay in one direction and St. Anthony to the South. He indicated that they also provided communications to the gap-filler radar sites up until they were closed in 1961. He remembers living quarters were one man rooms, although double-bunking did occur at times. Each room was approximately eight by nine feet, and had a door, bed, overhead light, lamp, window, open closet, desk, speaker for the radio station, and steam-heat radiator. He recalls that a ship would bring in the yearly supply of food and diesel fuel, as well as other major equipment and supplies. The ship would dock at the village and required all hands to unload and truck the supplies to the Site. Mr. Kryka indicated that a more advanced radar system was installed in the summer of 1961 which resulted in the closing of the small gap-filler sites (manned by a crew of six). A rigid geodesic dome was also installed at this time. Previous to this, the radar antenna was housed in a dome of flexible white material inflated by pressurized air designed to withstand winds in excess of 100 MPH. Mr. Kryka left the Site in February 1962.

The personal accounts taken from the Pinetree Line website are located in Appendix E.

4.0 ENVIRONMENTAL PROPERTY ASSESSMENT

At the request of ENVC, a Site visit was not completed as part of the Phase I ESA; the efforts of the environmental site 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 4 kilometers northeast of the Town of Cartwright, NL. The main facility formerly contained 4 Troposcatter Communication Antennae, 4 Radomes, barracks, power plant, garage (i.e. motor pool), dispensary, heating plant, operations room, Fire Department and recreation facilities, all located together as an inter-connected complex on a hillside overlooking the Town of Cartwright. The AC&W station was also equipped with a water pumping station, a large AST, a helicopter pad, a landfill area, an ammunition storage building, and radio towers (located to the north of the main air station), all of which were connected via a series of gravel access roads. The Site was supported by docking facilities and ASTs located in the adjacent community of Cartwright. Fuel was offloaded to dockside pipelines and was stored in

two ASTs located in the Town of Cartwright. The fuel was pumped via an aboveground pipeline to the large steel AST located at the air station on the hill. This AST in turn supplied smaller ASTs located in the diesel rooms and power plants at the Site and supplied power to the station. Although there was no airstrip, the AC&W station was equipped with a helicopter pad. The Site Plan is presented as Figure 3.

The former AC&W station was located on one parcel of land covering a total area of approximately 681 hectares. It is noted that additional parcels of land, including a waterlot at the dockside, where part of the initial transfer to the US military in the 1950s; however, these parcels are located in the Town of Cartwright and were not considered in the scope of this Phase I ESA. In addition, at least two parcels of land were leased to Bell and the CCG in the 1970s to operate the existing tower facilities (see Figure 2). The Site is predominantly covered in vegetation/gravel (approximately 99 percent), and concrete from the former building structures (less than 1 percent). Both surface and groundwater are anticipated to follow the surface contours in the area and, depending on your location on the Site, flow northwest toward Sandwich Bay or southeast toward Larks Harbor Pond. The elevation at the former air station Site is approximately 160 metres above sea level (masl).

Although the Site is not currently serviced with water or sewer, historically water was pumped to the Site from a nearby water supply and septic was discharged to on-Site septic tanks. Surrounding properties are vacant and therefore are not serviced by municipal water or sewer systems. The Town of Cartwright, located to approximately 4 kilometers to the southwest of the former Site, is serviced with municipal water and 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 zoned as commercial by the Town of Cartwright. The Property is bordered to the north and west by the waters of Sandwich Bay, and to the east and south by undeveloped land. The Town of Cartwright landfill is located to the southeast of the former air station Site (see Figure 2).

A review of the “Surficial Geology of Cartwright”, map (Map 1620A) issued by Natural Resources Canada indicates that Site geology consists of rock thinly covered by drift, colluviums, and vegetation; generally hilly and hummocky, steep slopes common; includes small areas of other units and small swampy hollows.

A review of the “Geology of the Island of Newfoundland” map (Map 97-07), issued by the Department of Mines and Energy, Government of Newfoundland and Labrador indicates that the Site is underlain by granite, quartz, monzonite, granodiorite, syenite and minor quartz from the Grenville, Nain, and Makkovik provinces.

4.3 UNDERGROUND STORAGE TANKS (USTs)

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

4.4 ABOVEGROUND STORAGE TANKS (ASTs)

Evidence of ASTs was revealed from the records review, historical searches, and photo searches. As a former USAF air station located in a remote location, the Site stored significant quantities of fuel to supply operations at the Site. In a 1954 historical record, the USAF confirmed the delivery of 12,000 bbls (over 1 million litres) of diesel fuel to the squadron’s tanks. Based on Site photographs, the following ASTs were confirmed to be located on the former air station Site:

- One large steel AST, located to the southwest of the main station, which contained diesel fuel. This was known as the upper POL.
- Two smaller steel ASTs (approximately 3000 gallons) that contained diesel fuel located adjacent to the Polevault Diesel Room.
- Former AST that contained diesel located adjacent to the Heating Plant.
- Former AST (approximately 3000 gallons) and possible pump dispenser located in the area of the former garage (i.e. motor pool) building.

The smaller ASTs on-Site appear to have been supplied via aboveground/underground pipelines connected to the large on-Site AST (i.e. upper POL), which in turn was supplied by two large ASTs (known as the lower POL) located in the Town of Cartwright. A 1960 USAF historical record indicated it took 72 hours to pump fuel from the lower POL tanks to the upper POL tank.

In addition to the ASTs noted above, Site records also indicate the supply and use of portable ASTs (for helicopter refueling) as well as POL drums for the storage of fuel,

lubricants, oils, etc. Based on the records review, Site photos and personal accounts, significant quantities of stored POL drums were noted in the following areas:

- Former contractor's village (1951 to 1953). Drums were used to supply fuel for heating of the tents and temporary buildings. In addition, drums were used to supply fuel for the contractor's heavy equipment and site vehicles, as well as supply oils and lubricants for the garage (i.e. motor pool) building. As documented by Mr. Lyle Foltz during his arrival to the Site in 1953, the beach of the former contractor's village was covered with thousands and thousands of stacked drums, with stacks reaching over 6 metres in height.
- Stand-alone buildings such as the water pumphouse building, upper and lower POL buildings, ammunitions building, and radar tower buildings. Drums would have been used to supply heat to these buildings located outside the main air station Site (i.e. outside the central heating system).
- Near the garage (i.e. motor pool) building. A Site photo from 1953 shows hundreds of POL drums stacked along the gravel access road to the north of the former air station (in the area of the garage building).
- Helicopter pad. Site photos from the mid to late 1950's show numerous drums stored and discarded along the perimeter of the former helicopter land pad. The drums, along with manual pumps, were used to refuel the helicopters.

4.5 UTILITY SERVICES

The Site is no longer serviced with water or sewer; however, the former station was originally serviced by a pumphouse with a water filtration and purification plant. Water was pumped, via insulated aboveground waterlines, from a freshwater pond located to the northwest of the air station. The Site contained numerous latrines which were connected to on-Site septic tanks. The exact locations of the former septic tanks or septic fields are not known. All facilities were apparently removed as part of the Site decommissioning activities in 1987. Historically electricity was supplied by on-Site diesel generators. With the exception of the Bell and CCG tower facilities to the northwest of the former air station buildings, electricity is no longer supplied to the Site.

4.6 CHEMICAL USE AND STORAGE

Past use of chemicals and storage may have existed with past operations; however, evidence was not revealed from the records review, historical searches, interviews, or regulatory responses. Based on the historical activities at the Site (i.e. garage/motor

pool, heating plant, photo lab, leather shop, laundry facilities), it is assumed that various petroleum hydrocarbons, lubricants, cleaners, degreasers, solvents, etc. were used and stored at the former air station facility.

4.7 SOLID WASTE/RECYCLABLES

During the operation of the facility from 1953 to 1968, the Site utilized a landfill located to the east of the air station (see Figure 2). The use of this landfill was noted in a historical USAF report dated June 1961, which described the effort to remove a bulldozer in the landfill area that had become stuck during covering activities. It was also noted in the 1988 PCB remediation program completed at the former landfill area, that various pieces of metal debris and solid waste were encountered. In addition to the former landfill site, solid waste (including metal and other materials) were buried and covered in a ravine located between the former main radar station and large AST as part of the 1987 Site decommissioning program. The Site decommissioning program was completed under the approval of ENVC, and included the razing of all remaining structures and the burning of all combustible materials, followed by the burying of all debris. Based on interviews with the Town of Cartwright, no materials/debris were transported off-Site and disposed of in the municipal landfills.

4.8 HAZARDOUS WASTE

Past use/disposal of hazardous wastes may have existed with historical Site operations, however; with the exception of PCBs, use/disposal of these substances were not revealed from the records review, historical searches, interviews, or regulatory responses. The use/disposal of PCBs are discussed in Section 3.12.

4.9 WASTEWATER

Past disposal of wastewater existed during the operation of the Site from 1953 to the early 1970's. Latrines and washrooms with toilets, sinks, and showers were present in the former buildings that produced wastewater, which were discharged into the on-Site septic tanks. Other wastewater disposal activities were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.10 STORMWATER

Storm water run-off in the area of the developed Site is mainly directed northwest by overland flow toward Sandwich Bay, which is located approximately 900 metres northwest of the former air station. Sources of adverse impacts from storm water run-off were not revealed from the records review, historical searches, interviews, or regulatory responses.

4.11 ASBESTOS-CONTAINING MATERIALS (ACM)

Past use/disposal of ACM may have existed with historic operations at the Site, however; with the exception of the concrete foundations, no visible building materials remain on-Site. Possible ACM containing building materials noted in the historical Site photographs included 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 located to the east of the air station or the approved disposal site (i.e. ravine) in the area of the former air station/AST. In a review of the records for the Site decommissioning program in 1987, a sample from the insulation of a portable tank located in the landfill area was found to contain asbestos.

No other sources of ACM were revealed from the records review, historical searches, interviews, 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 as well as transformers on utility poles located throughout 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 Cartwright Air Station was in operation from 1953 to 1968.

A records review identified the discovery a large PCB spill in the abandoned operations building in October 1979. The spill was the result of damage to 9 abandoned transformers remaining in the former operations building at the Site. Based on estimates by EC, approximately 100 gallons of PCB liquid was released during the spill. The spill covered an area of approximately 30 feet by 30 feet and leaked through the tile floor,

and pooled in the underlying soils beneath the former building. PCB liquid was also tracked throughout the building by persons visiting the Site. Westinghouse was contracted to complete the clean-up which included the sealing of the leaking transformers, securing of the remaining transformers, placing all PCB contaminated debris in sealed drums, removing the wooden floor and floor tiles heavily contaminated with PCBs, cleaning the remaining floor with solvents, excavating the heavily contaminated soil and water, placing all impacted materials in sealed drums, and cleaning the bedrock with solvents. The sealed drums were later removed from the Site and transported to Goose Bay for permanent storage. No information pertaining to the PCB concentrations encountered in the soil during the spill and/or clean-up were noted in the correspondence provided to GHD.

In addition, during the Site decommissioning in 1987, soil sampling in the former landfill area identified PCB concentrations in soil exceeding 15,000 ppm. Based on the work, The BAE Group confirmed that 66 of the 90 samples analyzed contained concentrations of PCBs ranging from <1 mg/kg to 15,780 mg/kg. A limited PCB removal program was implemented by the Province in 1988 which included the excavation and removal of 306 m³ of soil heavily impacted with PCBs. The excavation extended to a depth of approximately 0.2 metres and was backfilled with 1.5 metres of clean overburden. The PCB impacted soil was sealed in 228 specially designed containers. The sealed containers were stacked and temporally stored on two former concrete foundations at the Site. The locations were secured with a locked chain-link fence. The containers were later shipped to Goose Bay for storage.

4.13 HEAVY METALS

Past use/disposal of heavy metals wastes may have existed with past operations. Possible sources of heavy metals are associated with vehicle repairs and waste oil generated at the former garage (i.e. motor pool) and heating plants. In addition, the former on-Site buildings and towers were constructed in the early 1950s; therefore, the potential exists that lead/mercury based paint was used on the interior and/or exterior surfaces which may have potentially impacted the surface soils in the area of the former air station as well as the former landfill area (i.e. buried debris).

4.14 OZONE-DEPLETING SUBSTANCES (ODS)

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

4.15 AIR EMISSIONS

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

4.16 IONIZING RADIATION

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

4.17 CHEMICAL SPILLS/RELEASES

Past chemical spills/releases may have occurred with past operations; however, with the exception of the PCB spill discussed in Section 3.12, no past spills/releases were revealed from the records review, historical searches, interviews, or regulatory responses.

4.18 OTHER ISSUES OF POTENTIAL ENVIRONMENTAL CONCERN

Based on historical Site photographs, wooden cribbing and building supports were used beneath the former Site structures at the air station. These potentially contained preservatives such as creosote which may have potentially impacted the surface soils. This material may have also been disposed of in the former landfill area. In addition, the wharf decking in the area of the former pumphouse was also comprised of wood containing preservatives.

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

5.0 CONCLUSIONS

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

- **Historic Handlings, Use, and Storage of Petroleum Hydrocarbons:** As a self-sufficient air 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 garage (i.e. motor pool) that was used to service numerous on-Site vehicles and heavy equipment, a helicopter landing pad that contained drum storage and a portable fuel tank used for refueling helicopters, as well as reports of a significant quantity of drum storage and garage/service bay facilities in the former contractor's village (operated from 1951 to 1953). A 1954 historical record indicates that the USAF delivered 12,000 bbls (over 1.9 million litres) of diesel fuel to the squadron's tanks. The potential for petroleum hydrocarbon impacts exist as a result of the historical petroleum storage and distribution activities conducted at the Site. The main areas of concern would include the former main Site area, former AST areas, along the former product pipelines, the former contractor's village, former helicopter landing area, as well as in the former landfill area.
- **Solid Waste/Recyclables:** During the operation of the facility from 1953 to 1968 solid waste was historically disposed in an unlined landfill located to the east of the Site. The landfill was re-graded and covered following a Site decommissioning and subsequent remediation program completed in 1988. Based on historical activities at the Site, the landfill may contain former ACM building materials; wooden building materials containing preservatives (i.e. creosote), 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. Solid waste (including metal and other materials) were also reported as being buried and covered in a ravine located between the former main radar station and the main AST (i.e. upper POL) as part of the 1987 Site decommissioning program. The Site decommissioning program was completed under the approval of ENVC, 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 remaining materials. As a Site visit was not part of the scope, it is unknown if these areas remain covered as reported in the 1987 and 1988 field programs.

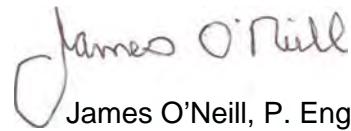
- **Heavy Metals:** Possible sources of heavy metals may be associated with vehicle repairs at the former garage (i.e. motor pool) building and helicopter repairs at the former helicopter pad area. A Site visit in 1980 indicated over 30 barrels of waste oil remained on-Site in the former garage building. In addition, the former on-Site buildings were constructed in the early 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.
- **Chemical Spills/Releases:** Review of historical documents has confirmed at least one large PCB spill at the main radar Site (former operations building) and confirmation of PCB impacts in the former landfill. Although documentation discusses the remediation of these areas, a report outlining the confirmatory sampling results and/or locations was not part of the historical documents reviewed. In addition, it appears that the 1988 PCB remediation program in the former landfill area was confined to an area of heavily impacted soil and only extended to a depth of 0.2 metres.
- **Other Issues:** Based on historical photographs, wooden cribbing and building supports were used beneath the former Site structures. These potentially contained preservatives such as creosote which may have potentially impacted the surface soils. This material may have also been disposed of in the former landfill area. In addition, the wharf decking in the area of the former pumphouse was also comprised of wood containing preservatives.

All of Which is Respectfully Submitted,

GHD Limited



Brian Luffman, P. Eng.



James O'Neill, P. Eng.

