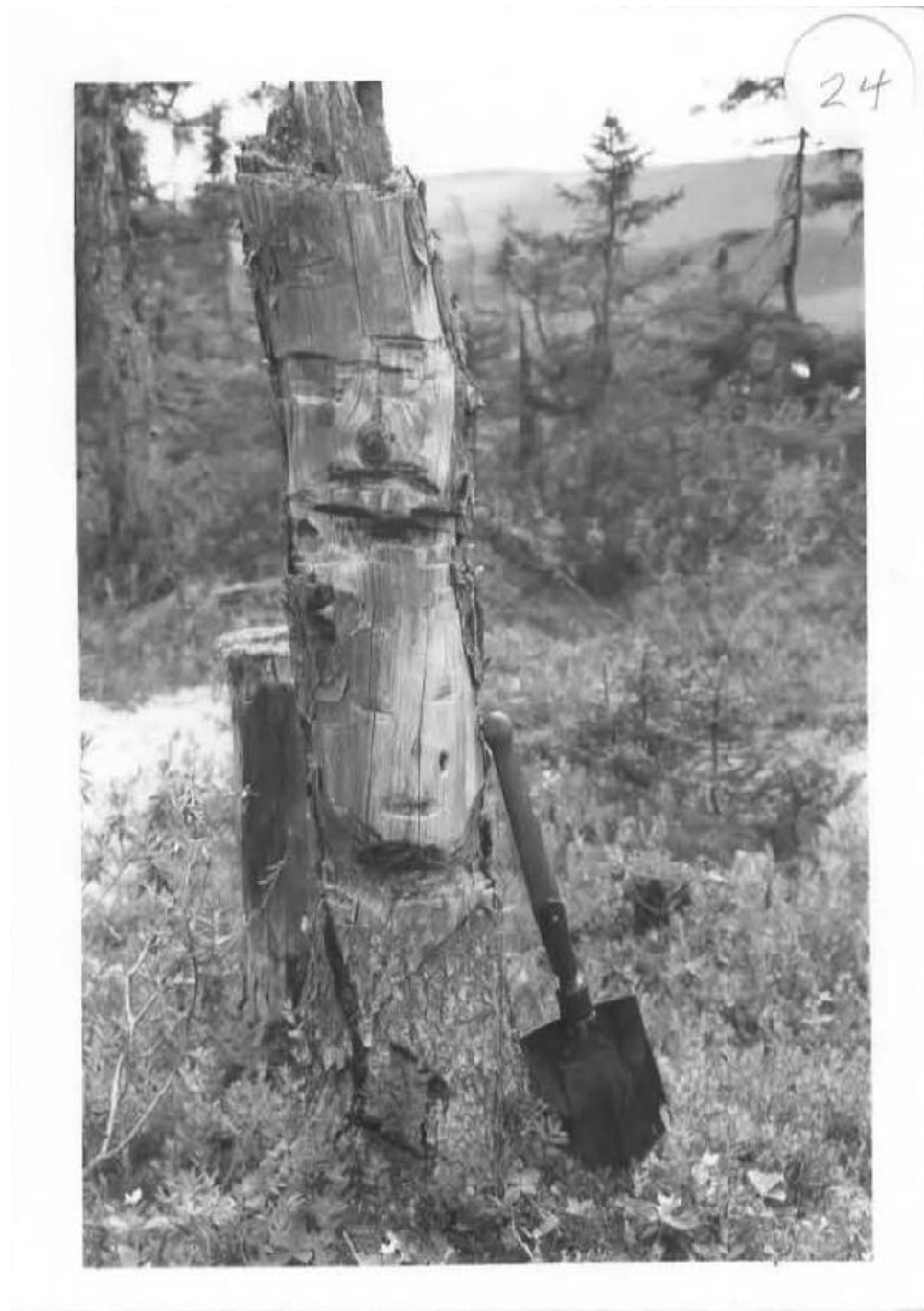


ARCHAEOLOGY IN NEWFOUNDLAND & LABRADOR 1992

Compiled and posted in 2023



(Mcaleese 1993)

Heritage Division
Provincial Archaeology Office
Government of Newfoundland and Labrador

Archaeological Research Permits (1992)

Permit Number	Location
92.01	St. John's
92.03	Ile Rouge
92.04	Nain
92.05	Kanairiktok River
92.06	Exploits Valley
92.07	Labrador Coastal Survey (https://journalhosting.ucalgary.ca/index.php/arctic/article/view/64151/48086)
92.08	Port au Choix (Parks Canada http://parkscanadahistory.com/)
92.09	Ferryland (https://journals.lib.unb.ca/index.php/NFLDS/issue/view/132)
92.10	Quidi Vidi Pass
92.11	Port au Port Peninsula
92.12	Bonavista Bay
92.13	Garia Bay
92.14	Red Bay
92.15	Old Man's Pond
92.17	Bishop's Cove
92.18	Torrent River
92.19	Minipi Lake
92.20	Conception Bay North Bypass Road
92.21	Placentia

Please note:

- *Some permits may not have resulted in a report.
- *The quality of these reports may vary as most were not intended as publications.
- *Some of the data and terminology in some of the reports may be out of date.
- *This document may not contain all of the archaeology data for 1992.

Author, Title	Page
Pope, Peter Dr. 1992 Archaeological Assessment of 296 Water Street, Backlot (CjAe-5). 92.01	4
Jacques Whitford Environment Limited 1993 Report on a Preliminary Archaeological Survey of Ile Rouge, Port au Port Peninsula, Newfoundland. 92.03	26
Hood, Bryan 1992 Nain Maritime Archaic Project: 1992 Preliminary Report. 92.04	55
McAleese, Kevin 1993 Labrador Interior Waterways (Kanairiktok River Basin) Phase 2 Report. 92.05	101
Schwarz, Fred 1992 Archaeological Investigations in the Exploits Basin Report on the 1992 Field Survey. 92.06	205
Jacques Whitford Environment Limited 1993 An Archival Study and Archaeological Survey of the Quidi Vidi Pass Batteries Quidi Vidi, Newfoundland CjAe-6. 92.10.	287
Penney, Gerald 1992 HROA Mainland to Cape St. George Connector Road. 92.11	541
McLean, Laurie 1993 Burnside Heritage Project. Interim Report For 1992 Archaeological Field Season. 92.12	554
Jacques Whitford Environment Limited 1994 Report of a Stage 1 HROA Northwest Brook, Garia Bay Newfoundland. 92.13	594
Tuck, James A. 1992 Archaeology at Red Bay, Labrador – 1992. 92.14	626
Schwarz, Fred 1992 Report on the Results of a Stage 1 Historic Resources Impact Assessment of Old Man's Pond, Western Newfoundland. 92.15	642
Drake, Martha 1992 St. Andrew's Church Cemetery - CjAh-12. 92.17	650
McAleese, Kevin 1992 Archaeological Reconnaissance of the Torrent River Site 1C Hydroelectric Development. 92.18	658
Jacques Whitford Environment Limited 1994 Final Report: HROA of the Minipi Lake Practice Target Area, Southern Labrador. 92.19	663
Penney, Gerald 1993 HROA of Conception Bay North Bypass Road, Alternate Route 4. 92.20	719
Skanes, Roy 1993 Report of an Archaeological Assessment at Placentia, Newfoundland, ChAl-1, 1992. 92.21	746