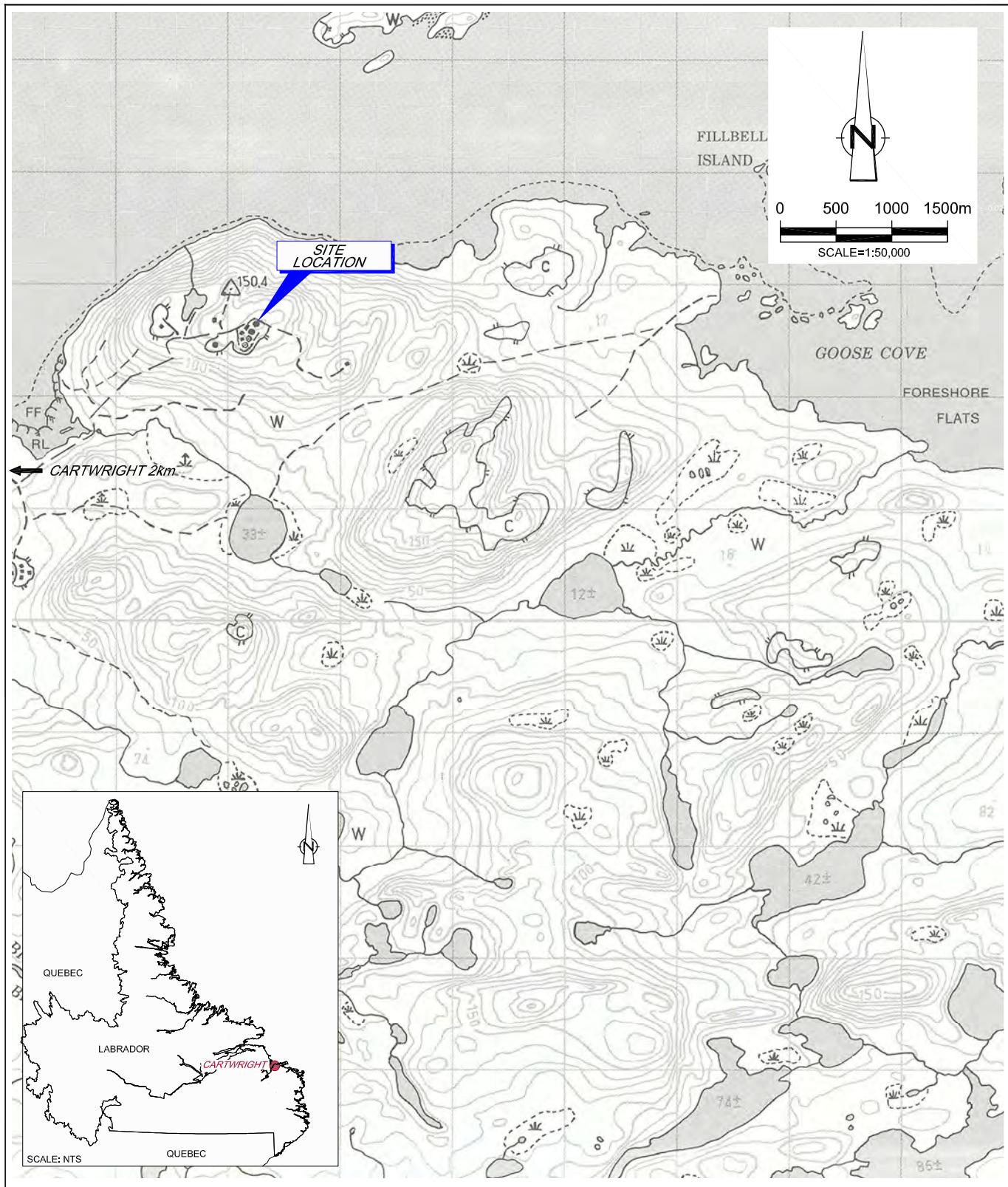
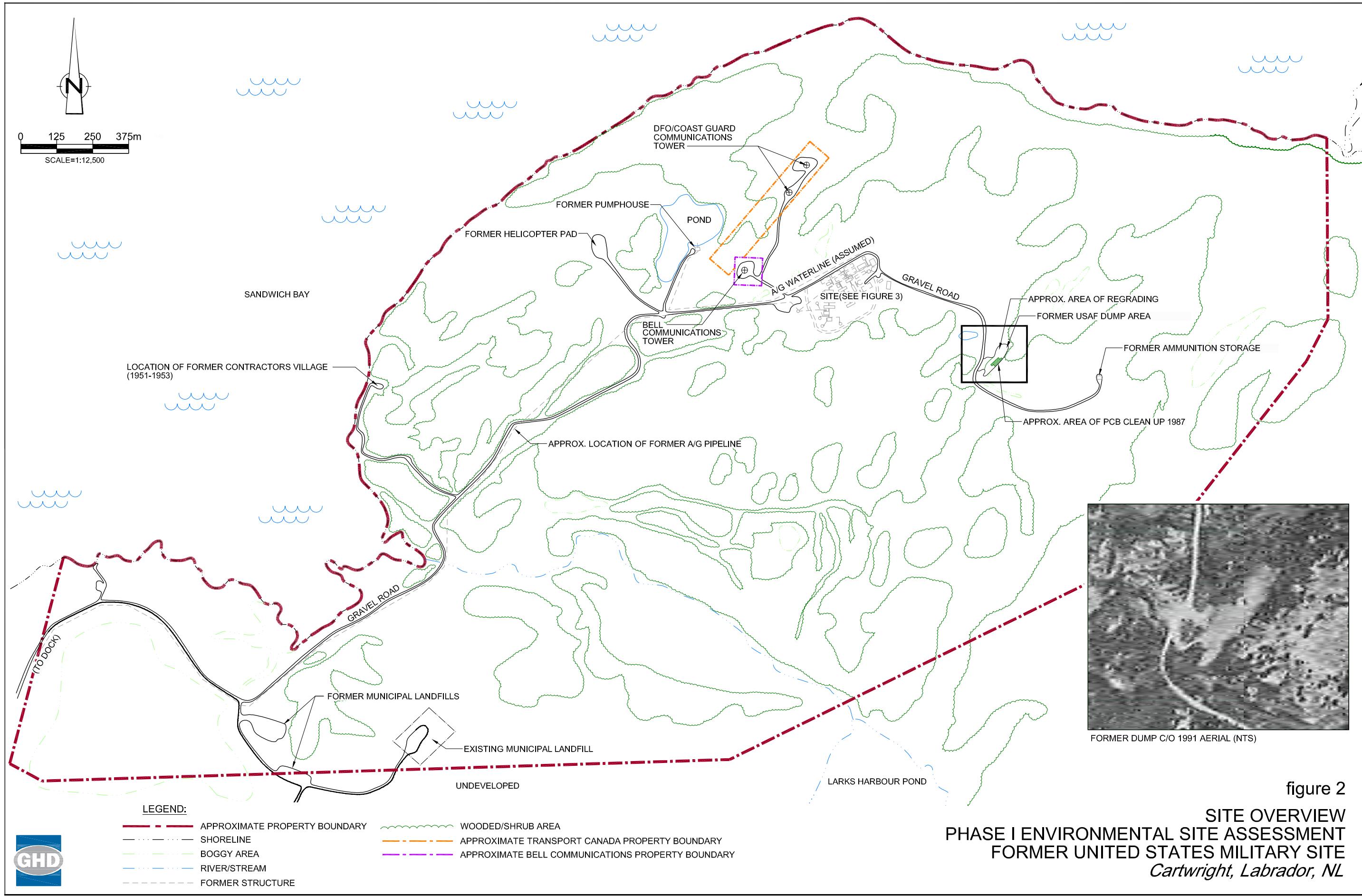
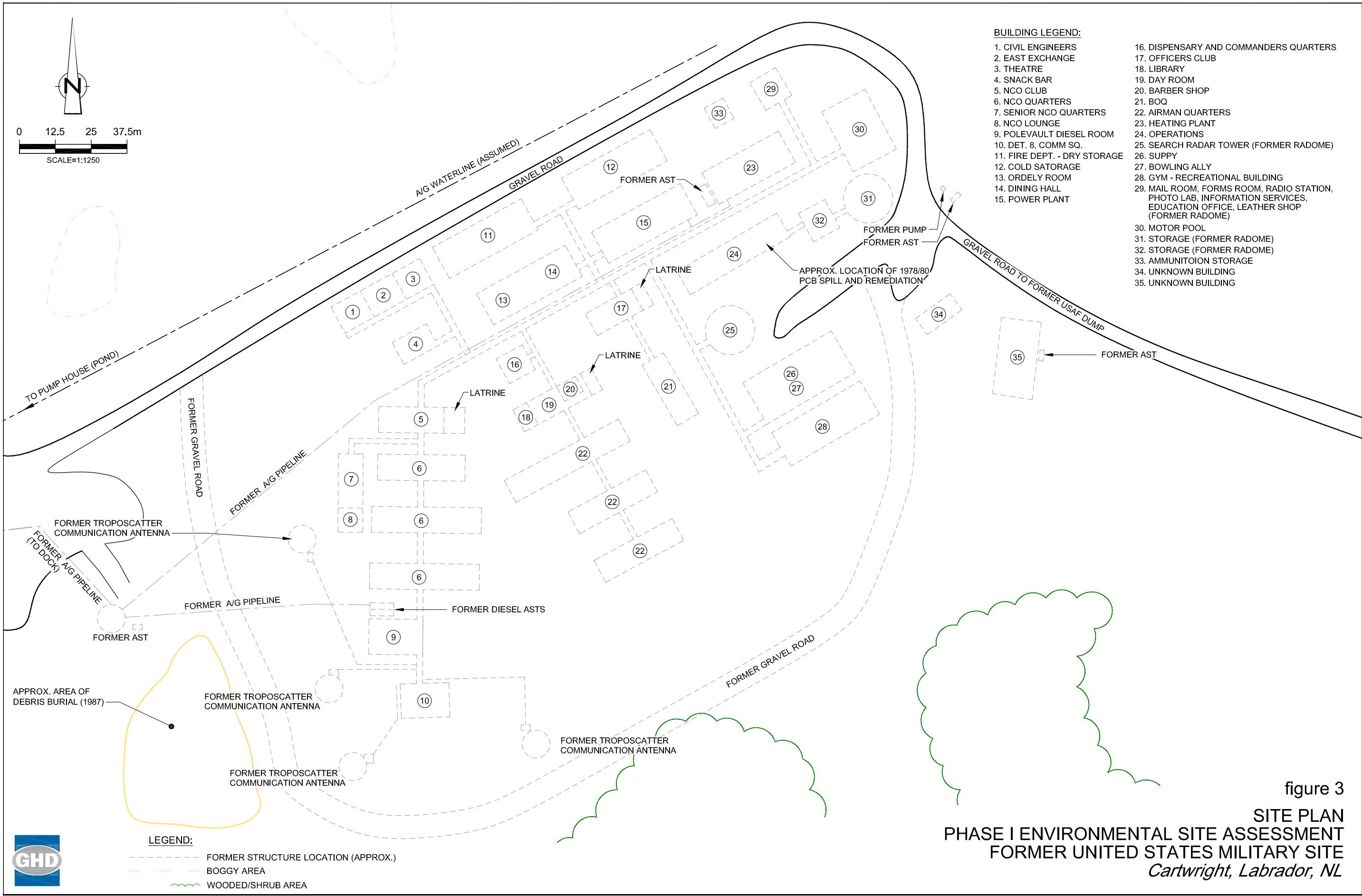


figure 1
SITE LOCATION MAP
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cartwright, Labrador, NL







Appendices

Appendix A

Qualifications of Site Assessors

QUALIFICATIONS OF SITE ASSESSOR

Name: Brian Luffman, P. Eng.

Position: Engineer

Education: B.Eng. (Civil Engineering), Memorial University (1993)

Experience:

Brian Luffman, P. Eng., is an Engineer with GHD Limited (formally Conestoga-Rovers & Associates (CRA)). Mr. Luffman is a project manager with over five 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, indoor air quality investigations (including radon), and noise surveys. Mr. Luffman has completed courses in environmental engineering, hydrology, geology, project management, asbestos abatement, 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. In addition, Mr. Luffman has investigated and designed more than 150 Radon Mitigation Systems in Nova Scotia and Ontario for single family homes, seniors' complexes, apartment buildings, and commercial occupancies. Mr. Luffman is also a member of the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL) and Engineers Nova Scotia (Engineers NS) as a Professional Engineer. Mr. Luffman 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

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 (formally Conestoga-Rovers & Associates (CRA)). 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 Technologists 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 CRA.

Appendix B

Regulatory Correspondence



**CONESTOGA-ROVERS
& ASSOCIATES**

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

FACSIMILE

DATE: March 3, 2015
TO: Mr. George Blackwood
Service NL
FROM: Mr. Peter Gillingham

REFERENCE NO.: 089758
FACSIMILE NO.: 709-896-4340

Original Will Follow By:

Mail
 Overnight Courier
 E-mail

**Re: Phase I Environmental Site Assessment, Former United States Military Site
N-27, Cartwright, NL (Call Signs Dividend, Ink Bag, and Suzie Q)**

MESSAGE

Conestoga-Rovers & Associates Ltd. (CRA) is currently conducting a Phase I Environmental Site Assessment of the former United States Military Site N-27, Cartwright, NL (Call Signs Dividend, Ink Bag, and Suzie Q).

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



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 N-27, Cartwright, NL (Call Signs Dividend, Ink Bag, and Suzie Q)

To Whom It May Concern:

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

The site was established in 1953 as a General Surveillance Radar station, funded by the United States Air Force. It was used initially by the Northeast Air Command, which stationed the 922d Aircraft Control and Warning Squadron on the station on 1 October 1953. The station functioned as a Ground-Control Intercept (GCI) and warning station. As a GCI station, the squadron's role was to guide interceptor aircraft toward unidentified intruders picked up on the unit's radar scopes.

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 1968 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 53° 42.5' North Latitude and 56° 59' 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,

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

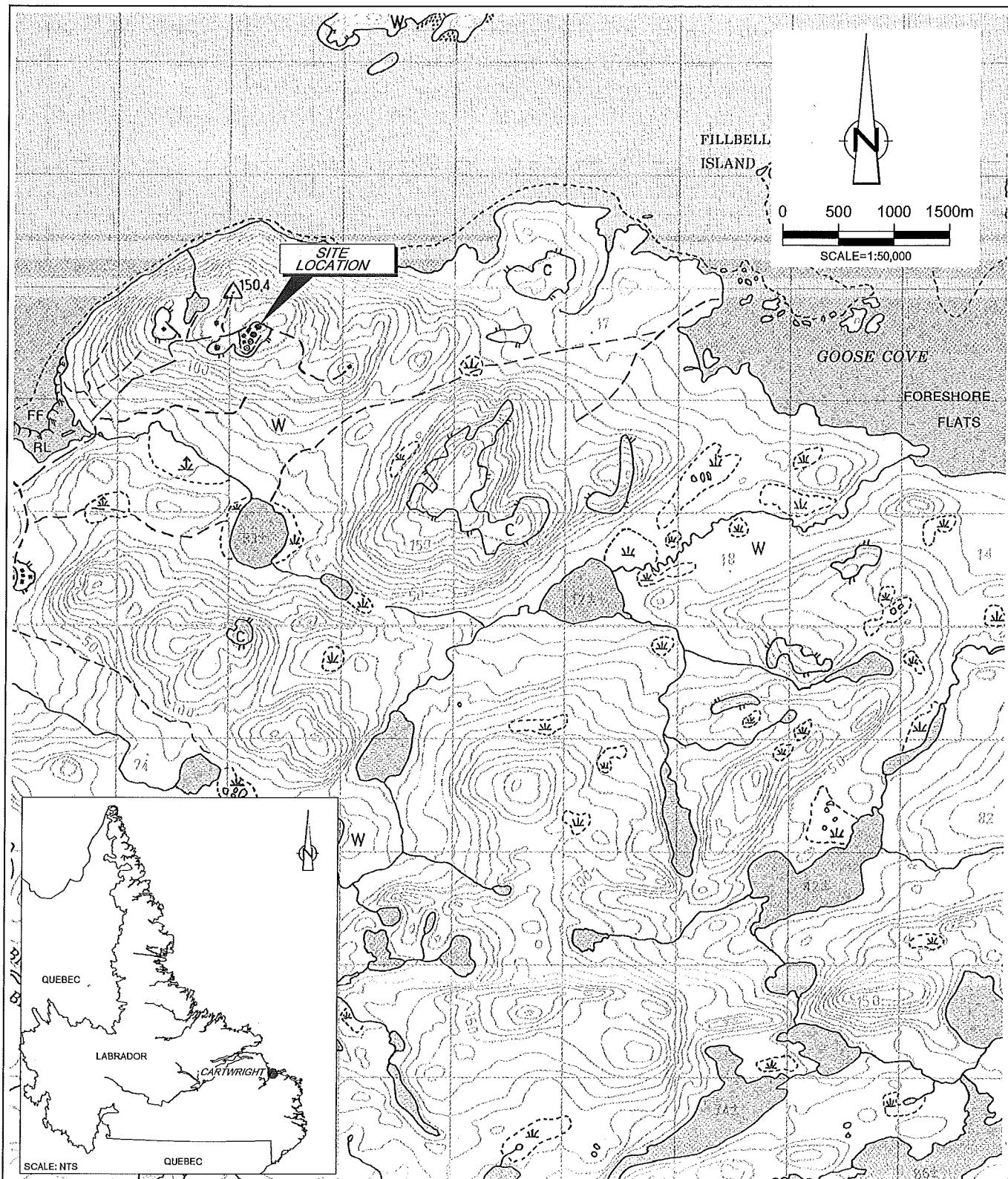


figure 1
SITE LOCATION MAP
PHASE I ENVIRONMENTAL SITE ASSESSMENT
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Cartwright, Labrador, NL





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 Cartwright, NL

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

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

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

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

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

Sincerely,

George Blackwood
Environmental Protection Officer



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 N-27, Cartwright, NL (Call Signs Dividend, Ink Bag, and Suzie Q)**

To Whom It May Concern:

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

The site was established in 1953 as a General Surveillance Radar station, funded by the United States Air Force. It was used initially by the Northeast Air Command, which stationed the 922d Aircraft Control and Warning Squadron on the station on 1 October 1953. The station functioned as a Ground-Control Intercept (GCI) and warning station. As a GCI station, the squadron's role was to guide interceptor aircraft toward unidentified intruders picked up on the unit's radar scopes.

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 1968 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 53° 42.5' North Latitude and 56° 59' 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,

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

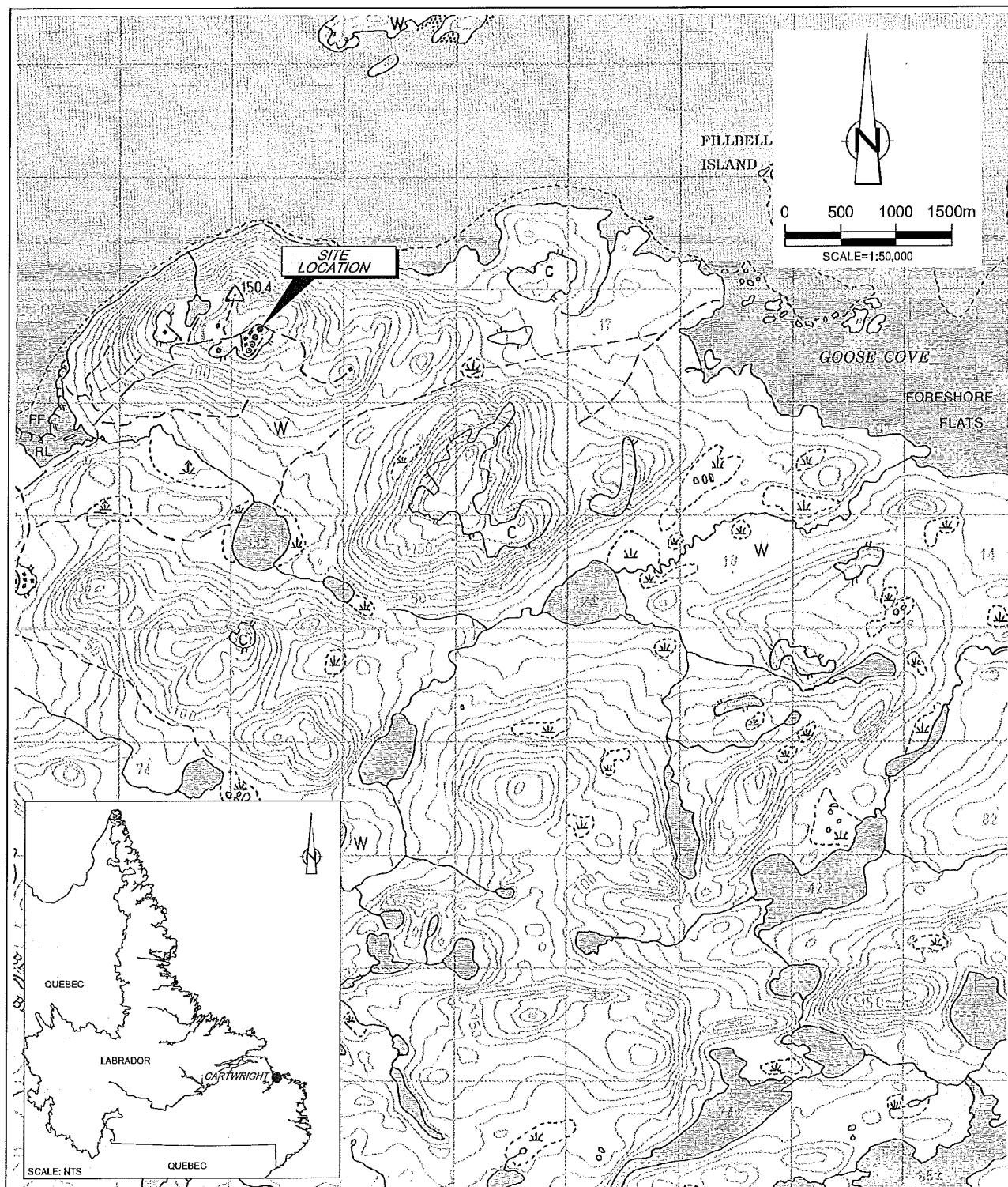


figure 1

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



089758-00(001) GN-NL001



Environment Environment
Canada Canada

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

Your File Votre référence

ID: 252721

Our File Notre référence
E-2014-01716 / TL

March 9, 2015

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

Dear Mr. Gillingham,

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

“Owner: Government of Newfoundland and Labrador

Address: The former United States Military Site N-27, Cartwright (Call Signs Dividend, Ink Bag, and Suzie Q), NL

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

Authorized by: {Christa Curnew} ”

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

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

Yours sincerely,

Travis Lamothe
Access to Information and Privacy Secretariat

Enclosure

Canada

Our principles for assisting your request

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

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



Environment Canada Environnement Canada

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

Your File Votre référence

ID: 252721

Our File Notre référence

E-2014-01716 / TL

April 8, 2015

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

Dear Mr. Gillingham,

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

“Owner: Government of Newfoundland and Labrador

Address: The former United States Military Site N-27, Cartwright (Call Signs Dividend, Ink Bag, and Suzie Q), NL

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

Authorized by: {Christa Curnew}”

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

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

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

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

.../2

Canada

Access to Information Act

EXTENSION OF TIME LIMITS

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

- (a) the request is for a large number of records or necessitates a search through a large number of records and meeting the original time limit would unreasonably interfere with the operations of the government institution,
- (b) consultations are necessary to comply with the request that cannot reasonably be completed within the original time limit, or
- (c) notice of the request is given pursuant to subsection 27(1)

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

Notice of extension to Information Commissioner

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

Appendix C

Property Title Search Information

Department of National Defence to enter upon and take possession of 150 acres of Crown Lands at St. Anthony for the establishment of a radio-communication base. Therefore, while this Order-in-Council does not apply to Cartwright, it is suspected that a similar order permitted the federal department to perform the same function and obtain similar rights at Cartwright, and possibly at Hopedale and Saglek too. A complete search of the records available in the Executive Council might reveal such documentation.

CARTWRIGHT LAND TRANSFERS

On June 18, 1961, Minute of Council 709-'61 (MA&R 2 (f) 61) transferred 14.32 acres of land at Cartwright to the federal government for use by the Department of Transport in connection with a radio station. MC720-'62 (MA&R 109-62) ordered that

... the administration, management and control of three areas of Crown Land situate at Cartwright in the District of Labrador South, as more particularly described in the Schedule hereto, be and they are hereby transferred to Her Majesty in the right of Canada for the use of the Department of Defence (Canada) in connection with the Pinetree project.

The same two conditions concerning mineral rights and termination of the conveyance as described previously for Hopedale and Saglek were written into the land transfer. Figure 4 shows the extent of the land transferred under this order.

MC 883-'62 (MA&R 109 (a) -'62) ordered that a further 1,685 acres of land at Cartwright be transferred to the Department of National Defence in connection with the Pinetree project. Once again, the same conditions of transfer applied. Figure 5 shows the area of the land being transferred.

MC 265-'65 (MA&R 8(b) -'65) transferred the administration, control and management of a water lot to the Department of National Defence. The water lot, which was only 1.19 acres was needed for docking purposes at the wharfside. This is reflected in a condition that was set in the transfer which was in addition to the normal conditions described previously

the said water lot shall be used at all times in

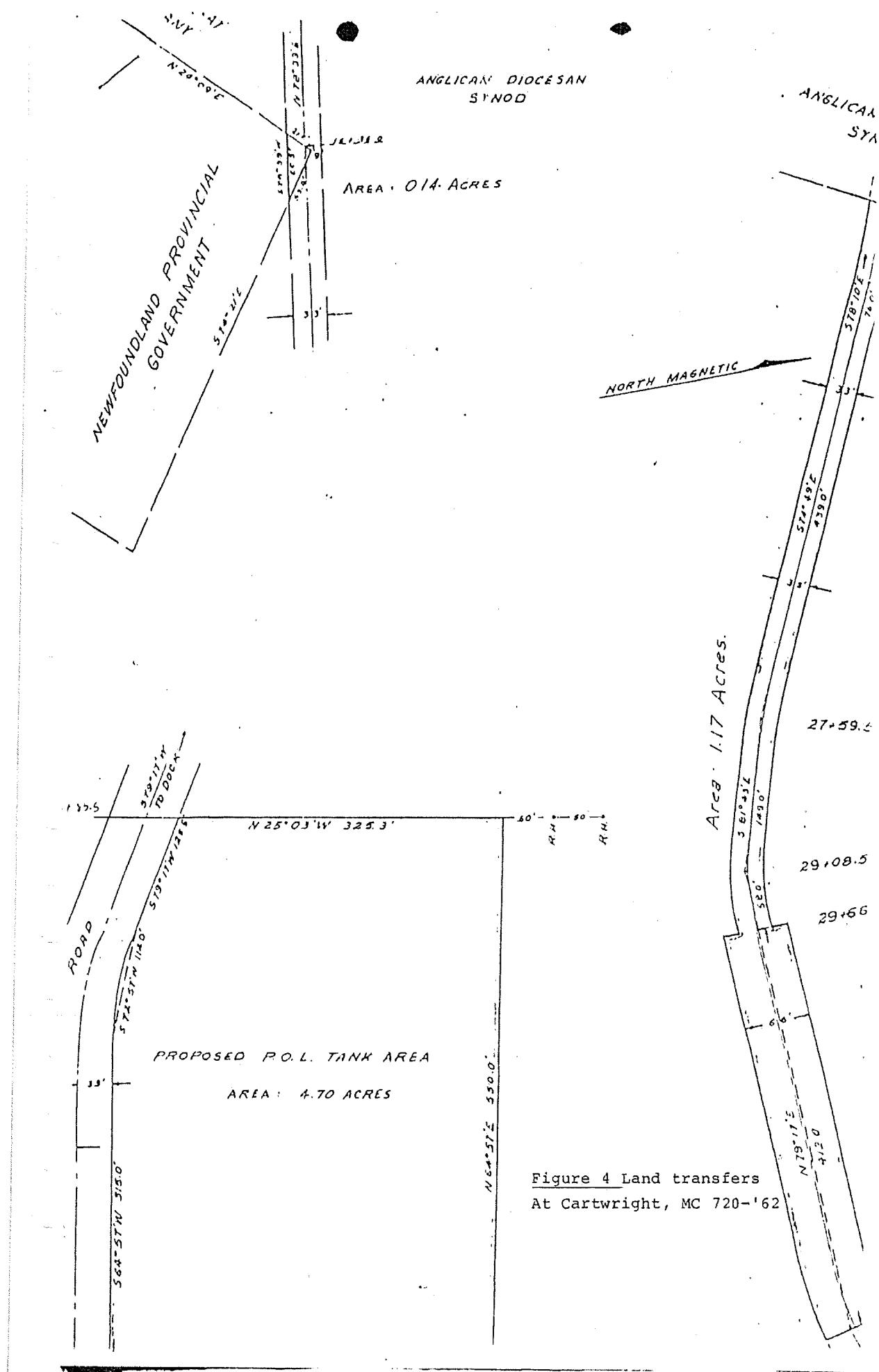


Figure 4 Land transfers
At Cartwright, MC 720-'62

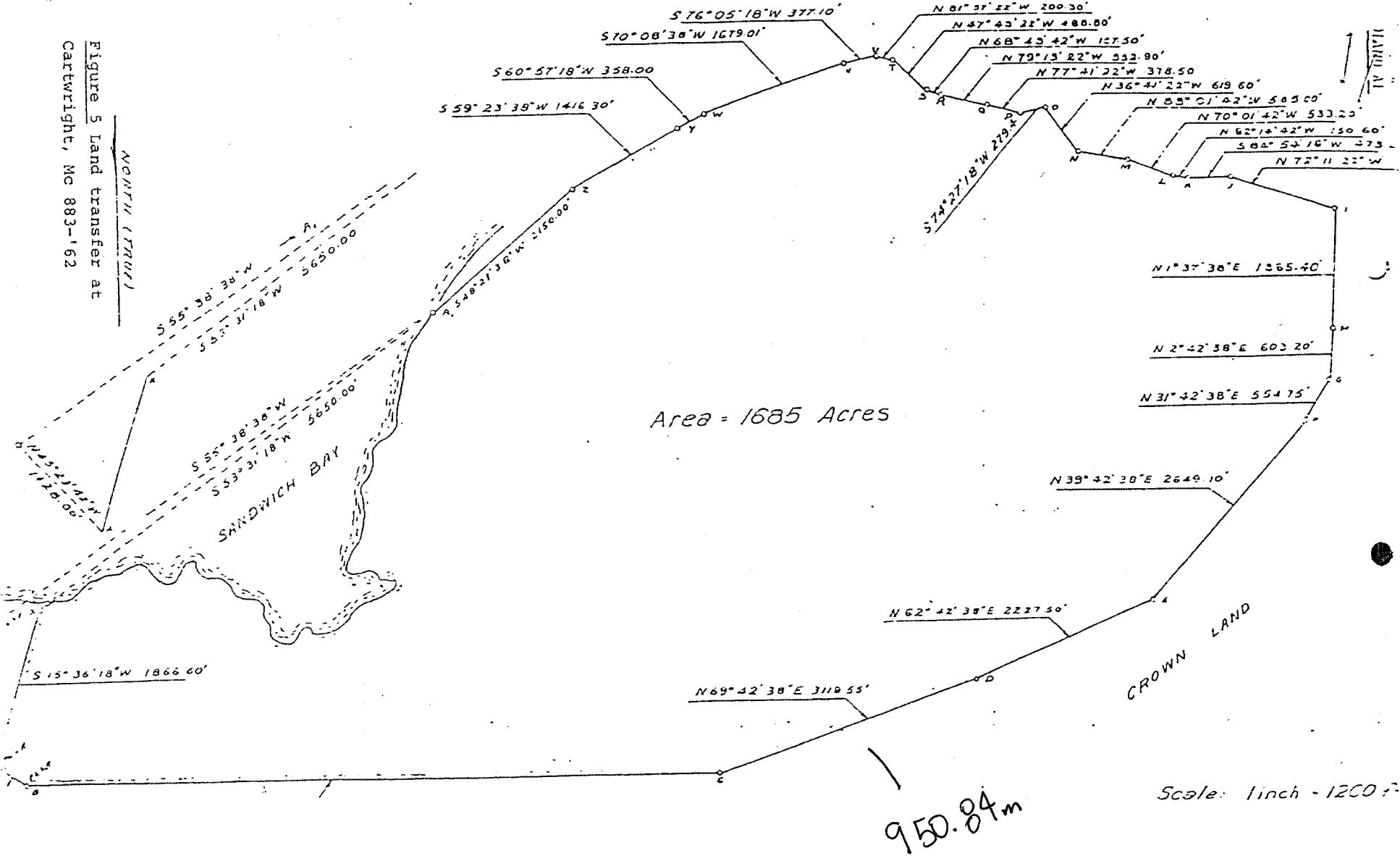


Figure 5 Land transfer at
Cartwright, MC 883-162

connection with the said department's docking facilities at Cartwright.

No record has been found of federal PCO's accepting transfer of these 5 parcels of land and 1 water lot.

From the 1950's to 1970, the USAF used Cartwright as a BMEWS relay station in addition to its function as a communications and radar station.

INITIAL PHASE-OUT AT CARTWRIGHT

In 1970 it became clear that the USAF were planning to pull out of the site at Cartwright, although phase-out was a couple of years earlier than that planned for Saglek and Hopedale. However, consistent with the other two sites, private communications companies immediately became interested in purchasing equipment to be left on site and/or leasing lands and facilities at the base. In a letter from Bell Canada to the Deputy Minister of Mines, Agriculture and Resources (MA&R) in 1970, the company expressed a wish to take over the site at Cartwright which would require the title or a long-term lease to land being granted by the Province of Newfoundland once the federal government had returned the land to the Province. The letter states:

The sale of the Polevault South System to Bell and CNT is in the best interest of Newfoundland and Labrador. USAF have clearly indicated their intentions to abandon this important link between the Island and the mainland if the sale of the system is not consummated in the immediate future. A sale of the system as presently contemplated would maintain the flow of United States military telecommunications circuits, through the Province of Newfoundland. In addition, it would increase the availability of commercial circuits between Goose Bay and the Island. In light of the expected economic development and growth of Labrador, and of Labrador's community of interest with Newfoundland, it is of vital importance to maintain and develop all existing communication links with the Island.

Therefore, Bell Canada requested that the sale or lease of relevant properties at Cartwright to the company be at a nominal sum.

It must be noted that Bell's reference to the sale of 'Polevault South' to Bell and CNT (Canadian National Telecommunications) reflects Bell's impending lease with the USAF for space at the Melville site and CNT's intention to take over the St. Anthony site to augment its telecommunications operations already at St. Anthony.

The Province's reaction to Bell's proposal was one of surprise. A memo from the Deputy Minister to the Minister of MA&R showed that he felt Bell's request to be "precipitate and quite unnecessary at this time ... I do not really know what is behind this any more than the man in the moon". Nevertheless, the Department submitted a cabinet paper (MA&R -84-'70) from which MC663-'70 ordered that

Subject to the acceptance by the Government of Newfoundland from the Government of Canada of the recoveyance of the administration, management and control of the areas of land described in the schedule hereto, the said lands be received and set apart for such period of time as may be required to enable Bell Telephone Company of Canada to select, by metes and bounds surveys, such portions of the said lands as may be required for the maintenance of troposcatter communications system facilities at Cartwright.

If the company would complete the surveys required within a year, a lease would be drawn up for the areas required by the company. The lease would run for as long as the company uses the lands and the communications facilities could be rented for \$1 a year, if demanded. The lands covered by this MC are the tracts listed in the earlier MCs authorizing transfer to Canada, namely MC 720-'62 and MC 883-'62. That is, the lands covered by MC 709-'61 and the water lot under MC 265-'65 were not included.

A note from the Clerk of the Executive Council to the Minister of MA&R in June 1970 makes reference to the transfer procedure of lands from Newfoundland to Canada. An important point noted in the memo (which becomes important in later years) is that the only significant provision in the original MC transferring land to Canada related to the use of the land is its return to the Province when the land was no longer used in connection with the Pinetree project.

I think it is fair to say that the Government of Canada is the owner of the facilities on the lands and may dispose of them as they see fit. It would be a legal question, beyond my competence to answer, as to who would own the facilities if the lands were returned to the province before the facilities had been disposed of.

In an undated background document to MA&R 84-'70 the four areas required by Bell are listed as:

1. The main communications base area of 1,685 acres;
2. the adjacent P.O.L. tank area of 4.70 acres;
3. An access road of 1.17 acres; and
4. a portion of another road of 0.14 acres.

It is also clear that Bell only wished to use about 50 acres, i.e. those parts of the site which had some utility to the company's micro-wave operations. The troposcatter system used in the BMEWS relay process was Bell's focal point at Cartwright.

Given the location of the Cartwright site, it was necessary for Bell to lease the entire 1,691.01 acres until proper surveys had been carried out and from which the company could select which buildings it needed to occupy. This caused the Department of Mines, Agriculture and Resources some problems for it was suspected at the time that other communication companies were interested in leasing some of the facilities. Although disproved later, the CBC's name was specifically mentioned.

The DND assured Bell Canada that:

as soon as we are able, action will be taken to return to the province the lands you require in order to make the necessary arrangements with the provincial authorities for your use of the properties.

On July 23, 1971, MC 599-'71 (P.Works15-'71) ordered that, further to MC 663-'70, the Minister for Public Works would be authorized to enter into a lease arrangement and to grant easement rights to Bell Canada for the lands at Cartwright. Once again, this order was conditional on the transferral of land back to the province.

and on a final plan and survey of lands being prepared by Bell. Therefore, by July 1972, the Department of Public Works (the Expropriations Division) was handling any land leases at Cartwright as recommended in a Memorandum to the Executive Council.

On August 11, 1971 the federal government transferred the administration and control of four tracts of land and the water lot at Cartwright to the Province of Newfoundland by PC 1971-1642. This did not include the 14.32 acre tract originally transferred to the Department of Transport for creation of a radio station by M.C. 709-'61.

It was not until February 3, 1973, a full 17 months later, that the Province accepted the lands back from the federal government by M.C. 119-'73 (F.A. 13-'73). The M.C. ordered

that the transfer to Her Majesty in right of Newfoundland by Her Majesty in right of Canada of the areas of land conveyed to the Department of National Defence (Canada) pursuant to Orders-in-Council 720-'62, 883-'62 and 265-'65 be and it is hereby accepted.

By this time Bell had purchased the buildings and facilities at the Cartwright Polevault site from the Government of Canada. In a letter from Bell to the Department of Public Works on October 24, 1972 it is stated

our installations referred to as the South Polevault system has been acquired from the Crown Assets Disposal Corporation.

In the same letter, Bell reminded the Province that the Minister of Public Works had been authorized to enter into a lease and grant easement rights to Bell Canada once the Province had received the land from the federal government and that the company was presently occupying the lands for operation of its Polevault (south) System. The company pointed out that despite this latter fact neither of the conditions stated in the provincial order (i.e. return of land and the completion of a land survey) had been fulfilled.

On October 24, 1972, Bell Canada wrote to the Department of Public Works requesting provincial permission to allow the company to enter into an agreement with Imperial Oil Limited so that Imperial could use a fuel tank at Cartwright. It is unclear from the documentation whether the tank was located on the land which at that time was under federal jurisdiction, but given the formal request it is almost certain that it was. The location was probably on land at the dockside.

In a memo to the Director of Crown Lands dated November 8, 1972, the ADM of Public Works noted that provincial permission for such an agreement would have been necessary even if Bell had received federal permission to enter into such an agreement, given that Imperial's proposed use of the land was for a purpose other than communications, and therefore was not sanctioned by the original provincial land transfer.

No documentation can be found to show that Bell had entered into any lease arrangement with the federal government prior to the lands returning to the Province. Therefore, what authority Bell had to be on the Cartwright site is unclear. As late as November 1972, the Director of Crown Lands wrote to the ADM for Public Works informing him that a lease with Bell still could not be signed as the Province had not heard from the Department of National Defence since June 28, 1971. Therefore, no information was available at that time on the status of the federal PC transferring the land to the Province. This position was transmitted to Bell by letter on November 16, 1972.