**ARCHAEOLOGICAL ASSESSMENT OF 296 WATER STREET, BACKLOT (CjAe-5)
AUGUST 1992**

by Peter Pope

Final Report, submitted to Historic Resources, December 1992

PAST PRESENT

HISTORIC SITES and MATERIAL CULTURE CONSULTING
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PAST PRESENT 296 Water Street Back Lot ...1

Background

In the spring of 1992 Coady Construction of Torbay, Newfoundland, was required by Historic Resources to ~~obtain~~ ^{conduct an} archaeological assessment of the back lot of the Footwear Supplies Building at 296 Water Street, prior to redevelopment of the lot. This back lot is shown in Figures 1 and 2. St. John's City Council agreed to fund the archaeological assessment and Coady Construction agreed to provide equipment for mechanical excavation.

Aims and Methods

1. The investigator planned to use surface survey, shovel testing and mechanically-excavated test pits to assess the potential of the area to contribute to our understanding of the early history of St. John's.
2. If materials of archaeological interest were identified, sample areas would be subject to controlled excavation.

PAST PRESENT 296 Water Street Back Lot ...2

Testing

Surface survey of the lot suggested that a great deal of rough fill (rocks and building debris) had been superimposed on the site in recent years. (See Figures 3 and 4.) Subsequent excavations confirmed this impression. There were no surface finds of archaeological significance.

With the co-operation of Coady Construction a mini-backhoe was brought to the site to open up test pits under the supervision of the principle investigator. Five test pits were opened, each approximately 1m x 2m. These were deliberately chosen to represent different areas of the site. The locations of these tests is shown in Figure 5. In one case (Test 3) mechanical testing was suspended, when a promising feature was uncovered. The principle investigator returned later to complete controlled excavation by hand.

PAST PRESENT 296 Water Street Back Lot ...3

Test 1

Test 1 was conducted in the northeast corner of the site, towards the east end of George Street, the area shown in Figure 4. The maximum surface level here was about 130 cm below the control datum level, the concrete pavement to the northeast, just beyond the low wall to the right in Figure 4. The control datum level is about 7 m above sea level. This test revealed a moderately deep, mixed, surface stratum to about 40 cm dbs, containing recent materials. Underlying this was a black urban soil. Although this contained a small amount of nineteenth-century material (a sherd of red CEW), the presence of plastic and fragments of a Pepsi bottle suggests that this is a disturbed layer.¹ Sterile soil (a grey glacial till) was reached at about 80 cm dbs. A profile of Test 1 is shown in Figure 6.

1. zzCEW = coarse earthenware; CSW = coarse stoneware; REW = refined earthenware (pearlware, creamware, ironstone etc.)

PAST PRESENT 296 Water Street Back Lot ...4

Test 2

Test 2 was excavated in the northwest corner of the site, towards the George Street park. (The test area is shown in the left-hand foreground in Figure 1). The existing surface level was at the control datum level (i.e. dba here = dbd). This area appears to have had its surface removed recently, for excavation uncovered only one layer of loose black soil over solid rock. This material was excavated in levels, but clearly seems to belong to a single disturbed stratum, for sherds of a red CEW bowl or pot were recovered from each level. Other artifacts recovered include sherds of various white REW vessels, including one of a purple cut sponge-decorated REW of a type popular c. 1850 to 1880 (Miller 1991: 6). Most of the other finds are consistent with such a dating, including yellow REW, a grey CSW bottle neck, a CSW lid, a bone table knife handle and a bone button. The presence of some recent material suggests that the original context has been disturbed. This included a "Pons" ointment jar, plate glass, a banded CEW teapot of a recently-available style as well as plastic and pop bottle glass.

A profile of Test 2 is shown in Figure 7.

PAST PRESENT 296 Water Street Back Lot ...5

Test 3

Test 3 was located in the southeast corner of the site, near the abutment of the existing "Footwear Supplies" building and the adjacent structure to the east on George Street (the area shown in Figure 3). The maximum surface level was about 220 cm below control datum level (i.e. dba here = -220 cm dbd). The surface stratum consisted of a layer of bricks, brick fragments and rocks in a fine black soil, containing fragments of plastic and recent bottle glass, to a depth of about 40 cm dba. Under this lay an 80 cm deep stratum of fine crumbly urban soil, between about 40 and 120 cm dba, with an admixture of brick fragments. The presence of recent bottle glass, a porcelain electrical insulator and styrofoam chips suggest that this too is a very recent deposit.

Strata 3 and 4 appeared to hold more archaeological potential. Stratum 3 was a thin reddish ash layer overlying a slate roof fall. Although the ash layer contained bottle glass, plate glass, a ceramic insulator and a plastic pipe-stem consistent with fairly recent deposition, it seemed possible that the slate roof debris might mark an undisturbed earlier deposit. It was therefore decided to halt mechanical excavation and to return to this unit for controlled excavation by hand.

Hand excavation of the stratum 4 slate layer suggested that this was debris from a renovation of the standing adjacent

PAST PRESENT 296 Water Street Back Lot ...6

structure, rather than a roof fall. This was indicated by the thickness of the deposit (up to 40 cm), the presence of recent bottle glass, and a passer-by who mentioned that the building roof had been renovated within the last 20 years. This was confirmed when the under-lying stratum 5 was opened up. This 30 cm deep stratum of greasy black soil included sherds of a brown stubby beer bottle and a light-bulb filament.

Stratum 6, which was a crumbly soil about 10 cm deep, contained no readily-dateable artifacts. The under-lying stratum 7 was a brown, gravelly soil about 60 cm deep, containing many charcoal lenses, as well as bone and brick fragments. The artifacts recovered seem typical of the later nineteenth century, and include a CSW inkpot, a clay tobacco pipe bowl and stem, a sherd of black CEW and various sherds of white REW, including "flow blue" willow pattern, which can be dated after 1845 and REW edge-banded in green and gilt, which dates likely after 1870 (Miller 1991: 7-10). It seems quite possible that this deposit relates to the Great Fire of 1892.