Note that this is a full year and three months after the federal PC had been issued. On January 25, 1973 the Minister for M & R informed the Minister for Public Works that the lands at Cartwright had been transferred back to the Province under PC 1971-1642 and that his memorandum to Cabinet (FA-13-'73) recommended acceptance of the lands. The Province now considered the lease to Bell, but that company's operations in Labrador were to be taken

over by the Newfoundland Telephone Company Limited as of January 1, 1974. Therefore, the Justice Department recommended amending the easements and leases so that they be issued to Newfoundland Telephone and not Bell Canada.

M.C. 121-'74 (PWS 40-'73) ordered that M.C. 599-'71 be amended to reflect the change of company. Consequently, M.C. 149-'74 (PWS 2-'74) authorized the Minister of Public Works and Services to execute lease and easement indentures with Newfoundland Telephone Co. Ltd. concerning the site at Cartwright.

On January 2, 1974 a lease was signed between Newfoundland Tel. and the Minister for Public Works and Services which leased the Cartwright site to the Company for a term of 99 years commencing on January 1, 1974.

HISTORICAL BACKGROUND TO MELVILLE STATION (GOOSE BAY)

The town of Happy Valley-Goose Bay is located on the western shore of Lake Melville, 100 miles inland from the Labrador coast. The two 'communities,' separated by a distance of ten miles, have a total population of 7,000, but due to the military operations on the base at Goose Bay, many from this total should not be counted as permanent residents. Although Labrador City is far bigger than Happy Valley-Goose Bay, the latter remains as the focal point for most Labrador activities. In particular, it serves as the social and administrative centre for the mainland portion of the Province. Social services (medical and recreational facilities) are located primarily at Goose Bay, while Happy Valley acts as the Labrador centre for government operations and for retail services.

Despite the importance of the military base at Goose Bay, resource activities such as the fishery, forestry, hydro development etc. provide much of the employment for the area. Naturally, military-related operations and services still contribute significantly to the region's economy.

never took place. Both governments agreed in 1973 to issue reciprocal orders in council recognizing provincial ownership. A year later the Province preferred to exchange letters to recognize provincial ownership. This was done in May 1974.

Reference is in DND files 395/3090 Vol. 2

MELVILLE STATION/GOOSE BAY

To Canada: By Act No. 1 of 1945, 120 sq. miles of land at Goose Bay.

To Nfld.: PC 1976-626 and M.C. 54-'76 dated March 16, 1976 which authorized the Memorandum of Agreement of October 28, 1976, transferred the bulk of the Goose Bay Air Base back to the Province.

However, Melville station was not included in that transfer. No environmental conditions were specified in original transfer agreement. The 1976 transfer to Newfoundland specified in Section 4(2) that Canada will repair and maintain lands and buildings and keep them in good order.

Reference: Is in DND Files 395/3090, 6 vols and in Intergovernmental Affairs file or Goose Bay Transfer Agreement.

ESKIMOPAPS - LONG POINT: No records available.

PORCUPINE STRAND: No records available

CARTWRIGHT:

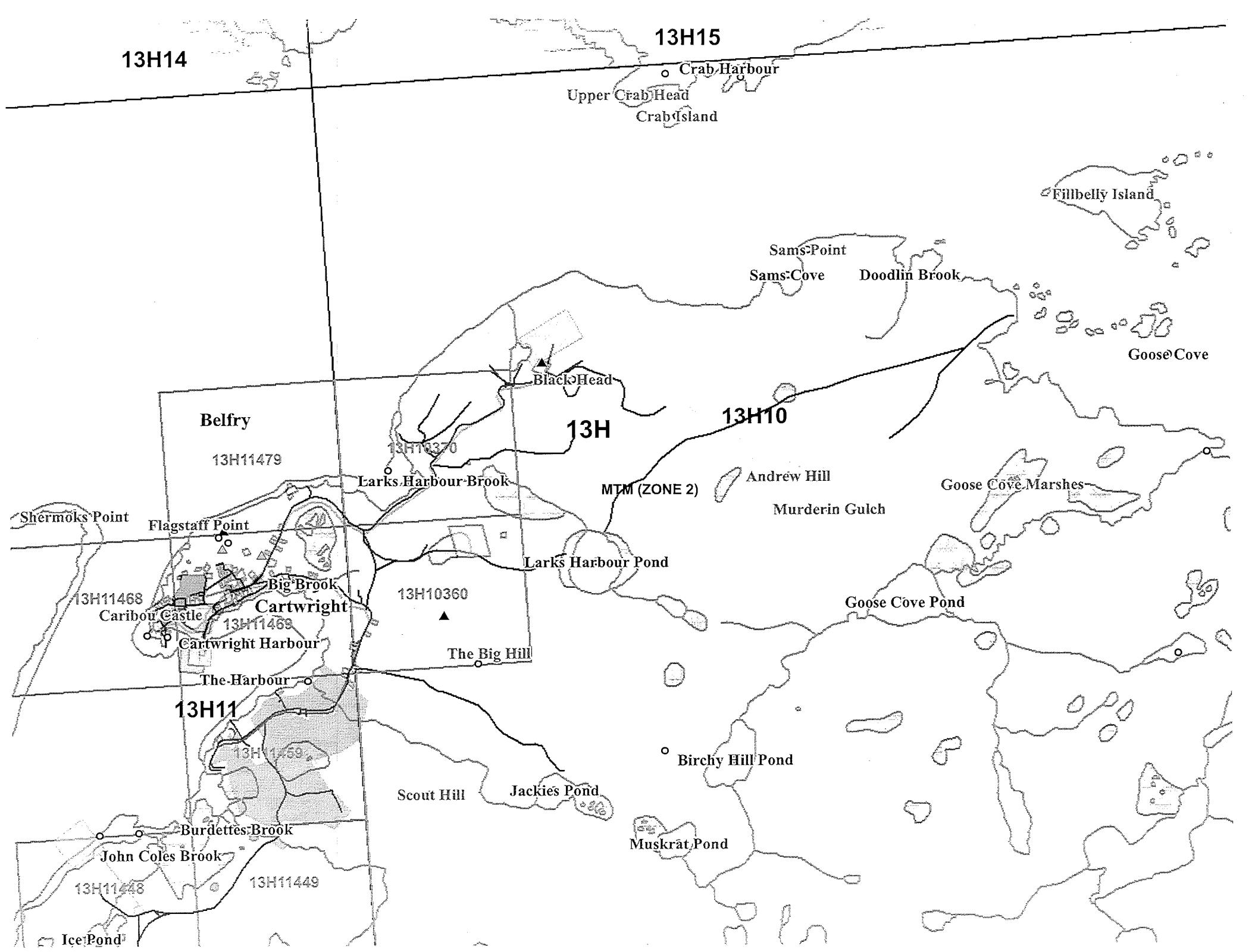
To Canada: (1) M.C., 709-'61 1961
(M&R 2(f)-'61) (1961)
(2) M.C., 720-'62 1962
(M.A.&R. 109-'62) (1962)
(3) M.C., 883-'62 1962
(M.&R. 2(f)-'61) (1961)
(4) M.C., 265-'65 1965

To Nfld: (2), (3), & (4)
P.C. 1971 1971
M.C. 119-'73 1973

(1) No record found

- (1) Transferred 14.32 acres to D.O.T. for use in connection with radio station subject to usual conditions. No record of transfer to Newfoundland was found.
- (2) Transferred 3 acres to DND in connection with Pinetree Project subject to conditions same as Inland Hopedale.
- (3) Transferred 16.85 acres to DND in connection with Pinetree project, with same conditions as Inland Hopedale.
- (4) Transferred a water lot to DND. Same conditions as Inland Hopedale, except that water lot shall be used at all times in connection with DND's clocking facilities.

Reference is in FRB Vol. 2, Folio 45, 48 & 57.





TRANSFER NO. 61840

ORDERED THAT, under authority of The Administration and Control of Lands of the Crown (Transfer) Act, Chapter 3 of The Revised Statutes of Newfoundland, 1970, as amended by Chapter 44 of The Statutes of Newfoundland, 1979, the administration and control of four parcels of land situate at Cartwright in the Electoral District of Eagle River as more particularly described in the schedule hereto, be and they are hereby transferred to Her Majesty the Queen in Right of Canada for marine purposes including telecommunications subject to the following conditions:

- (1) the land shall at all times be used for marine purposes including telecommunications;
- (2) all minerals quarry materials, coal, natural gas, oil and salt in and under the said land shall be reserved to Her Majesty the Queen in Right of Newfoundland; and
- (3) if and as soon as the said land ceases to be used for the purpose mentioned in (1) above, the administration and control thereof shall thereupon be assumed by Her Majesty the Queen in Right of Newfoundland.
- (4) Newfoundland Telephone Company Limited, in common with others, shall have right of access and egress over lands hereinafter described as Lot 3 and Lot 4'.

SCHEDULE

All that lot of land situated to the East of Cartwright, Electoral District of Eagle River, Province of Newfoundland, being shown as Lot 1 on Public Works Canada Plan S-1359 dated 20 October, 1983, revised December 5th, 1985, and being more particularly described as follows: Beginning at a point being the most northerly angle of land leased by her Majesty the Queen in Right of Newfoundland to Newfoundland Telephone Company Limited under Lease No. 60558; thence by the aforementioned Lease No. 60558 to Newfoundland Telephone Company Limited south forty-two degrees twenty-six minutes zero zero seconds east forty-one decimal one two metres to an iron pin set in concrete; thence by Crown land and by the hereinafter described Lot 2 and by Crown land north eighty degrees forty-two minutes twenty seconds east four hundred forty-one decimal one nine metres to an iron pin set in concrete;

thence by Crown land north nine degrees seventeen minutes forty seconds west three hundred decimal zero zero metres to an iron pin set in concrete; thence by Crown land south eighty degrees forty-two minutes twenty seconds west five hundred fifty decimal zero zero metres, more or less, to an iron pin set in concrete; thence following the sinuosities of the eastern limit of the reservation, fifteen metres wide, extending along the easterly shoreline of the Cartwright water reservoir in Easterly, Southerly, Southeasterly and Southwesterly directions, three hundred sixty-five metres, more or less, to an iron pin set in concrete, said point being south nine degrees seventeen minutes forty seconds east two hundred and ten metres from the last-mentioned point; thence by Crown land south nine degrees seventeen minutes forty seconds east ninety decimal zero zero metres to an iron pin set in concrete; thence by Crown land north eighty degrees forty-two minutes twenty seconds east thirty-three decimal five nine metres, more or less, to an iron pin set in concrete; thence by the aforementioned Lease No. 60558 to Newfoundland Telephone Company Limited north forty-seven degrees thirty-four minutes zero zero seconds east sixty-two decimal nine eight metres, more or less, to the Point of Beginning and containing an area of 14.884 hectares, more or less. Also all that other lot of land containing an area of 0.109 hectares, more or less, situated to the East of Cartwright, Electoral District of Eagle River, Province of Newfoundland, shown as Lot 2 on Public Works Canada Plan S-1359 dated 20 October 1983, revised December 5th, 1985, and being more particularly described as follows: Commencing at a point, said point being the most northerly angle of land leased to Newfoundland Telephone Company Limited under Lease No. 60558; thence south forty-two degrees twenty-six minutes zero zero seconds east forty-one decimal one two metres; thence north eighty degrees forty-two minutes twenty seconds east seventy-four decimal one zero metres, more or less, to the principal Point of Beginning; thence by the hereinbefore described Lot 1, north eighty degrees forty-two minutes twenty seconds east

- 3 -

twenty-one decimal three four metres to a point; thence by Crown Land south thirty-five degrees zero nine minutes zero zero seconds west fifty-five decimal four nine metres to a point; thence by Crown land south forty-four degrees seventeen minutes zero zero seconds west twenty-five decimal one eight metres, more or less, to a point; thence by the aforementioned lease to Newfoundland Telephone Company Limited north forty-two degrees twenty-six minutes zero zero seconds west fifteen decimal two six metres to a point; thence by Crown land north forty-four degrees seventeen minutes zero zero seconds east twenty-three decimal one zero metres to a point; thence by Crown land north thirty-five degrees zero nine minutes zero zero seconds east thirty-nine decimal three three metres, more or less, to the Point of Beginning. Also, all that other lot of land containing an area of 0.126 hectares, more or less, situated to the East of Cartwright, Electoral District of Eagle River, Province of Newfoundland, shown as Lot 3 on Public Works Canada Plan S-1359 dated 20 October 1983, revised December 5th, 1985, and being more particularly described as follows: Beginning at a point, said Point being north forty-two degrees twenty-six minutes zero zero seconds west thirteen decimal three six metres from the most Easterly angle of land leased to Newfoundland Telephone Company Limited under Lease No. 60558, said Point also being the most Southerly angle of the hereinbefore described Lot 2; thence south forty degrees zero four minutes west sixty-four decimal six six metres to a point; thence south thirty-seven degrees zero one minutes east four decimal nine five metres to a point; thence south forty-seven degrees thirty-four minutes west fifteen decimal three zero metres to a point; thence north thirty-seven degrees zero one minutes west eighteen decimal four two metres to a point; thence north forty degrees zero four minutes east seventy-eight decimal seven eight metres to a point; thence south forty-two degrees twenty-six minutes zero zero seconds east fifteen decimal two six metres, more or less, to the Point of Beginning. The above described Lot 3 being subject to a

- 4 -

powerline easement, five decimal five metres wide, extending through the said land which may be more particularly described by centreline as follows, that is to say: Beginning at a Point, said Point being on the Southerly boundary of the said Lot 3 and being south forty degrees zero four minutes west sixty-one decimal six six metres from the most Southerly angle of the hereinbefore described Lot 2; thence north thirty-seven degrees thirty seconds west fifteen decimal six one metres to a point on the northerly boundary of the said Lot No. 3, the above described easement containing an area of 85.86 square metres, more or less. Also all that lot of land situated to the East of Cartwright, Electoral District of Eagle River, Province of Newfoundland, shown as Lot 4 on Public Works Canada Plan S-1359 dated 20 October 1983, revised December 5, 1985, and being more particularly described as follows: Beginning at a point, said point being south forty-seven degrees thirty-four minutes west sixty-three decimal nine six metres, from the most Easterly angle of land leased to Newfoundland Telephone Company Limited under Lease No. 60558; thence south thirty-seven degrees zero one minutes east ninety-four decimal nine one metres to a point on the Northern limit of the Main Road to Cartwright; thence south eighty-five degrees zero zero minutes west seventeen decimal nine six metres to a point; thence north thirty-seven degrees zero one minutes west eighty-three decimal nine six metres to a point; thence north forty-seven degrees thirty-four minutes east fifteen decimal three zero metres, more or less, to the Point of Beginning. The above described Lot 4 being subject to a powerline easement five decimal five metres wide extending through the said land which may be more particularly described by centreline as follows, that is to say: Beginning at a Point, said Point being on the Northeasterly boundary of the said Lot 4 and being north thirty-seven degrees zero one minutes west eight decimal seven five metres from the easternmost angle of the above described Lot 4; thence south eighty-four degrees thirty minutes west seventeen decimal eight six metres to a point on the

- 5 -

southwesterly boundary of the said Lot 4, the above described easement containing an area of 98.23 square metres, more or less. The above described pieces or parcels of land containing in all an area of 15.255 hectares, more or less; All bearings being magnetic for the year A.D. 1981.

March 23, 1987

Date

Ken Lemire

Minister of Forest Resources
and Lands

Alida Miller

Witness

VIDA MILLER

A Commissioner for Oaths in and for Newfoundland. My Commission expires
the 31st day of December, 1989.

To replace Transfer No. 61840 issued on February 26, 1986.

TRANSFER NO. 61840

ORDERED THAT, under authority of The Administration and Control of Lands of the Crown (Transfer) Act, Chapter 3 of The Revised Statutes of Newfoundland, 1970, as amended by Chapter 44 of The Statutes of Newfoundland, 1979, the administration and control of four parcels of land situate at Cartwright in the Electoral District of Eagle River as more particularly described in the schedule hereto, be and they are hereby transferred to Her Majesty the Queen in Right of Canada for marine purposes including telecommunications subject to the following conditions:

- (1) the land shall at all times be used for marine purposes including telecommunications;
- (2) all minerals quarry materials, coal, natural gas, oil and salt in and under the said land shall be reserved to Her Majesty the Queen in Right of Newfoundland; and
- (3) if and as soon as the said land ceases to be used for the purpose mentioned in (1) above, the administration and control thereof shall thereupon be assumed by Her Majesty the Queen in Right of Newfoundland.