Immediately above the underlying sterile glacial gravel lay stratum 8, about 195 to 205 cm db. This appears to be a destruction (or conceivably construction) level, containing fractured stone, charcoal, brick fragments and burned timber. One of the sherds of window glass recovered is apparently heat-

PAST PRESENT 296 Water Street Back Lot ...7

damaged. Of the five sherds of REW ceramics recovered two have a blue paste; one is cut-sponge-decorated, a style popular 1850 to 1880; and one is brightly painted, a style popular after c. 1815 to 1835, but in this case perhaps relating to a second period of popularity in the 1870s (Noel-Hume 1969: 129, Miller 1991: 8). The dateable finds would suggest that this material pre-dates the Great Fire of 1892, although it might conceivably have been deposited at that time. It probably post-dates the earlier fire of 1846.

A profile of Test 3 is shown in Figure 7.

PAST PRESENT 296 Water Street Back Lot ...8

Test 4

Test 4 was located in the south-west quadrant of the backlot (behind the bush in the centre of Figure 2). Maximum surface level here was about 150 cm below datum (i.e. dbs here = -150 dbd). Like Test 3, this proved to contain cultural material to a considerable depth, although again much of this seems to be very recent. Stratum 1, to about 80 cm dbs was very recent coarse fill, containing recent bottle glass and styrofoam chips. Stratum 2 was a layer of jumbled roofing slates and brick, between about 80 cm and 110 cm dbs. The presence of a recent cold cream jar suggests Test 2 stratum 2 can be associated with the roofing slate level in Test 3 stratum 4.

Stratum 3 in Test 2 was a dark greasy soil between about 130 and 160 cm dbs. The presence of CSW, RSW and REW ceramics of types available in the late nineteenth and twentieth centuries suggests that this stratum might be dated c. 1900 to c. 1960.

The underlying stratum 4 was a reddish, fine-grained, crumbly soil, between about 130 and 160 cm dbs. This stratum contained pipe stems and bowls and sherds of CSW ink pots, REW ironstone and embossed and willow blue REW, all consistent with deposit in the nineteenth century, the ironstone suggesting a date after 1840 (Miller 1991: 10).

PAST PRESENT 296 Water Street Back Lot ...9

The lowest cultural material was found in stratum 5, between 160 and 210 cm dbs, immediately overlying sterile glacial gravel. Stratum 5 was a greasy olive-beige gravelly soil, with many small lenses of other soils, suggesting perhaps a deposit which had been much trodden when wet. The artifacts recovered included a number of REW sherds, including flow blue willow pattern, popular after 1845; cut-sponge-decorated REW, popular 1850 to 1880; several jugs or footed cups, brightly-painted pinkish red and polychrome on pearlware, a decorative style popular on pearlware c. 1815 to 1835 (Noel-Hume 1969: 129, cf. Towner 1978: 165); as well as the rim sherd of a bowl, edge-banded in gilt and green, of a type dating after 1870 (Miller 1991: 6,7,9). This material would be consistent with casual intermittent deposition in the period following construction of a building on the site of the present structure after the fire of 1846. (Pope 1991: 78ff, 125-128.)

A profile of Test 4 is shown in Figure 9.

PAST PRESENT 296 Water Street Back Lot ...11

Discussion

It is clear from the archaeological samples retrieved that the backlot of 296 Water Street was not the site of intensive occupation or even of extensive discard of artifacts prior to the mid-nineteenth century. Artifacts recovered support documentary indications that the foundations of the present building date from the rebuilding of Water Street after the fire of 1846, for the lowest cultural strata in the tests adjacent to the present structure contain materials for which a deposition date between 1845 and 1890 is probable, although some materials - the brightly-painted pearlware jugs or mugs from the lowest stratum (5) of Test 4 - were probably manufactured earlier, between 1815 and 1835 . A large proportion of household ceramic serving vessels are represented in these finds, which supports documentary indications that Water Street was a residential district in this period, as well as a commercial one.

The find of a ~~the~~ lid of a jar of Macassar "cream" is interesting. Macassar oil was, throughout the nineteenth century, a dressing that gentlemen applied to their hair: hence the lace "anti-macassar" (Oxford English Dictionary). This find not only helps to date the site, but it serves to remind us that Water Street was, in the nineteenth century, a residential area for St. John's small commercial middle class, the shop-owners who frequently resided above their commercial premises.

PAST PRESENT 296 Water Street Back Lot ...10

Test 5

Test 5 was located in the centre of the hacklot (to the left in Figure 2). Maximum surface level was about 90 cm below the control datum (i.e. dbs here = -90 dbd). As with Test 2 the results of excavation indicate recent disturbance. Stratum 1 here is a recent debris of rock and cement block, to about 70 cm dbs. Stratum 2 is a very dark, black, crumbly, urban soil, between about 70 and 120 cm dbs. It contains some nineteenth-century material, for example flow-black transfer-printed REW, a type post-dating 1845. The style of black transfer-printed REW (in Lot X 38R) probably post-dates 1850 (Sussman 1978: 67, 108, 116). The stratum is, however, mixed, for it contained modern green bottle glass and a plastic pipestem. This stratum can probably be associated with Test 2, stratum 1.

The underlying stratum 3 is a greasy brown gravel (perhaps equivalent to stratum 5 in Test 4). From this stratum a number of artifacts were recovered that might be dated to the mid nineteenth century. These included a pipe stem, sherds of blue willow pattern REW and a find which might be taken ^{to} epitomize the _^ site: the REW ceramic lid of a jar of "Macassian Cream" (i.e. Macassar oil, on which see below).

Figure 10 is a profile of Test 5.

PAST PRESENT 296 Water Street Back Lot ...12

Conclusions

1. Finds from this site reflect the intensive residential and commercial occupation of Water Street in the nineteenth century.

2. Significant deposition in the 296 Water Street backlot occurred in the second half of the nineteenth century, between the construction of a building on the site after the fire of 1846 and the Great Fire of 1892.

3. There is no apparent evidence for deposition of significant cultural remains at the site before the building of 1846, with the possible exception of a component of Test 4, stratum 5 (the painted pearlware jugs or cups). Prior to this time this site was, it would seem, nothing more than a meadow or fish-flake.

4. It is possible to test deep urban sites in St. John's with mechanical equipment, in order to achieve cost-effective assessment of the archaeological significance of a site, with minimal damage to significant artifacts and control of excavation to approximately 10 cm levels.

5. Further research is not necessary, at this site.

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296 Water Street Back Lot ...13



Figure 1. Backlot 296 Water Street, facing north east (grid).



Figure 2. Backlot 296 Water Street, facing south east (grid).