SCHEDULE

All that lot of land situated to the East of Cartwright, Electoral District of Eagle River, Province of Newfoundland, being shown as Lot 1 on Public Works Canada Plan S-1359 dated 20 October, 1983, revised December 5th, 1985, and being more particularly described as follows: Beginning at a point being the most northerly angle of land leased by her Majesty the Queen in Right of Newfoundland to Newfoundland Telephone Company Limited under Lease No. 60558; thence by the aforementioned Lease No. 60558 to Newfoundland Telephone Company Limited south forty-two degrees twenty-six minutes zero zero seconds east forty-one decimal one two metres to an iron pin set in concrete; thence by Crown land and by the hereinafter described Lot 2 and by Crown land north eighty degrees forty-two minutes twenty seconds east four hundred forty-one decimal one nine metres to an iron pin set in concrete; thence by Crown land north nine degrees seventeen minutes forty seconds west three hundred decimal zero zero metres to an iron pin set in concrete; thence by Crown land south eighty degrees forty-two minutes twenty seconds west five hundred fifty decimal zero

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zero metres, more or less, to an iron pin set in concrete; thence following the sinuosities of the Eastern reservation of the Cartwright water reservoir in Easterly, Southerly, Southeasterly and Southwesterly directions, three hundred sixty-five metres, more or less, to an iron pin set in concrete, said point being south nine degrees seventeen minutes forty seconds east two hundred and ten metres from the last-mentioned point; thence by Crown land south nine degrees seventeen minutes forty seconds east ninety decimal zero zero metres to an iron pin set in concrete; thence by Crown land north eighty degrees forty-two minutes twenty seconds east thirty-three decimal five nine metres, more or less, to an iron pin set in concrete; thence by the aforementioned Lease No. 60558 to Newfoundland Telephone Company Limited north forty-seven degrees thirty-four minutes zero zero seconds east sixty-two decimal nine eight metres, more or less, to the Point of Beginning and containing an area of 14.884 hectares, more or less. Also all that other lot of land containing an area of 0.109 hectares, more or less, situated to the East of Cartwright, Electoral District of Eagle River, Province of Newfoundland, shown as Lot 2 on Public Works Canada Plan S-1359 dated 20 October 1983, revised December 5th, 1985, and being more particularly described as follows: Commencing at a point, said point being the most northerly angle of land leased to Newfoundland Telephone Company Limited under Lease No. 60558; thence south forty-two degrees twenty-six minutes zero zero seconds east forty-one decimal one two metres; thence north eighty degrees forty-two minutes twenty seconds east seventy-four decimal one zero metres, more or less, to the principal Point of Beginning; thence by the hereinbefore described Lot 1, north eighty degrees forty-two minutes twenty seconds east twenty-one decimal three four metres to a point; thence by Crown Land south thirty-five degrees zero nine minutes zero zero seconds west fifty-five decimal four nine metres to a point; thence by Crown land south forty-four degrees seventeen minutes zero zero seconds west twenty-five decimal one eight metres, more or less,

to a point; thence by the aforementioned lease to Newfoundland Telephone Company Limited north forty-two degrees twenty-six minutes zero zero seconds west fifteen decimal two six metres to a point; thence by Crown land north forty-four degrees seventeen minutes zero zero seconds east twenty-three decimal one zero metres to a point; thence by Crown land north thirty-five degrees zero nine minutes zero zero seconds east thirty-nine decimal three three metres, more or less, to the Point of Beginning. Also, all that other lot of land containing an area of 0.126 hectares, more or less, situated to the East of Cartwright, Electoral District of Eagle River, Province of Newfoundland, shown as Lot 3 on Public Works Canada Plan S-1359 dated 20 October 1983, revised December 5th, 1985, and being more particularly described as follows: Beginning at a point, said Point being north forty-two degrees twenty-six minutes zero zero seconds west thirteen decimal three six metres from the most Easterly angle of land leased to Newfoundland Telephone Company Limited under Lease No. 60558, said Point also being the most Southerly angle of the hereinbefore described Lot 2; thence south forty degrees zero four minutes west sixty-four decimal six six metres to a point; thence south thirty-seven degrees zero one minutes east four decimal nine five metres to a point; thence south forty-seven degrees thirty-four minutes west fifteen decimal three zero metres to a point; thence north thirty-seven degrees zero one minutes west eighteen decimal four two metres to a point; thence north forty degrees zero four minutes east seventy-eight decimal seven eight metres to a point; thence south forty-two degrees twenty-six minutes zero zero seconds east fifteen decimal two six metres, more or less, to the Point of Beginning. The above described Lot 3 being subject to a powerline easement, five decimal five metres wide, extending through the said land which may be more particularly described by centreline as follows, that is to say: Beginning at a Point, said Point being on a Southerly boundary of the said Lot 3 and being south forty degrees zero four minutes west sixty-one decimal six

six metres from the most Southerly angle of the hereinbefore described Lot 2; thence north thirty-seven degrees thirty seconds west fifteen decimal six one metres to a point on the northerly boundary of the said Lot No. 3, the above described easement containing an area of 85.86 square metres, more or less. Also all that lot of land situated to the East of Cartwright, Electoral District of Eagle River, Province of Newfoundland, shown as Lot 4 on Public Works Canada Plan S-1359 dated 20 October 1983, revised December 5, 1985, and being more particularly described as follows: Beginning at a point, said point being south forty-seven degrees thirty-four minutes west sixty-three decimal nine six metres, from the most Easterly angle of land leased to Newfoundland Telephone Company Limited under Lease No. 60558; thence south thirty-seven degrees zero one minutes east ninety-four decimal nine one metres to a point on the Northern limit of the Main Road to Cartwright; thence south eighty-five degrees zero zero minutes west seventeen decimal nine six metres to a point; thence north thirty-seven degrees zero one minutes west eighty-three decimal nine six metres to a point; thence north forty-seven degrees thirty-four minutes east fifteen decimal three zero metres, more or less, to the Point of Beginning. The above described Lot 4 being subject to a powerline easement five decimal five metres wide extending through the said land which may be more particularly described by centreline as follows, that is to say: Beginning at a Point, said Point being on the Northeasterly boundary of the said Lot 4 and being north thirty-seven degrees zero one minutes west eight decimal seven five metres from the easternmost angle of the above described Lot 4; thence south eighty-four degrees thirty minutes west seventeen decimal eight six metres to a point on the southwesterly boundary of the said Lot 4, the above described easement containing an area of 98.23 square metres, more or less. The above described pieces or parcels of land containing in all an area of 15.255 hectares, more or less; All bearings being magnetic for the year A.D. 1981.

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February 26, 1986

Date

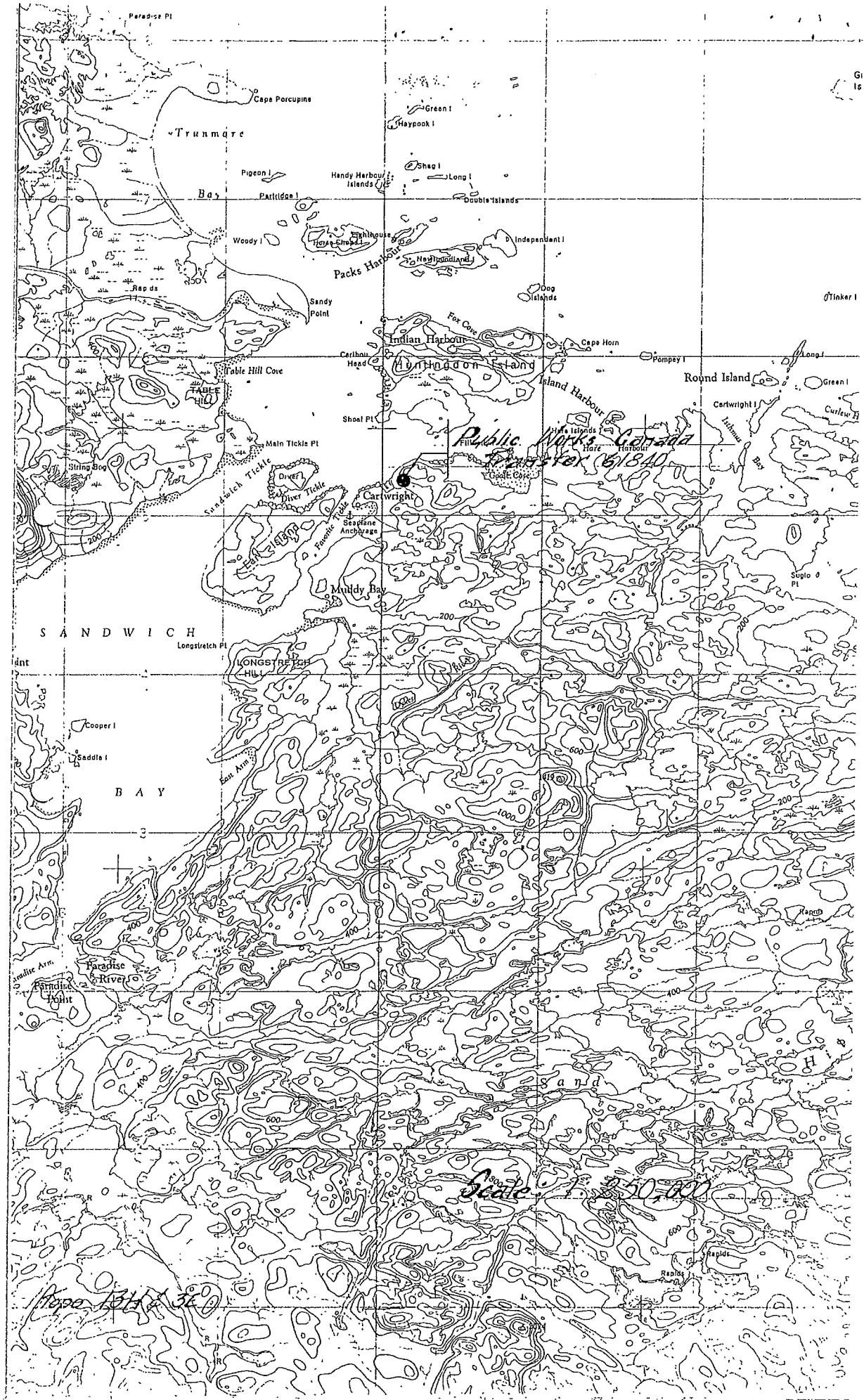
Len Simms

Minister of Forest Resources
and Lands

VIDA MILLER
A Commissioner for Oaths in and for
Newfoundland. My Commission expires
the 31st. day of December, 1989.

Alida Miller

Witness



Appendix D Aerial Photographs

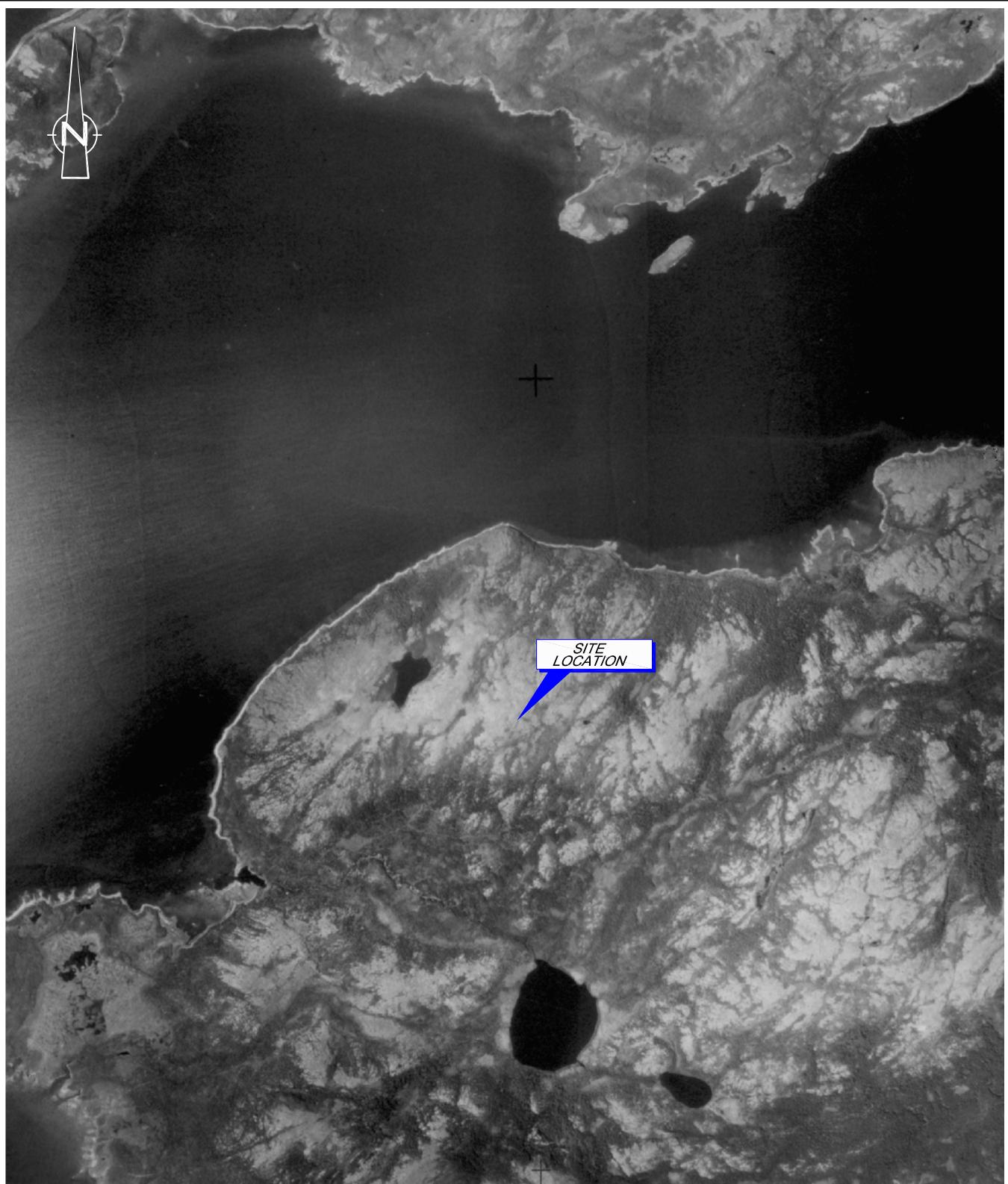


figure D1

AERIAL PHOTOGRAPH - 1951
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cartwright, Labrador, NL



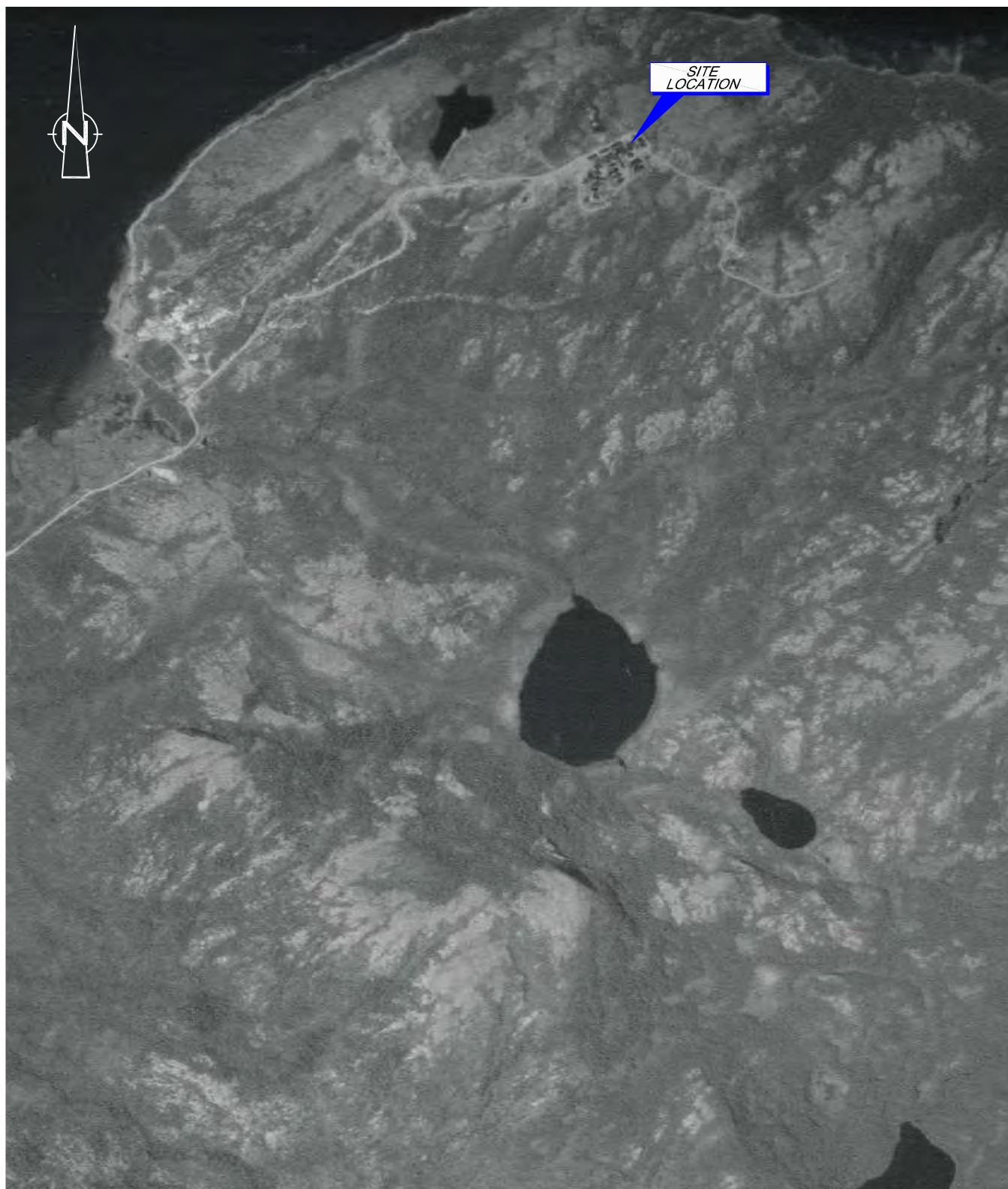


figure D2

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





figure D3

AERIAL PHOTOGRAPH - 1970
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cartwright, Labrador, NL





figure D4

AERIAL PHOTOGRAPH - 1983
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cartwright, Labrador, NL



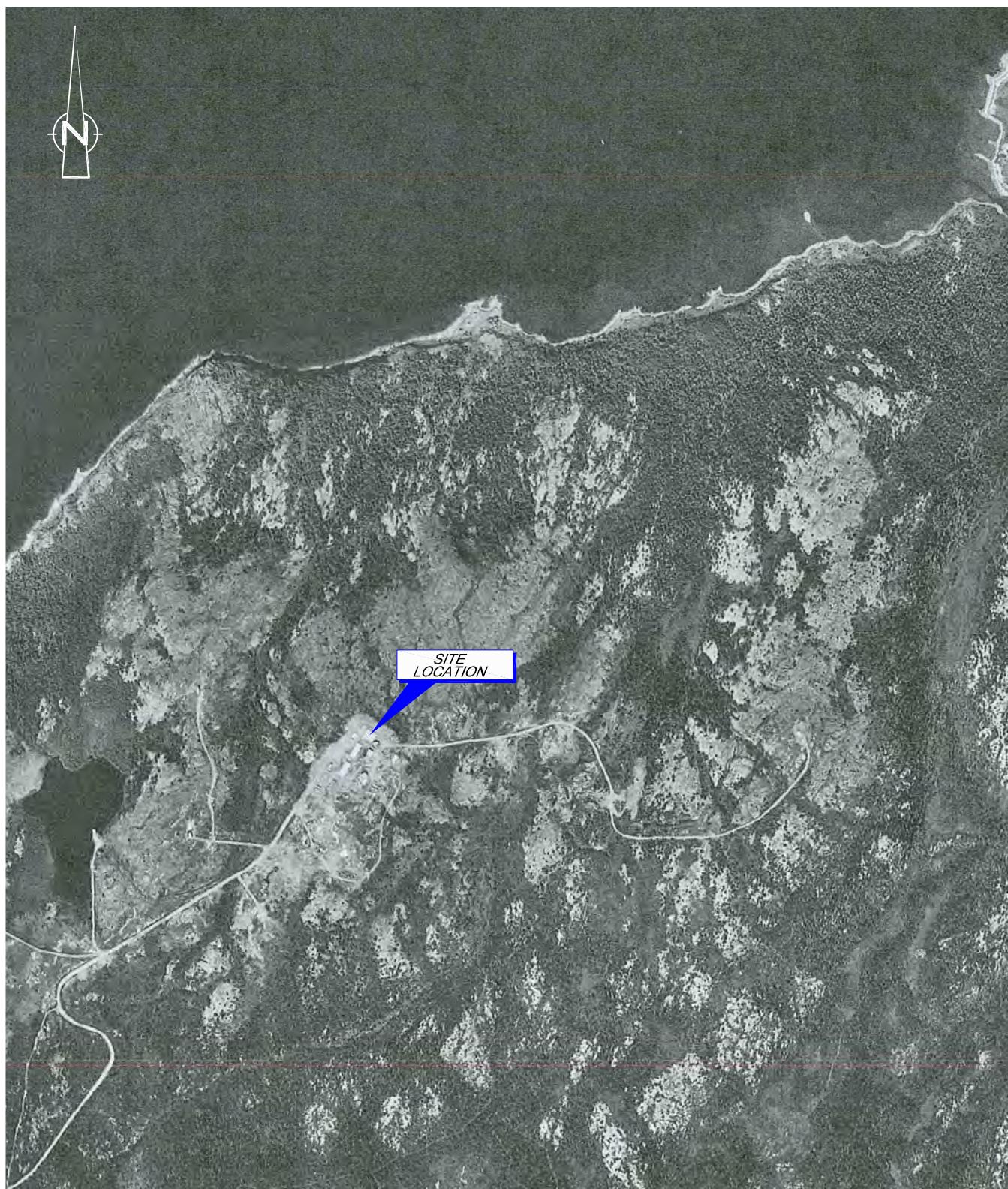


figure D5

AERIAL PHOTOGRAPH - 1991
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cartwright, Labrador, NL





figure D6

AERIAL PHOTOGRAPH - 1992
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cartwright, Labrador, NL



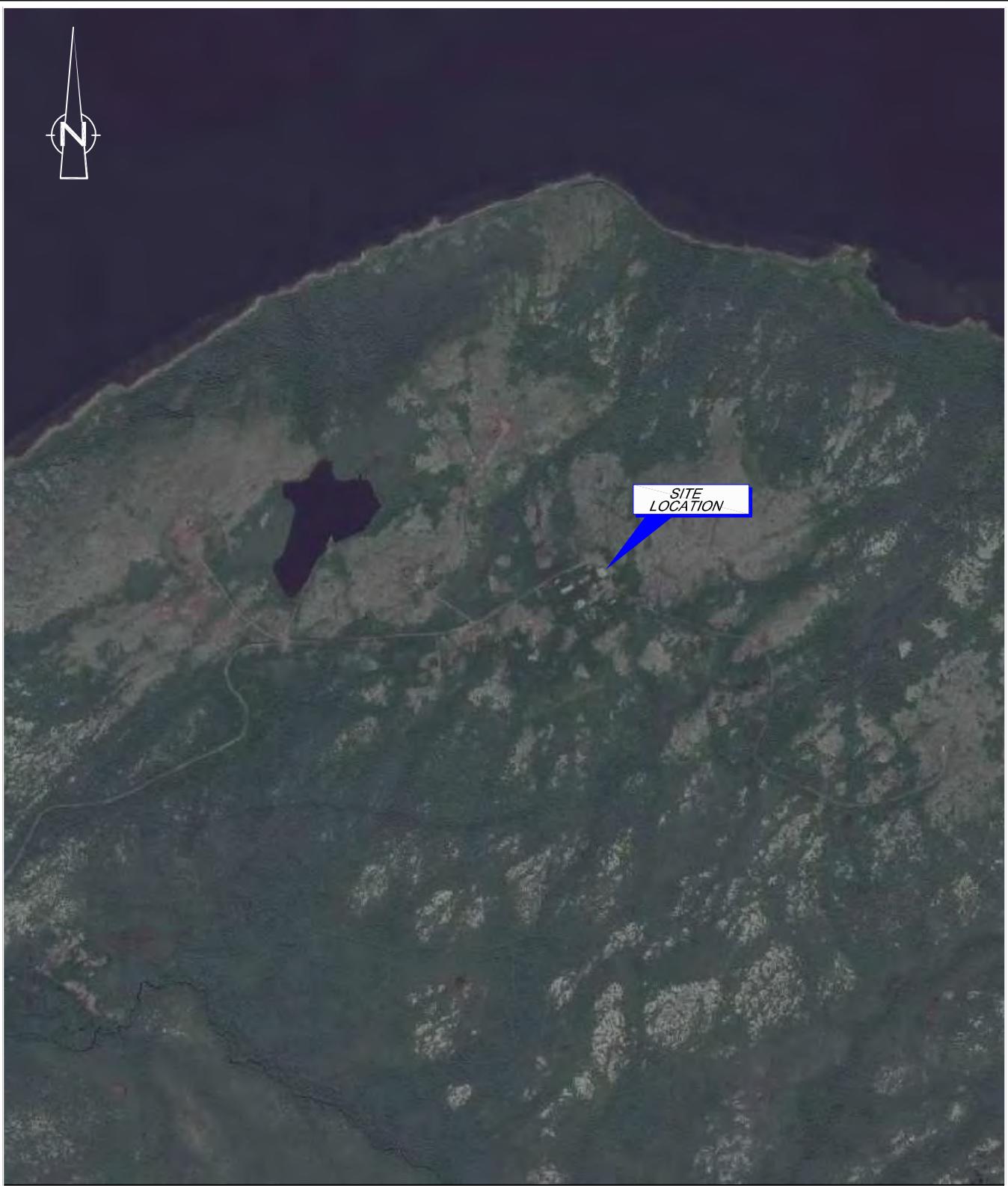


figure D7

AERIAL PHOTOGRAPH - 2010
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER UNITED STATES MILITARY SITE
Cartwright, Labrador, NL



Appendix E Personal Accounts

1951 – Memories of Cartwright – Ches Lethbridge

The year was 1951 – and I was living in Paradise River, a small community some 21 miles from Cartwright in Labrador. Prior to this, I had worked as a fisherman and an animal fur trapper.

I first heard about the construction project in Cartwright when the ships arrived bringing in some of the materials for the project. Fraser Brace Terminal (with head office at Moncton, New Brunswick) was successful in obtaining the contract to construct the radar station at Cartwright. At the peak of construction, I would estimate that there were about 425 employees were on site in Cartwright. While one could have expected the wages to be somewhat higher than in other areas (due to the remoteness of the location), the wages paid were pretty much the same as anywhere else in Canada. I proceeded from Paradise River to Cartwright by boat on 1 November 1951 and settled in as a timekeeper. I also acted as the official "elections officer" in the area.

There were no recreational facilities available at the work site? I recall working ten hours a day, seven days a week – along with every other employee on site. We would simply put in our ten hour shift, and then call it a day. We were paid bi-weekly, by cheque, on site I did manage to spend some time away from Cartwright during my two year term of employment – on two occasions – when I visited my family at Paradise River.

Initially, I walked to work on a daily basis – until a road was built, and then I was transported by truck. I lived in an "Army tent" (hence the phrase "Tent City"). This area was located close to the beach – some 600 feet below the site and approximately two miles east of the community of Cartwright.

There were approximately 300 people living in the village of Cartwright at that time. I recall two stores – one was operated by the Hudson's Bay Company and the other was the SB Fequet store.

The weather was very cold in the winter months with lots of snow. The summers were warm with a fair amount of rain. For the most part – temperatures ranged from 40 to 80 degrees F.

Fraser Brace Terminal was the only contractor involved during the construction phase of the Pinetree Line radar station at Cartwright. The contractor supplied the meals which were considered to be very good. Fresh fruit and vegetables were brought in on the same plane that delivered the mail. Meals were usually spread out over a period of two hours and we had bakers on site to cook bread and assorted pastries. Alcohol was not available in Cartwright. I do not recall any rules banning alcohol on the camp site and it is safe to assume that a small amount could have been brought in from Goose Bay. We were shown a movie on Saturday nights. Mail was delivered once a week by airplanes on floats or skis. The camp manager had the power to discipline workers on the site but if the situation was beyond his area of authority there was a detachment of RCMP located in Cartwright.

I eventually left Cartwright in September 1953. For all intent and purposes, the work on the base construction was completed at that time – and there were already 25 to 30 American military personnel on site. I returned to my home town of Paradise River where I lived until 1967 when I moved back to Cartwright and worked for the Newfoundland Government until 1975 when I moved to Goose Bay and went to work for the Federal Government until I retired in 1995.

1952 – Memories of Cartwright – Bernie Heard

I was born and raised in Cartwright, Labrador. The Fraser Brace Construction Company arrived at Cartwright in 1952 with a contract to construct a radar station which was to be a part of the Pinetree Line. I, and many other local people, simply applied for work on the site. Most of the outside workers came from New Brunswick as I recall. Initially, I hired on as a labourer, but after a week they put me in the "Stores" section. I worked the day shift when I was employed by Fraser Brace. The outside workers were flown in by Maritime Central Airways, probably from Moncton.

Cartwright was a Hudson's Bay Company Post for many years. The local people were primarily fishermen and trappers. The population in 1952 was about 300. Besides the Hudson's Bay Company, there was one other merchant store. The Grenfell Mission had a boarding school with a dormitory for children up and down the coast who had no schools, as well as a Hospital. The village itself had one church (Anglican) and a one-room all grade school with 36 students in 1951. There was no electricity, no phones, no running water; everybody kept dogs for working (hauling wood, water, and travel) as this was pre-snowmobile days. Travel in and out of the area was by boat, plane or dog-team. There was a small Church owned Parish Hall which was used for all types of community functions. The entire coast was frozen from early December through June, so it was totally isolated for that period. Mail was flown in during these months by a single engine airplane from Newfoundland. During the summer months, the mail arrived steamer from Newfoundland about every two weeks. For the most part people made their own entertainment.

There were no American military personnel at Cartwright until the summer of 1953. I recall that there must have been between 100 and 150 civilian personnel employed by the Fraser Brace Construction group. Since I was a local civilian, I lived in Cartwright as opposed to the contractors barracks. I do remember that many of the outside workers mixed in very well with the local people. There was very little in the form of entertainment at the contractors camp. There were a few movies available, and I would assume that the outside workers probably established other forms of entertainment such as horse shoes or card games.

As can be expected, there was lots of snow and the temperatures were much colder than what would have been expected by the outside workers. I managed to move back and forth between Cartwright and Goose Bay during the early to mid 1950s. American military personnel played an important role in the Cartwright area between 1953 and the eventual closing of the radar station in 1968.

1953 – Memories of Cartwright – Lyle Foltz

In 1952 the US and Canadian governments started construction of a defensive radar network along the Arctic Atlantic coast and across Canada. It consisted of two lines of interlocked radar stations, the northernmost of which was called the DEW (Distant Early Warning) Line. It paralleled another line a few hundred miles south called the Pinetree Line.

In June of 1953 I was told I was going to one of these stations. It was a far cry from duty in Japan, Korea or Europe but I was excited at the prospect, particularly since the tour of duty was for one year and if I worked it right and had less than six months on my enlistment when I came back to the States I would be discharged. I was to report to Grenier AFB near Manchester, New Hampshire and join the 922nd AC&W Squadron which was scheduled to go somewhere along the DEW or Pinetree Line in September 1953.

I went home on 15 days leave. Five days after I got home I received a telegram ordering me to cut short my leave and report early to Grenier to join what was called an "Advance Party" that was departing very soon for Labrador.

This meant I had to return to New Jersey, collect my gear and car (a green 1949 Plymouth that I had bought that winter) and travel to New Hampshire.

When I arrived in New Hampshire I was told I had two days before we were to ship out. I packed my civilian clothes in a spare duffel bag for shipment home and sold my car to the nearest used car lot. The next day about 50 of us went by train to the Brooklyn Navy Yard where we boarded a flat-bottomed WW II Landing Ship Tank (LST) loaded with vehicles and set out for the various radar base construction sites in Newfoundland, Labrador and Baffin Island.

LST's were the largest of the numerous landing craft used during the war. They were designed for carrying a large cargo of heavy motorized equipment. They were an ocean-going craft with two large doors in the bow that opened to permit a ramp to drop for vehicles to drive ashore. Some had no top deck, just a cargo well. Ours had a top deck covering the huge cargo hold. The crew and passengers lived in compartments alongside the cargo hold. Our bunks were next to the steel plates that were the hull of the ship.

There were nine of us bound for a radar site at the mouth of the Sandwich Bay near Cartwright, Labrador. We were to work with the construction contractors who were finishing work on a new radar station. What work we were to do was not specified. There would be 123 men in our Squadron at Cartwright. The rest would be coming late in September. Several other "Advance Parties" were on board to be dropped at various other sites.

We spent nine days on that rough riding tub. I was one of the few who did not get sick – but it was a near thing. We made several stops to drop off people and cargo. I remember stops at St. John's and Argentia, Newfoundland. There were others. I also remember all of the icebergs that we saw the last couple of days. You thought about those icebergs when you went to bed with your head next to the hull where you could hear the ocean on the other side of a three quarter inch steel plate.

One day we passed a big, old Portuguese fishing trawler anchored in a rough sea. It was a motor ship but it also had rigging for sails. Around it for miles were dories with single men in them. Single men in dories in the open, stormy sea. That has to be the definition of courage.

On the tenth day the LST beached its bow to the temporary town housing the construction workers who were putting the finishing touches on a radar site perched on a rocky, treeless promontory about one mile to the east. The site overlooked the mouth of Sandwich Bay, a 25 mile incursion into the central coast of Labrador. The tiny village of Cartwright was about two miles to the west.

The dominant feature of the contractors village was the thousands and thousands of oil drums in a stack 20 feet high and hundreds of yards long along the gravel beach. There was a large motor pool for the earth movers, bulldozers and trucks. There were barracks, a large mess hall, a big medical dispensary and every other kind of facility needed to provide the needs of 500 construction workers.

There were ten of us, two officers and eight enlisted men. We were housed in a large tent with a wood frame and floor. The officers moved into a plywood structure that was the barracks for the construction company foreman.

The countryside was hilly and covered with scrubby evergreen trees eight to ten feet tall. Lakes dotted the countryside. The only road had been built by the construction contractor (Morrison & Knudson) two years before. It went east one mile from the workers quarters up the hill to the radar site and west around the bay two miles to Cartwright.

The construction workers were virtually all Canadians, mostly French Canadians. They were working under six month contracts – if they stayed six months they got free transportation home – and the construction season lasted six months in any year. The site had been under construction for two seasons.

There was also a crew a technicians from Canadian Marconi whose job it was to install the two radar sets and all the radios. They were of mixed nationality. There were several Englishmen, two or three Scots, an Australian, a few English speaking Canadians and a French speaking Canadian foreman.

We of course were anxious to find out what it was we were supposed to do. We had been told that we were "hand picked" for this assignment. Whatever that meant.

Our Commanding Officer was a Captain named Sidney Kalmaer from Brooklyn. He was a certified character. He called everybody Sam. Short, stocky and dark with a handsome handlebar mustache, he was a bundle of energy who never really did anything. He was always conjuring up some sort of deal. He did not take himself or our assignment too seriously. We liked him.

Lieutenant John Laumer was the product of an ROTC program with a degree in Engineering. Very bright, a bit stolid and a hard worker but easy to get along with. He was an accomplished artist. He did a pencil portrait of me that I have had on a wall for a many years. He, like most of us, was just passing through.

Master Sergeant Fred Sartain and Staff Sergeant's Gordon Beaman and James Tilley were the career military men in our group. Sartain was easy going but not to be trifled with. He knew everything there was to know about what it takes to get things done in the military. Beaman was big and not very bright and was the object of a lot of not too subtle jokes. Tilley was from the hills of North Carolina, a self professed hick who didn't talk much but possessed of an instinctive understanding of electronics that belied his backcountry speech.

The rest of us were Airmen First Class. Van Johnson was a quiet black kid from Philadelphia, Fred Niehaus was tall, very skinny, pious and boring without a trace of a sense of humor. Dave Billings was a down Easterner from Seal Harbor, Maine. Laid back and folksy with a devastating wit, he was the sort that would do a prodigious amount of work if he was led – but not if he was bossed. Heavy set, with graying hair, he looked ten years older than he was. I asked him once what the hell people from Seal Harbor did all year. He took a puff on his pipe and that in that great deliberate, clipped Maine twang "We fish and have sex – and in the wintertime we can't fish".

Leith (Bill) Pike was a hot tempered kid from Casper, Wyoming. He was the only one of the younger guys who was married. He was slender, not skinny, and obsessed with the idea that he needed to gain weight. He was one of those people who everyone tiptoes around because you never knew what would set him off. Two things I remember about Pike. One was that I once took advantage of his temper and won \$154 from him playing blackjack. The other was the fact that he was constipated for four weeks. Did not go even once in that time. Maybe that had something to do with his attitude.

Bill Pike was the only person I was in the service with that I saw in later years. In 1962 while standing in a cafeteria line at Boeing I saw Bill Pike. He, like me, had gone to college after discharge. He was an electrical engineer. I saw him many times over the years at Boeing. He still had the hot temper, and had gained the weight he was so worried about, in fact he was fat. His first wife and their children lived not far from our home in Kent. They had divorced sometime in the late 1960's after an abusive relationship. He still was not a pleasant person to be around. Bill had a couple of heart attacks before dying from one around 1990.

Within days after the ten of us got settled in it became apparent that we had absolutely nothing to do. For three months. Absolutely nothing.

When you have nothing to do it is amazing how quickly you fall into a routine that fills all the time. And how upset you become when something happens to interrupt it. We had to get up in the morning or we would miss breakfast. The rest of the day was filled with going to the village to the construction site, card games and naps.

There were no more than twenty houses in Cartwright. There was a dock (substantially modified by the contractors) for small boats, a fish processing buildings and two stores. The larger of the two was a Hudson's Bay store. Half a mile across the arm of the bay was a Grenfell Mission and the residence of the most important man in the territory, the Mountie.

The mission was a home for orphaned children and included a tiny hospital which, like the Mountie, served a prodigious area.

The Mountie was young and good looking enough to play himself in a movie. To our surprise he did not wear the red jacket and wide brimmed hat we had been conditioned to believe was Royal Canadian Mounted Police garb. His everyday uniform was a very ordinary blue with yellow striping. Turns out the red uniform is for ceremonial occasions only.

The authority vested in Mounties in places like this was quite remarkable. He represented all aspects of law enforcement and was a figure of respect. In the summertime he tended to his territory by boat, since there were no roads and all settlements were on the water. In the wintertime he covered it all by dog sled.

The natives appeared to be of European extraction. Fishing and some trapping were the only ways of making money. It was, at best, a marginal existence and those that had a tad of initiative and luck managed to leave Cartwright for other areas. The town graveyard showed that drowning and TB were the principal causes of death, which seemed to occur most frequently before people reached forty. Though they worked on the water, none seemingly knew how to swim. The water was simply too cold.

Most houses had a collection of dogs of all sizes and descriptions, all of them yowling a lot and causing the village to smell very bad. Turns out they were sled dogs. I had always pictured sled dogs as big malamutes or huskies. The only sled dogs that looked the part belonged to the Mountie.