PAST PRESENT

296 Water Street Back Lot ...14



Figure 3. Backlot 296 Water Street, south east corner.



Figure 4. Backlot 296 Water Street, north east corner.

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296 Water Street Back Lot ...15

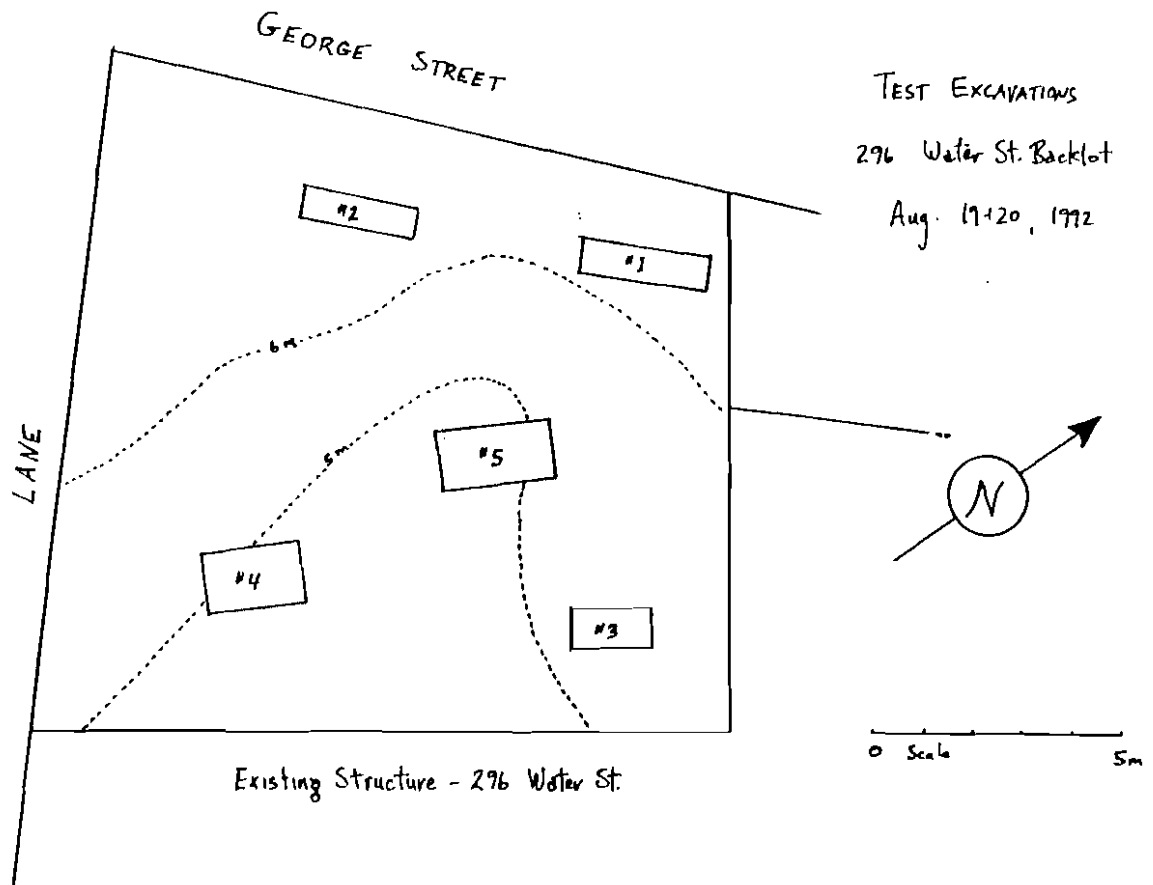


Figure 5. Location of Tests.

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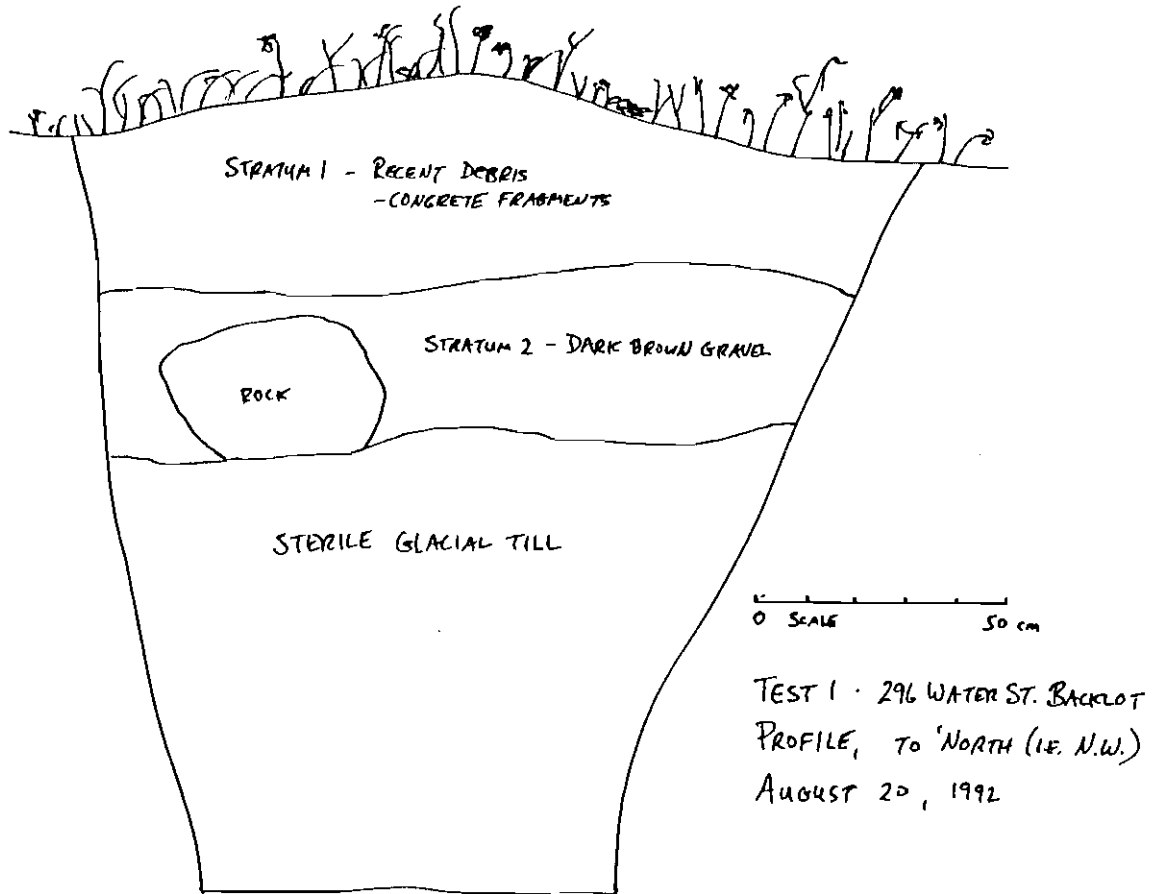


Figure 6. Test 1, profile.