There was the time we decided to go fishing in one of the nearby lakes. We collected our gear, got some sandwiches from the mess hall and set out through the woods. We had gone about half a mile when we ran smack dab into what was literally a wall of mosquitoes. Never before or since have I been amongst so many insects. They were not a particular problem in camp or near the bay, but any excursion into the woods made you food for the swarms.

Captain Kalmaer was pretty loose about things so we started looking a little motley. Those that could grew beards or mustaches (I couldn't). We wore whatever was handy and comfortable and it generally did not look much like a uniform. Our appearance was not enhanced by the fact that we had to cut each others hair and none of us knew how.

We spent a lot of time with the Canadian Marconi crew. They were an interesting collection of people. Englishmen, Scots, Canadians and an Australian. On the rare occasions when we would come by some beer (more about that later) we would share it with them. They were a good group to drink with. Besides knowing the best bawdy drinking songs I ever heard their continuous arguments with each other were fascinating.

From these arguments I learned a few things. One was that in the British Empire there is true animosity between the non English and the English, another is how deep the class distinctions are among the English themselves and these distinctions are set by speech patterns. I also learned that battles fought 300 years ago are always refought with great vigor after a few beers.

Our mail and what few supplies we needed came in by bush pilots flying an assortment of aircraft, mostly DeHaviland Beavers or war surplus PBY's. Occasionally an Air Force SA-16 Grumman seaplane would come in, but that was rare. There was no landing strip so all aircraft landed in the bay.

The aircraft came from the big base at Goose Bay, a couple hundred miles to the west. Captain Kalmaer never missed an opportunity to go to Goose Bay — and who could blame him. He would always return in a day or two often with a couple of cases of beer for us. We appreciated that since there was no liquor of any kind available in Cartwright. We noticed he would also bring back mail bags full of something besides mail. Our suspicions were confirmed a couple of months later when the good Captain was court martialed for smuggling whiskey from the Officer's Club in Goose Bay and selling it to the construction workers for \$50 a bottle.

The mess hall was big enough for everybody to eat at once – all the construction workers, the radar installers and the ten of us. The food was good and it was plentiful. The construction workers had little else to do but eat so they would raise a lot of hell if something was wrong with the food.

Mutton was served a lot. I remember that a big bowl of mint jelly was always on the table. Once they served it four nights in succession and on the fourth night the place erupted with the sounds of all the workers bleating like sheep. They kept it up for the entire dinner hour. Mutton wasn't served again for almost two weeks.

Late in September 1953 the base was finished and in a period of three days all the construction workers were gone. They left their village intact. The beds in the barracks still had blankets on them. The mess hall and the big frozen food storage building was left with every knife, fork and spoon still in the racks. All the trucks, bulldozers, machine shops, storage buildings and radios were left in place. They just packed their suitcases and duffel bags and went to the airplane.

The base they built was rather impressive. All buildings were connected by insulated hallways. Each man had his own room with a closet, dresser, desk, chair and three quarter bed complete with fancy navy blue wool blankets. There were several lounges, a mess hall that didn't look like a mess hall and a small PX.

The radar and communications equipment was the latest. There was a heated garage big enough to hold most all of our vehicles and a fully equipped maintenance facility.

The ten of us had all this to ourselves for about three days – then the rest of the squadron arrived by ship. Two other ships arrived at the same time with a years worth of supplies. It took all 123 of us two long days to unload those ships and another week to stow everything where it was supposed to be. It was the only work the ten of us had done in three months.

At least the ten of us would finish our year three months ahead of everybody else.

We soon learned what winter in Labrador was like. It was what you would expect it to be. Big time cold. And wind. And snow, lots of snow. More wind.

Our quarters were comfortable and the food was good but there was not much anyone could do for the boredom. Our lives settled into a sameness that was oppressive. Every day was the same as the last --except when the mail would come.

In the course of that winter mail came in by several means. The bay was frozen solid so ski equipped planes landed on it when the weather permitted. Helicopters came in more often and on a few occasions mail was dropped by parachute. There was a six week stretch when the weather was so bad nothing came in. Everybody was getting very testy and it was a matter of time before fights started. Fortunately they were able to drop us our delayed mail before we were at each others throats.

Each night after work I would go to my room and take a short nap. I would then go to the mess hall with the same three guys. After chow I would return to my room and wait for the PX to open at which time I would go and sit at the same table with the same guys and drink the same number of beers. Pretty soon we were repeating the stories we had told each other. In the course of those winter months I heard all the stories there were to hear about exotic sexual experiences in Japan, or Korea, or Germany. There certainly were none to tell about Labrador.

Airman First Class Marion Hollingsworth from Indiana lived in a cluster of rooms across the hallway from mine. Since the buildings were interconnected by hallways sound traveled a long way. Every night at precisely 11 o'clock Airman Hollingsworth would step outside his room and shout as loudly as he could "Oh how I hate this place!". We came to count on hearing it every night. Nobody complained.

One of the breaks in the monotony were college classes. Instructors from the University of Maryland were brought in for about three months. I was able to get credits for one year of American History. I planned to go to college after discharge and those credits would help.

The coming of spring and the breakup of the ice in the bay meant that I was a short timer. The only thing I had to concern myself about was precisely when I would return to the States. It was essential that I return with less than six months remaining on my enlistment. The magic date was 10 July. Returning after that date meant that I would be eligible for discharge, returning before that date meant that I would have to serve out the rest of my enlistment – which was a possibility I did not even want to consider.

I was issued orders to report to Hanscom Air Force Base in Massachusetts on the 9th of July. I was going to miss early discharge by one day! Fortunately I was working for an officer who was willing to enter into a small conspiracy that delayed my departure enough to assure that I get to the States after the 10th. I was flown in to Goose Bay by helicopter where I stayed a couple of days before flying to Westover AFB in Massachusetts on the 14th. I was on my to Camp Kilmer, New Jersey and discharge.

This detail was made available by Lyle Foltz. Lyle served as a member of the Advance Party at Cartwright. He arrived in June 1953 and departed in July 1954.

1953 – Memories of Cartwright – Don Wisgrida

The 922nd AC&W Squadron was formed at Grenier AFB outside of Manchester, NH. We were there for the summer of 1953. I imagine it was because of the fact that the site at Cartwright was not yet ready for our arrival. We left on September 18th on the troopship General Heintzelman. I', not positive but I believe the contingents for St. Anthony and Hopedale were also on this ship.

There were no docking facilities at Cartwright so we unloaded everything into an LCU. The base still wasn't ready when we arrived and we had to do a lot of the final preparations. We ate "C" rations for at least two weeks. It took about two months to get the radar operational. When we did, we were very successful in that the operation time of our radar was in the mid-nineties.

The thing I remember most was the constant wind. Seems like it blew 30-40 mph all the time. One storm in March 1954 registered over 100 mph. Our communications ith the outside world were very difficult at times. We could hear ships in the English Channel but we couldn't communicate with Goose Bay.

Most of our supplies were dropped by parachute. During the summer months, the SA-16s came in, and after the ice froze in the winter we made use of C-47s on skis. Rarely did we get helicopters from Goose Bay because of the distance, the winds and the mountains.

I only got out of Cartwright once in the fourteen months that I was there. That was on an R&R trip to the Eagle River fishing camp which was operated by personnel out of Goose Bay. For the most part - radar personnel were not given an opportunity to visit these locations.

One incident does stand out in my mind. Being in the radar section, we monitored all aircraft transmissions coming over the pole. In July of 1954, in the early evening, we heard a commercial airliner talking to Goose Bay about an unidentified object flying off the port side. We had both of these on our radar. It followed along side for some time and was seen by both the crew and the passengers. The unknown finally flew off to the northwest and left our sradar coverage at about 200 miles in a matter of seconds. This incident is still mentioned in books as an unexplained UFO sighting.

Our Commander, Major Barr, had a heart attack and we had great difficulty getting him out because of the winter weather.

At the end of my tour in Cartwright, I returned to the USA on the Marine Carp, but not until we had spent about three weeks going to Greenland to pick up people who had been unloading ships for the base at Sondrestrom. This was the subject of a Congressional Hearing because the relatives were told that we would be back in a week. We were reduced to mutton stew for the last four or five days. On the way back across the North Atlantic, we ran into a terrific winter storm. Everything had to be tied down.

I was discharged when I returned since I had less than three months remaining in my enlistment. My stay at Cartwright was a significant event in my life. It was like a religious retreat. Even at my young age, it gave me plenty of time to think about life.

This detail was made available by Don Wisgirda. Don served as a member of the 922nd AC&W Squadron at Cartwright. He arrived in September 1953 and departed in October 1954.

1961 - Cartwright Revisited - Tom Kryka

These are my remembrances of the radar site at Cartwright, Labrador. I have chronicled some of the more (hopefully) pertinent and interesting events that took place on my watch and of which I had particular knowledge. The details are as best as I can remember them, and I tried not to add a lot of superfluous detail. There are many other stories I could relate if I had the time.

Everyone passed through the Air Base at Goose Bay before being dispersed to the radar sites along the Atlantic coast. When we arrived at Goose, we were issued Arctic clothing; a parka, hat, mukluks (boots), and snow pants - clothing essential for this area. Personnel generally received 30 days leave, both before and after completing their tour here.

Cartwright is approximately 110 miles East of Goose Bay, near the Atlantic Ocean. The site was spread out on a mountain top to the Northeast of the village, and three miles from the village by road. It's mission was the detection and identification of all aircraft passing through the area.

I arrived in March of 1961 and left in February of 1962. All personnel, mail, movies, pay, and urgently needed supplies were transported to and from Cartwright by helicopter from Goose. The chopper typically made two trips per week.

Canadian and U.S. flags were flown outside the main entrance. The site had a guest book you signed when you first arrived and again when you completed your tour of duty. I wonder what happened to that book since the site closed. Did other radar sites also have these books?

The buildings were designed to withstand high winds and cold weather, both of which nature supplied in abundance. All major buildings were inter-connected by hallways so you never had to go outside, very important when winter storms blew in. For security purposes I imagine, all windows faced away from the ocean or were blocked by other structures. The site was completely self-sufficient and could operate for extended periods without outside help. Power was supplied by diesel generators in one of the larger buildings. Water came from a small lake about 1/2 mile to the south. I often wondered how they pumped it up and kept it from freezing in winter.

The site was home to about 200 men, including about eight officers and several civilians working in various capacities. The CO (Commanding Officer) held the rank of Major. The station was a typical military installation with a headquarters, living quarters, motor pool, mail room, armory, radar center, communications (heavy ground and aircraft), laundromat, latrine, medical facility with a highly competent medic on duty (no doctor), and warehouse. The mess hall was open 24 hours a day. Steak was one of the mainstays of the dinner meal (there were some benefits to this duty).

To break the monotony, there was also a movie theater, library, Officer's club, NCO club, Airman's club, bowling alley (put in the summer I was there), ham shack for the licensed radio operators, photographic darkroom, store, and barber shop. There was a radio station where guys could play disc jockey, and whose audio was piped throughout the site. They had a good-sized collection of records. Recreational activities included pool, volley ball, bowling, horse shoes, fishing, skiing, hunting, photography, writing letters (I was a letter-writing fiend up there), touring the village, and exploring the surrounding area. There were no telephones for personal use and no television, no such things as VCRs, PCs or email. Hard to imagine that today.

Morale and camaraderie were very good considering the hardship and isolation. Everyone was eager to complete their tour and get back to the States. The standard warning to someone who was leaving a month or two before you was, "You'd better not slow down or you'll have brogan (boot) tracks up your back." The standard response, "You'll play hell catchin' me." Canada is a wonderful country, but there is no place like home. Having spent a year of my life there, I'll always have a warm spot in my heart for Canada.

I was part of a small contingent (15-16 guys) who maintained the Polevault communications link, a heavy ground communications system which depended on tropospheric scatter of radio waves. We were Detachment 8 of the 1933 Communications Squadron, a support organization to the 922 AC&W (Aircraft Control and Warning) Squadron. We were nicknamed "Polecats" and liked to consider ourselves the site rebels (grin). At Cartwright, we provided radio contact with Goose in one direction and St. Anthony, Newfoundland to the South. We also provided communications to the gap-filler radar sites reporting to us before they closed. A teletype channel provided written communications to and from our Headquarters in Newfoundland, and other sites.

The name Polevault conjures up this image of a long-distance jump to the North Pole. Well, it almost was. From Goose communications extended through other sites to the far North, the DEW line system of radars, and possibly Thule, Greenland.

Communications had to be maintained at all times regardless of weather, time of day, or problems with the equipment. There were spares on hand for every piece of equipment imaginable and they were maintained and ready. Any outages were very serious. Reports were made on any problems. There was a regular contest to see which Detachment could maintain the least down-time. We had lights and audible alarms to indicate malfunctions. Low-temperature wires were strung for fire detection, there were sensors for overheating, transmitter and receiver failures. When there was a problem, we busted our butts to troubleshoot the problem and get back on the air as quickly as possible. Generally, there were days and even weeks of crushing boredom punctuated by seconds of controlled panic when something failed. With a little experience and skill, we could massage the equipment and be back on-line in very short order.

Our equipment was monitored around the clock. Three man (typically) crews baby-sat the equipment in shifts, and rotated their working schedule every two days. A crew would work day shift for two days, followed by two days on mid shift (4 to 12), and finally two days of midnight to 8. Then they got a two day break, of which one day was spent catching up on sleep. Somehow we adjusted to this schedule, and everyone got treated equally in the process. New people were brought in at regular intervals and integrated into experienced crews for training.

When we worked the night shifts, we would go outside to see the Northern Lights directly overhead. In the spring, we could see icebergs floating in the Atlantic. That summer I took pictures of sunrise at around 2:45AM. Part of our duties were hourly manual recordings of equipment meter readings. Due to the weather or for whatever reason, radio signals would fluctuate periodically. These signal changes (and any lapses) were automatically recorded on chart recorders. Cleaning and calibrating the recorders was a daily chore. To maintain consistency between time zones, chart times were marked in "Zulu" or Greenwich Mean Time.

Other duties included cleanup detail. One day we were sweeping the floor in the equipment bay when, without looking, I moved a cart on which was setting a large Tektronix scope. The cart moved easily, the scope - still cabled to equipment on the bench - did not, at least not horizontally. It fell from a height of about 3 feet, rotated 90 degrees and landed flat on its side on the floor. CAH-BAM! Naturally startled, I jumped a foot. Well I figured two things out right quick - the scope was totaled, and I was in reeeeally big trouble. We set it back on the cart, inspected for damage, applied power and were totally blown away when it still worked, none the worse for wear! I got some good-natured ribbing for that stunt, but nothing more. Always took a little more care after that.

A couple of guys tried their hand at homemade beer. They got the supplies and a couple of milk cans from the mess hall, mixed up a batch and stashed it in a receiver hut to ferment. It turned out to be dark and vile-looking, with strange-looking organisms floating in it. Didn't look too appealing to me. One of the sergeants would regularly ask the cook for a steak and fixin's which he cooked up on a small hot plate in our office.

Our living quarters were one man rooms, although double-bunking occurred at times. Each room was approximately eight by nine feet, and had a door (no lock), bed, overhead light, lamp, window, open closet, desk, speaker for the radio station, and steam-heat radiator. One of the "keep'em busy" privileges was to paint your room.

Now, stashed away in a place like this did have a tendency to warp a guy's mind. One guy painted his entire room black, ceiling and all. Now there was an individualist! Most considered this display more than a little bizarre. Asked for an explanation, he simply noted it made sleeping in the daytime easier. As good an excuse as any I guess. He didn't win any awards for interior decorating though.

People got "tight-jawed" when things did not go their way - a normal physical reaction to a problem. One guy truly flaked out and ran screaming down the hall, swinging at everyone in his path. I did not see this myself, only heard about it second-hand. He was evacuated on the next chopper and held at Goose for observation. I don't know what set him off, speculation tended toward getting a "Dear John" letter.

Summer was a busy time of year. The ship which brought in our yearly stock of food, chopper and diesel fuel, and other major equipment and supplies docked at the village and required all hands to unload and truck to the site. Civilian maintenance teams came in and made repairs to antennas and calibrated the test equipment.

A more advanced radar system was installed in the summer of 1961. This enabled closing of the small gap-filler sites manned by a total crew of six. About 60 miles above Cartwright was Spotted Harbour. To the south about the same distance was Fox Harbour. I swear, on a clear day I could see the radar dome at Spotted Harbour.

A rigid geodesic dome was installed at this time. Previous to this, the radar antenna was housed in a dome of flexible white material inflated by pressurized air. This huge pressurized dome had been designed to withstand winds in excess of 100 MPH.

There was a fair bit of social contact between the villagers and personnel on-site. One such event was the annual soccer game at the village. Billed as a friendly, get-to-know-your-neighbor gathering, the guys at the village took the game far more seriously. Several Airmen sustained minor injuries and one hobbled around on crutches for a while. I never heard whether any of the village soccer players suffered a comparable fate, though I doubt it. I believe the CO and the Mayor of the village had a friendly wager on the outcome. Another annual event was a tour of the facility by the villagers. Several men from the village worked in the motor pool and were regarded as very competent mechanics. A truck made regular runs to the village to provide transportation. As we had the only movie theater, the girls often were asked to see a movie.

I would estimate 500 people lived in the village. They had a school, an orphanage run by a church, Hudson Bay store, and RCMP office, among other things. I believe most of the villagers were of European descent, although they were proud to call themselves Eskimos or preferably, 'skimos (skee-moez). Other than action in the soccer game, they were very friendly people.

That summer the first phones were installed in the village. They operated over radio to (presumably) Goose Bay. No land-lines up here. Heck, the only roads were in the village and to the site.

You could obtain skis and other equipment for recreational use. We found the slope to the west of the station was an excellent ski area. You could ski a long way, and the road to the village was close by so you could hitch-hike back up when the truck came through.

One day a jet interceptor created a sonic boom by dive-bombing the station, and rattled the whole place. It was rumored the pilot was Commander of U.S. Forces at Goose. RHIP.

On the Fourth of July, a formation of jets from Goose made a fly-over of the site. I don't remember how we found out about most of the events taking place. Probably word-of-mouth and the radio station.

Once a month, the Airman's club had a well attended pizza and beer party. Every few minutes the cook would rush in with a large pan of pizza balanced on his shoulder and set it on the table. The guys would rush in and scarf it up in seconds. One time the cook brought in a pan and just had to taunt the guys before setting it down. The guys

crowded in only to discover the pan was empty. The cook had a good chuckle - prematurely, as it turned out. Several guys taking on the spirit of the moment (plus maybe a little too much beer) grabbed him and threw him outside, holding the door shut. Keep in mind this was at night in the dead of winter, and he was not wearing heavy clothing. He literally almost froze. When they let him back inside, he was shaking uncontrollably. A very sobering experience.