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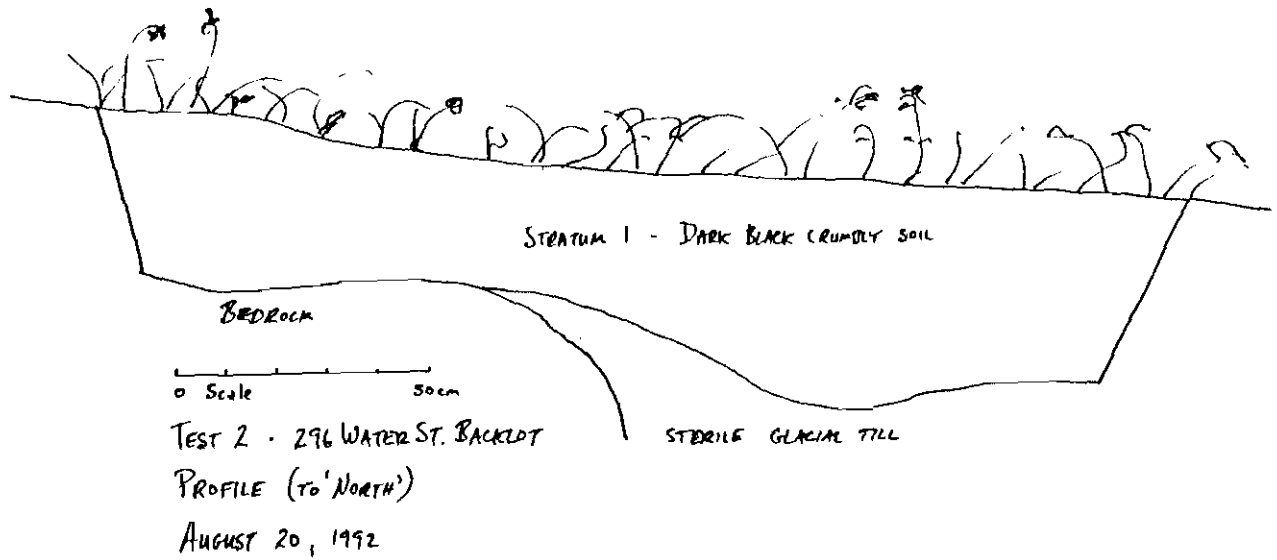


Figure 7. Test 2, profile.

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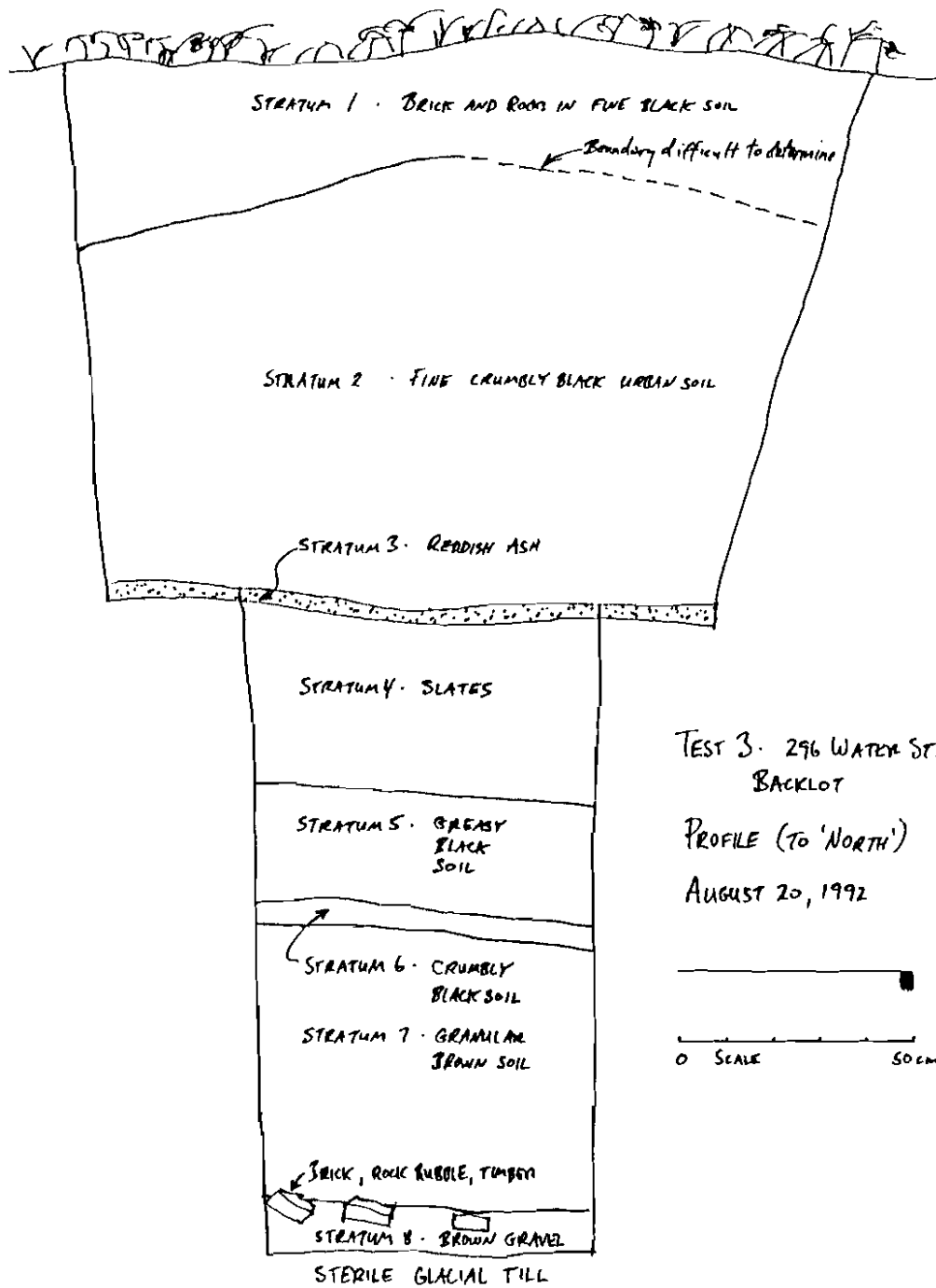


Figure 8. Test 3, profile.