The weather could get pretty bad during the winter. One time there was an extremely intense storm that lasted over a week (10 days?) and kept the choppers from Goose grounded. We got no mail, no movies, no supplies. Snow blew around and packed everywhere. When it cleared, it was like a winter wonderland. The air was crisp and clear. The snow crunched stiffly with every step. Everyone made for the mailroom when that chopper finally came in.

Payday. We got paid in cash on the last day of the month. That evening, a small group would set up a card table in the laundry room and play poker well into the next day.

The movie theater held approximately 30 seats. Movies cost a quarter. The guy who ran the projector also sold popcorn for a dime a box. At this time, I can not tell you the name of a single movie I saw there.

At the store you could get the necessities and items like reel-to-reel tape recorders. Cigarettes cost 25 cents a pack. When I first arrived, the Canadian dollar was worth slightly more than the U.S. dollar. The store would take either, treating them of equal value. Later, the Canadian dollar dropped below the U.S. dollar in value and they quit doing that. Each Canadian bill was a different color based on its face value.

Stereo systems were just coming into vogue. One airman built one from a kit, and had a demo record in which a ping-pong ball could plainly be heard bouncing alternately between speakers. Everyone was duly impressed, stereo was "for real."

Recorded entertainment included comedy by a young Bob Newhart (a skit with Bob as Sir Walter Raleigh introducing the Queen of England to a fad from the New World called tobacco), unusual songs by Tom Lehrer ("a wife that made coffee that tasted like chamm-POO", (rhyme was set up to expect champagne)), comedians Bob and Ray, Redd Foxx's X-rated comedy (calling a horse race), and master guitarist Chet Atkins. Rock-and-Roll was highly popular of course.

Visitors to the site included a USO troupe touring at Christmas time. This musical quartet entertained us with songs and instrumentals. We just ate it up, we were just so glad to see people. Didn't matter what they played or sang, they got rousing applause. Don't remember their name and haven't seen or heard of them since. We also had a Catholic chaplain who stayed for a week. The Bob Hope USO show toured Goose Bay that year. I wanted to get an audio feed of his show piped in, but it didn't happen.

A group of visitors in the summer was an RCAF inspection team. The presence of all higher ranking personnel was commanded for a dinner hosting the group. Most of the meal, from what I hear, was spent rising to toast the Queen. And the more they imbibed, the more toasts were proposed. Interesting.

In August four of us took a fishing trip. We paid a villager who owned a boat \$20 to take us out, and return the next day to pick us up. The boat had a "one-lunger" gasoline engine. It was amazing, the spark plug fired about once a second and the whole boat shook. You wonder how this thing could keep running - a large flywheel helped. The boat developed engine trouble on the way out and we detoured to a smaller village for parts. The river where we fished had a natural sandy beach and emptied into the ocean. The water was extremely cold. We slept overnight in a shack nearby. The fishing was great. We caught lots of trout and they hit on about anything. I used DareDevil lures, one guy was fly-fishing.

One of the strangest things I saw on that trip was a fish with a square-shaped head that was all mouth, with a tail and big fins, and virtually no body. Eskimos called it a "Double-Ugly," don't have any idea what it was named otherwise.

Around October of 1961, a chopper headed back to Goose went down. On-board, beside the pilot, were about six men returning to the States after their tour of duty. Although a search was mounted, it was not found while I was there. An Eskimo did find a wallet belonging to one of the guys which he turned in to the RCMP at Goose.

The tour of duty at these sites was one year. As your tour was coming to a close you got to wear a "short-timer's ribbon," a small yellow ribbon from a Seagram's Seven bottle. On leaving, I was more than happy to sign the guest book, throw my duffel bag on the six-by and leave for the chopper pad. On the trip back to Goose, I rode up front with the pilot. And back at Goose, I met up and got re-acquainted with the characters I had arrived here with.

Appendix F

Historical Photographic Log



Photo 1: View of abandoned contractors' village in 1953



Photo 2: View of USAF personnel getting supplies from abandoned contractors' village in 1953. Note the partially buried fuel drum (used for heating) alongside of the tent.



Photo 3: View of typical barracks at Cartwright Air Station. Note the wood cribbing with preservative supporting the barracks - 1953



Photo 4: View, looking south west, of the former contractors' village (at the base of the hill), following by the Town of Cartwright - 1953



Photo 5: View of the former Motor Pool Building in 1953. Note the AST and dispenser pump (red) to the right of the former building.



Photo 6: View of the new wharf facilities constructed in the Town of Cartwright (circa 1953). Note the aboveground pipeline along the wharf and the two ASTs in the background (known as the lower POL).

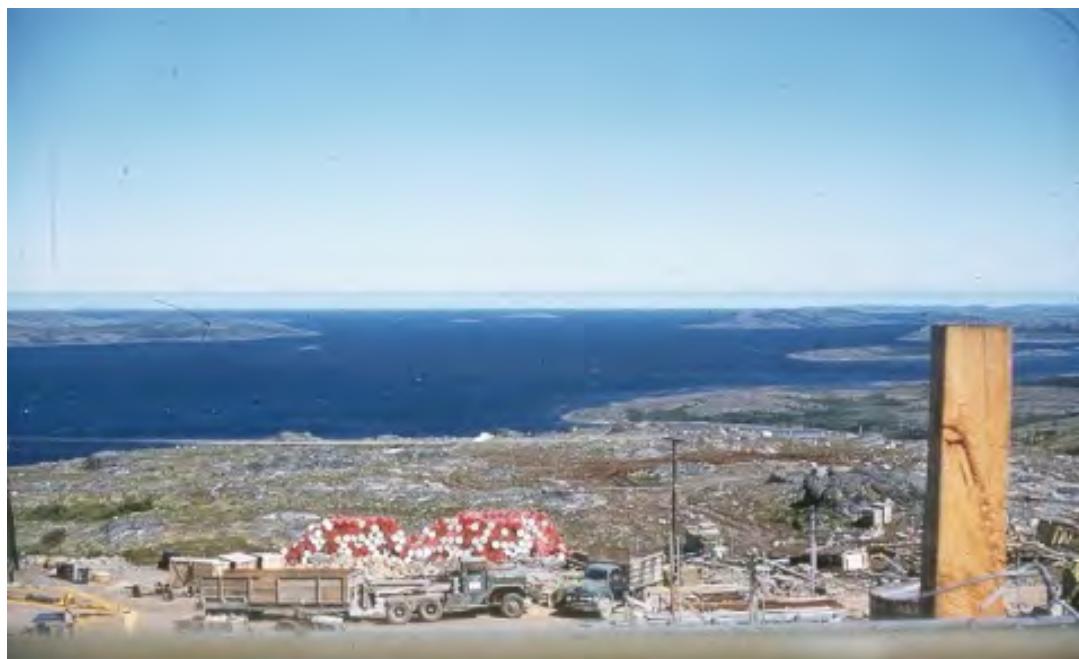


Photo 7: View, looking north, at Sandwich Bay. Note the stockpile of POL drums along the gravel roadway - 1953.



Photo 8: View, looking southeast, at the air station AST (i.e. upper POL) with the Town of Cartwright in the background - 1953



Photo 9: View during the refueling of helicopters in 1953. Note the helicopter is refueled using drum with manual pump.



Photo 10: Another view during the refueling of helicopters in 1953



Photo 11: View, looking south towards the radar site as seen from half-way up the radio tower - April 1954



Photo 12: View, looking northwest towards the Cartwright Air Station - 11 October 1957



Photo 13: View, looking northwest, towards the Cartwright Air Station - June 1958



Photo 14: View, looking southeast, during helicopter approach to the Cartwright Air Station - 1958. Note the radio tower/antenna in the foreground.

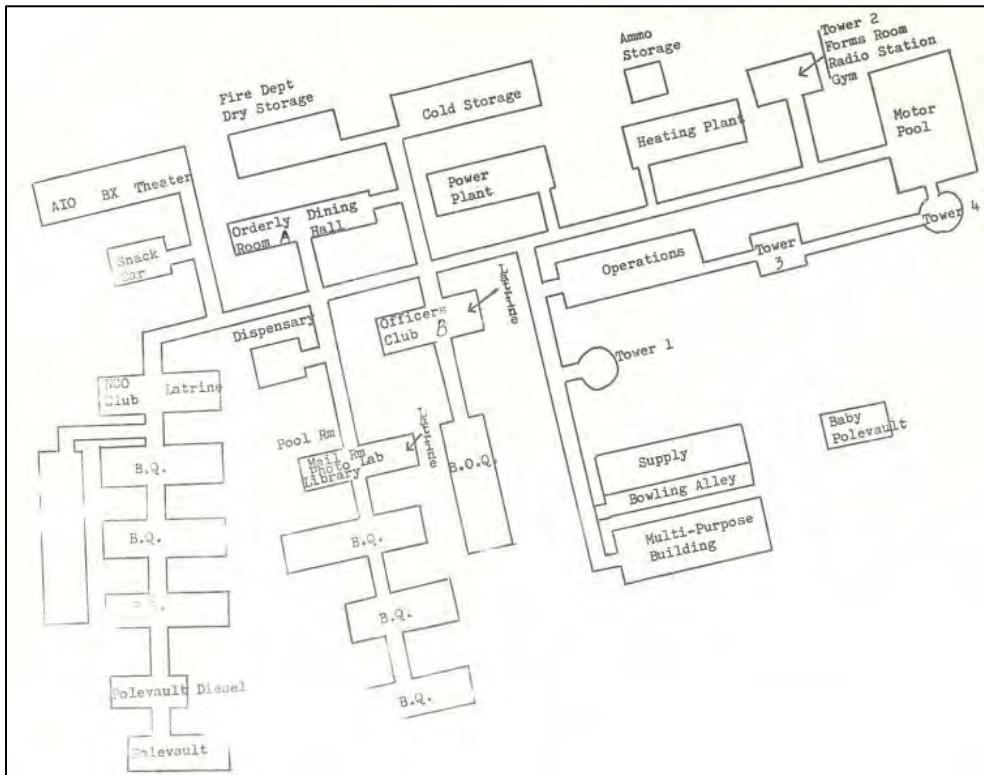


Photo 15: View of picture of former Site layout - 1960

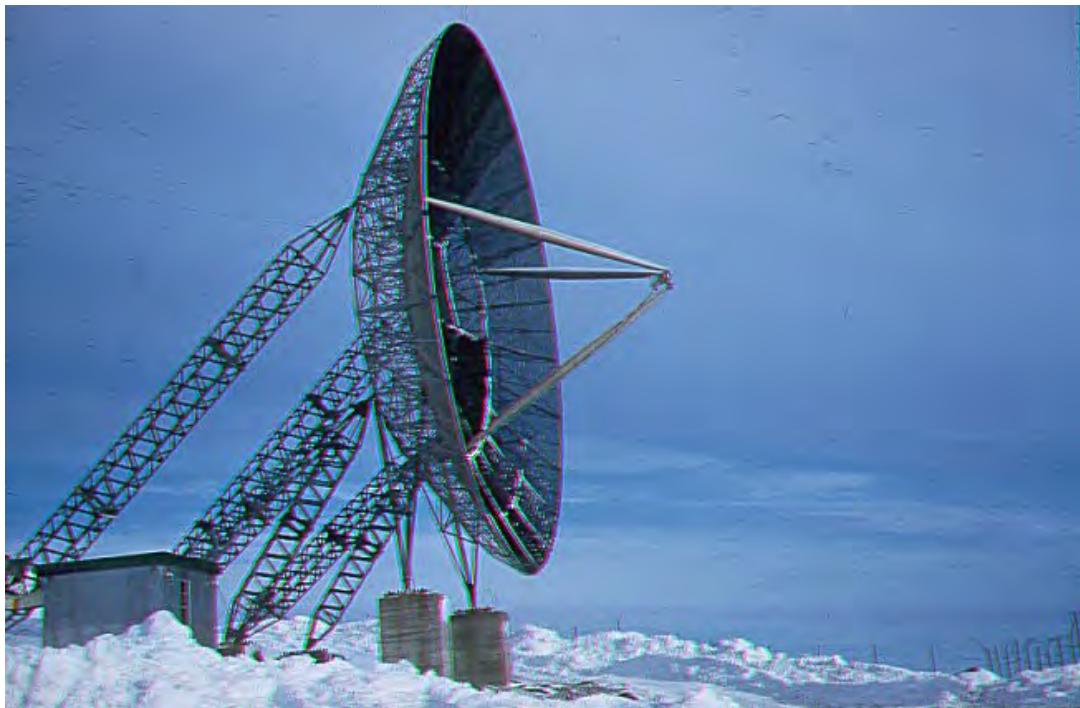


Photo 16: View, looking south across the Site towards a 60 foot Troposcatter Communications antenna - November 1960.



Photo 17: View, looking towards control panels for polevault diesel alternators - August 1960.



Photo 18: View, looking towards polevault diesels - August 1960.

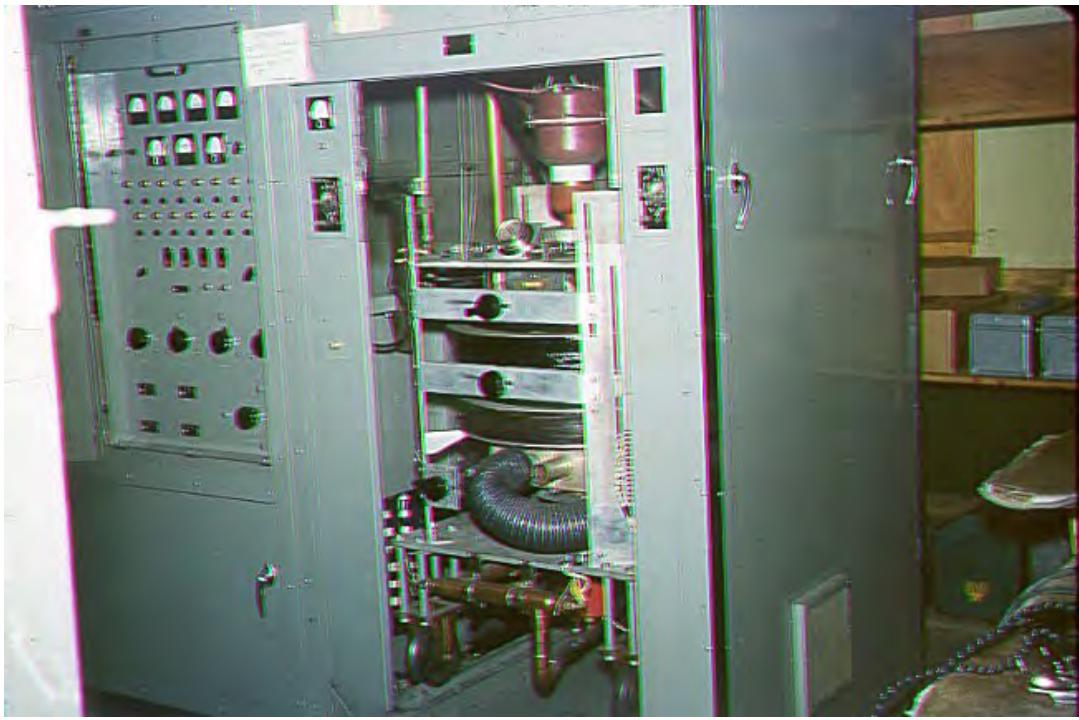


Photo 19: View, looking towards the Troposcatter Transmitter - April 1961.



Photo 20: View, looking east, toward the Cartwright Air Station - April 1961.

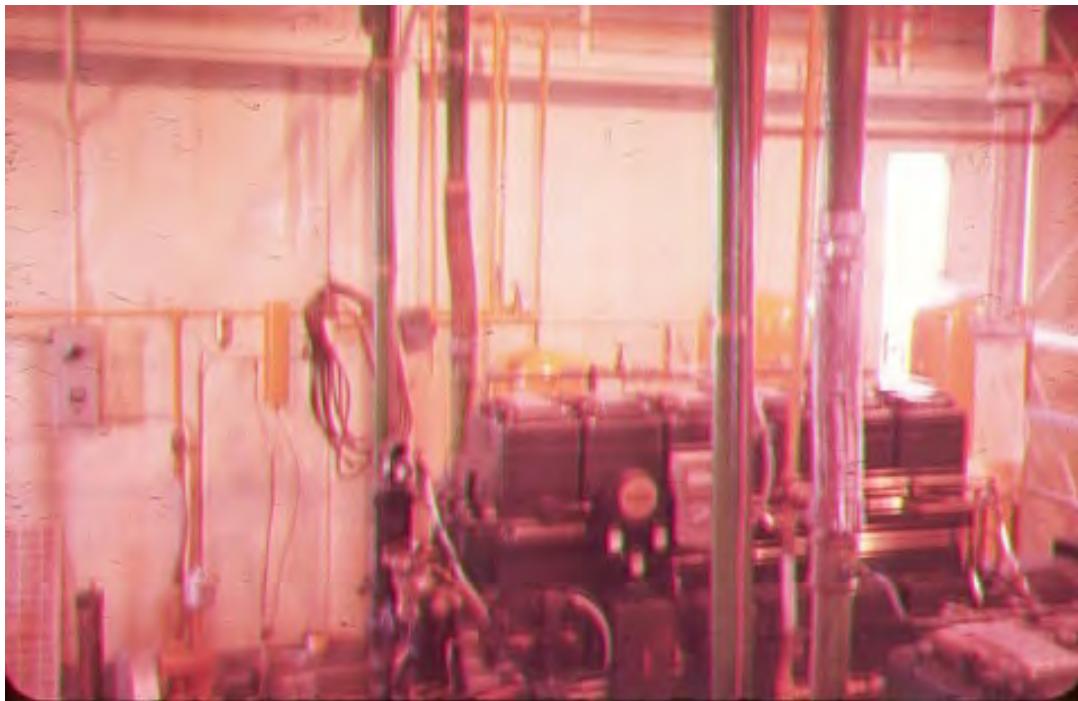


Photo 21: View of 1 of 3 emergency diesel generators at the Site - 1961.



Photo 22: View, looking north west, of the former helicopter pad at the Cartwright Air Station - 1961.



Photo 23: View, looking west, toward the Cartwright Air Station - September 1964.



Photo 24: View looking at former pipeline carrying diesel fuel from the shipping dock fuel tanks in the Town of Cartwright to the main fuel storage tank at the Site - June 1964.



Photo 25: View, looking northwest towards the main diesel fuel storage tank for the Cartwright Air Station - January 1965



Photo 26: View, looking south, toward POL pumping shack, radar tower and radome to the right - December 1966.



Photo 27: View, looking northwest towards the remains of original radar station - June 1998.



Photo 28: View, looking north, toward the foundation of Search radar tower - 1 August 2000.



Photo 29: View of former contractors' village - 2000.



Photo 30: View of aboveground pipeline along roadway to the Site - date unknown.