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296 Water Street Back Lot ...19

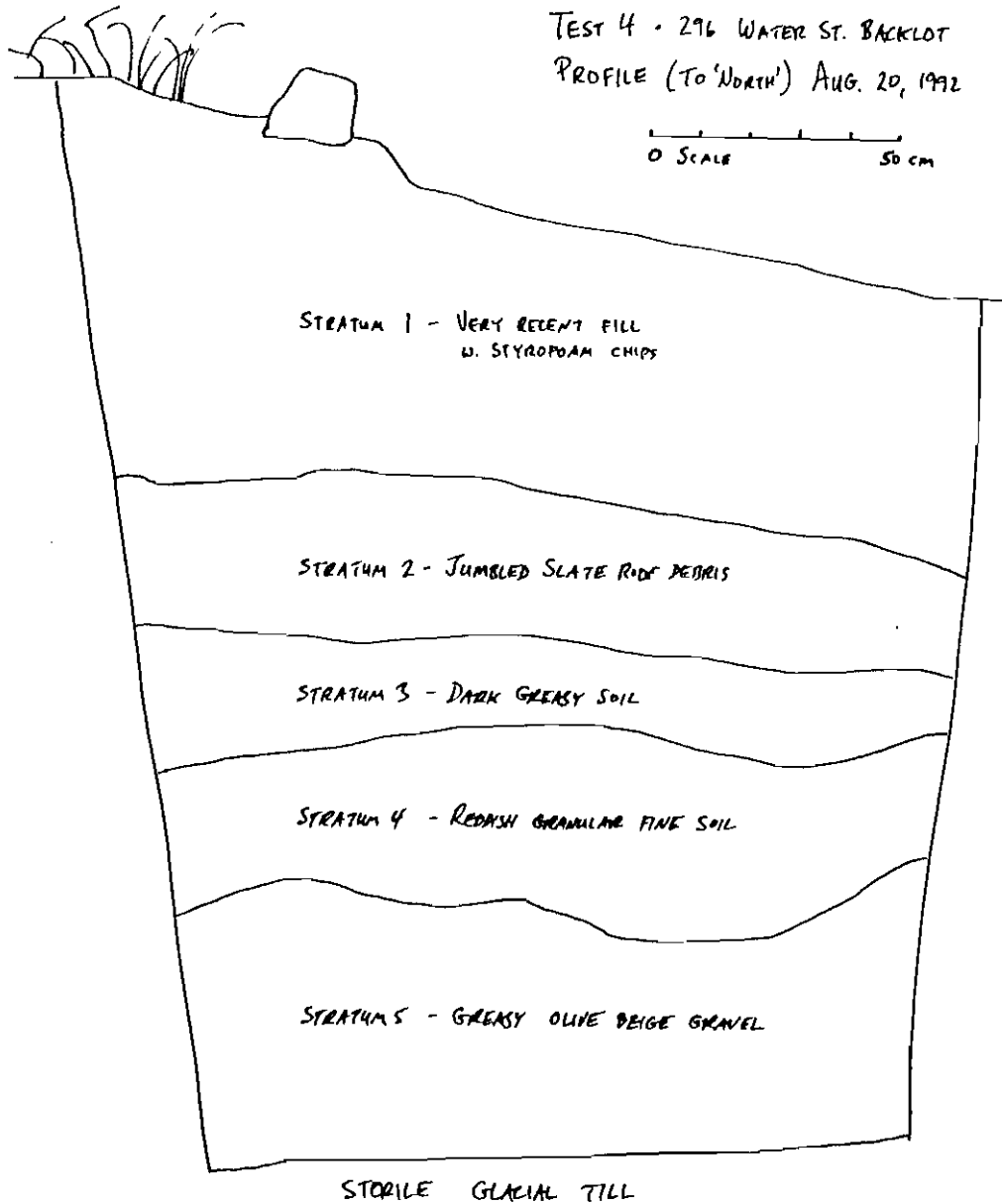


Figure 9. Test 4, profile.

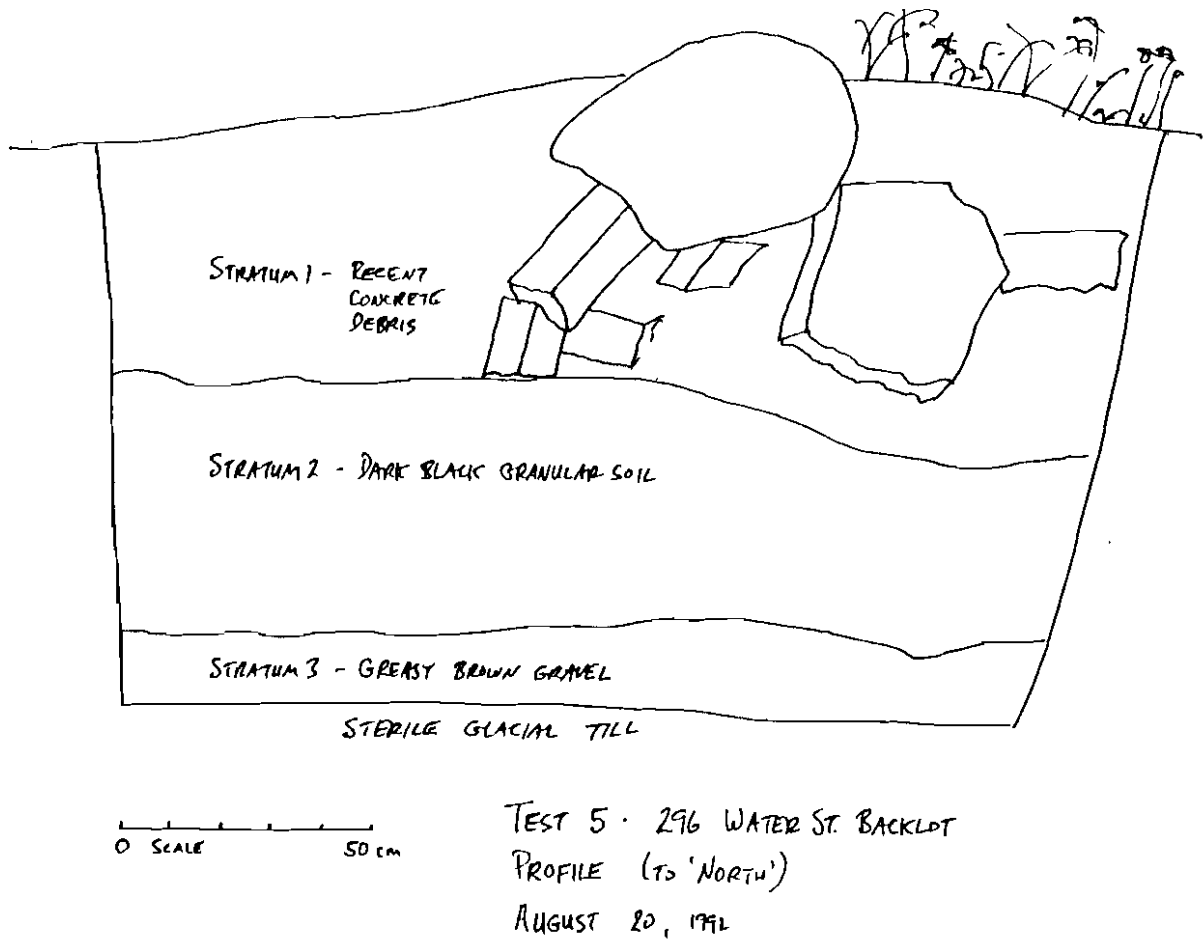


Figure 10. Test 5, profile.

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PROJECT NO: 7845

Provincial Archaeology Office
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REPORT TO

1810

**HISTORIC RESOURCES DIVISION
DEPARTMENT OF MUNICIPAL
AND PROVINCIAL AFFAIRS
ST. JOHN'S, NEWFOUNDLAND**

ON

**PRELIMINARY ARCHAEOLOGICAL SURVEY OF
ILE ROUGE, PORT-AU-PORT PENINSULA,
NEWFOUNDLAND**

PREPARED BY:

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January 22, 1993

Permit 92.03

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1.0 INTRODUCTION

For several years people in the community of La Grand'Terre (Mainland) on the west coast of the Port-au-Port Peninsula have seen the benefits to education and tourism of a program of archival and archaeological investigations into the four centuries of use or occupation of Ile Rouge (Red Island). Ile Rouge (Figure 1.1) lies 3 km due west of La Grand'Terre and was used from the Basque fishing period of the late sixteenth century until the early twentieth century as an anchorage and fishing station. At the request of the Mainland IAS Committee, Jacques Whitford Environment Limited (JWEL) conducted a preliminary archaeological survey of the island, presented reports on this work at meetings in Mainland and Cape St. George, and undertook a program of informal interviews.

Selma Barkham (1989), in her booklet *The Basque Coast of Newfoundland*, briefly describes the history of occupation and use of Ile Rouge, or Isla de San Jorge as it was called in the late 16th century. The name first appears on maps from the 1580s when its importance as a haven behind which boats could shelter on a largely exposed coast became worthy of mention. It obtained its new name, Red Island, in 1767 when Captain James Cook noted its reddish-coloured cliffs in his sailing directions. The island, besides its value as providing an anchorage, was used as a fishing station by Basques in the 16th and 17th centuries and later in the 18th, 19th and early 20th centuries by French fishermen originating in St. Pierre et Miquelon, the Breton coast of France and the Acadian communities of Cape Breton (Newton 1990). The Island was the site of various facilities such as a fish factory, lobster cannery, hospital, farm, merchant's store, bakery and graveyard as well as a home to French and, perhaps, Basque fishermen. Although there is a major problem with coastal erosion and successive occupations have probably resulted in some destruction of previous cultural features, evidence is still visible on the Island of some of the structures and areas of occupation. The potential for a successful program of archaeological investigations seemed high.



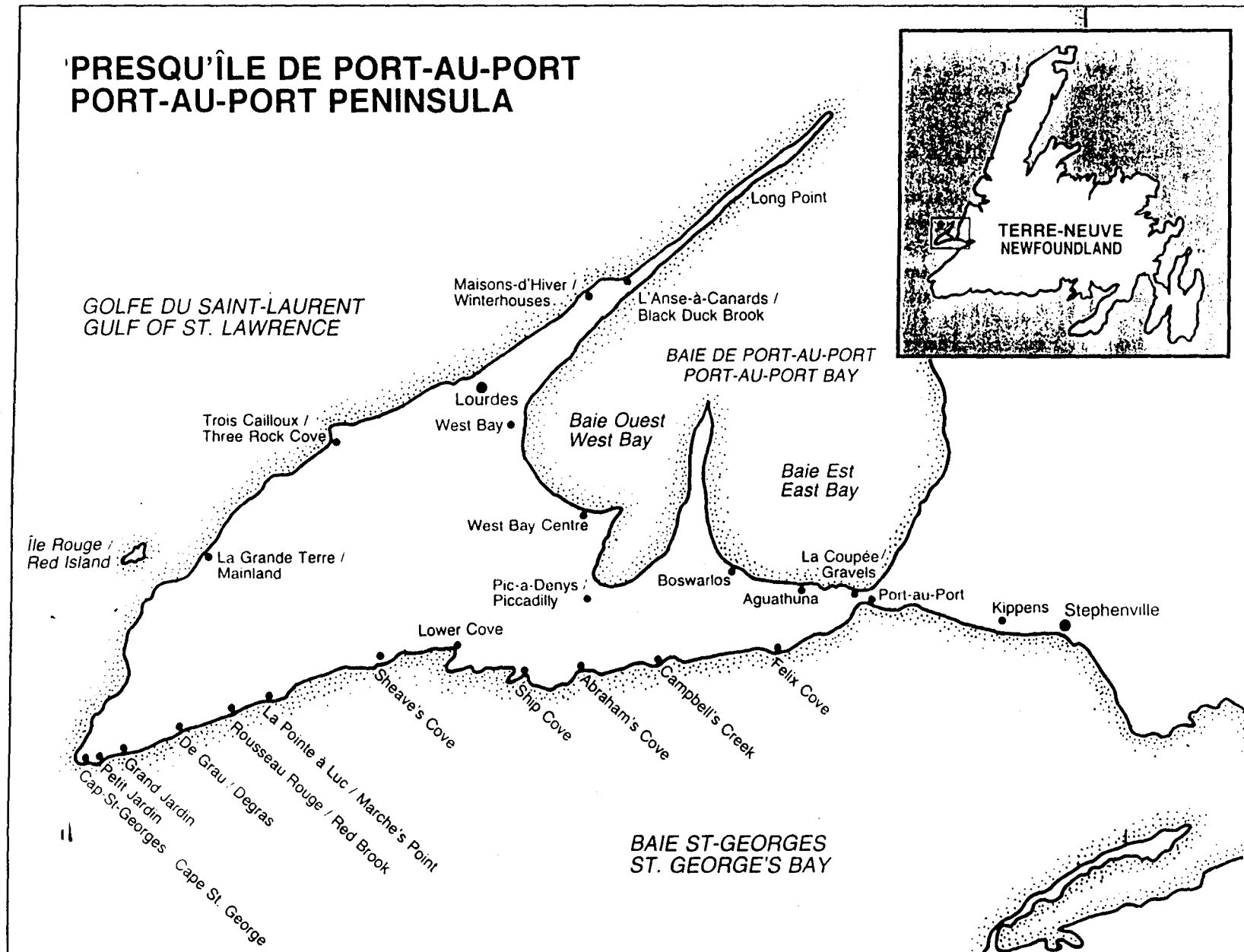


Figure 1.1 Ile Rouge (from French Newfoundlanders, Louise Abbott, 1987)

2.0 OBJECTIVES

A preliminary archaeological survey of the island was proposed for early June, 1992. The survey was preceded by a limited program of archival research and informant interviews which pinpointed areas of high potential for finding any remaining traces of the early European and Eurocanadian occupations in the form of building foundations, refuse deposits and other features. During the archaeological survey, these and other areas on the island were to be investigated, their significance, extent and potential for future investigation assessed, and an attempt was to be made to link the features to their function and periods of use. During the course of field work and several opportunities to talk with local residents and representatives of funding agencies, recommendations were developed on prospects for a continuing program of archaeological and archival investigations, visitation by students, tourists and others, on-site interpretation and possible incorporation of the results of the investigation into the planned museum and interpretation centre in La Grand'Terre.

3.0 STUDY AREA

The primary field research focused on the island variously known as Ile Rouge, Red Island, Isla San Jorge and St. Georges Island. The island lies 3 km due west of the town of Mainland, or La Grand'Terre, off the west coast of the Port-au-Port Peninsula, western Newfoundland. The island, composed of sandstone, is connected to the mainland at Cape Cormorant by a shallow bar which is almost exposed at low tide. The summit of the island is about 80 m above sea level; the perimeter falls steeply to the sea on all sides and has undoubtedly suffered from massive erosion during its history.

A secondary focus was on any related features in the town of Mainland. The town is the most southerly on the west coast of the Port-au-Port Peninsula, at the terminus of Highway 463. A current plan calls for a continuation of the highway to produce a road connection between Mainland and Cape St. George, on the south coast of the peninsula.

4.0 STUDY TEAM

The project was directed by Callum Thomson, Senior Archaeologist with JWEL, Dartmouth. Stephen Powell, an archaeologist with JWEL, catalogued the artifacts. Roy Skanes, an archaeologist with the St. John's affiliate, Jacques Whitford Environment, assisted with field research. Dr. Selma Barkham provided some of the results of her archival research into the history of Basque use of the west coast and accompanied the field survey team. Many residents of the area and officials of federal and provincial agencies attending a tourism conference in Bay St. George and a progress meeting in La Grand'Terre provided useful information.

5.0 METHODOLOGY

The program of archival and archaeological investigations was of a preliminary nature and intended only to assess the potential for developing a long-term program of archival research, archaeological excavations, introductory field training of local residents, visitation by tourists and students and, perhaps, development of parts of the site through stabilization and the placement of interpretive signage.

The results of previous research projects (Thomas 1987; Barkham 1989, 1992; Newton 1990; Jacques Whitford Group 1991) were reviewed and discussions were held with Barkham and other informants. A field research grant application was submitted to the Historic Resources Division to enable the conduct of additional research among documents, maps, charts and photographs at the Folklore Department and the Centre for Newfoundland Studies at Memorial University of Newfoundland and the Public Archives. Unfortunately, this application was rejected on the grounds that the project was being conducted on behalf of a client and not as a personal research initiative. Information was gathered from Heritage de l'Île Rouge Inc. From these avenues of research the main areas of occupation on the Island and some details of the function and period(s) of occupation were obtained. The field

survey program then concentrated on areas judged to be of high potential for the finding of cultural remains.

The field survey was conducted in early June under Permit No. 92.03. A team of two archaeologists assisted by Angela Moore, a resident of La Grand'Terre, undertook a walkover of the island for orientation, to locate surface features and to identify areas judged to be of high potential during the background research phase. Test trenches and small units were excavated to help with the understanding of the nature, depth, lateral extent and state of preservation of features encountered. A site plan was drawn identifying the location of all features, test pits and structural and natural elements. Because of the preliminary nature of this survey, excavations were not extensive. Colour and black and white print photographs were taken throughout the investigations. A planned return trip to the island the next day was cancelled due to poor weather. An archaeological site record form was submitted to the Historic Resources Division for their files and for the application of a Borden site number. Artifacts recovered were cleaned, catalogued with the Borden number and consecutive artifact numbers and subjected to preliminary analysis. No objects required conservation.

6.0 RESULTS

6.1 Culture History Overview

No previous archaeological work had been conducted on Ile Rouge. Several surveys have been undertaken on the Port-au-Port Peninsula over the last two decades: Paul Carignan (1975), David Simpson (1984) and Gerald Penney (1992: personal communication) surveyed parts of the west coast and other areas of the Peninsula. Their work indicates that Dorset Palaeo-Eskimos, a group which became extirpated in Newfoundland around A.D. 1000, and Recent Prehistoric Indians, the ancestors of the Beothuk, sought chert and food resources such as seals, salmon and caribou at various locations during the late first millennium and early second millennium A.D. No evidence was found of any earlier Palaeo-Eskimo or Maritime Archaic occupations. Historical evidence indicates that Beothuk, Micmac from

Cape Breton and perhaps Montagnais from Labrador visited the west coast of Newfoundland and may have been in contact with fishermen from Europe during the seventeenth and eighteenth centuries. It is unlikely that Ile Rouge held any attraction for Native peoples until the arrival of Europeans and the opportunities for trade.

The first reference to Ile Rouge in historic sources is a will written by a Spanish Basque ship's captain for a dying member of his crew as they lay at anchorage by the island, then known as San Jorge. This event took place in 1632, suggesting that the anchorage, presumably in the lee of the only island between Cape Ray and Bay of Islands, was well known to the Basques, some of whom approached their whaling, cod fishing, sealing and trading stations on the Strait of Belle Isle via the south and west coast of Newfoundland in preference to the more direct route from the east around the tip of the Great Northern Peninsula. The western route allowed access to seals and fish at least a month or two earlier than the northern route, and ships worked their way up the west coast to the Strait as the ice cleared offshore. Forty years earlier, two Basque ships were wrecked in St. George's Bay. A few years later, in 1594, the wrecks were observed by the crew of an English ship, who also noted the presence of a Native village, possibly Beothuk (Barkham 1992).

Following the early interest in Ile Rouge by Spanish Basques, by the late 18th century the island was occupied by fishermen from St. Pierre and Miquelon, many of whom were of Breton or French Basque origin (Barkham 1992). People from the Acadian communities on Cape Breton also moved to the Island, and traders originally from England established businesses around the peninsula, resulting in the unique blend that forms the population of La Grand'Terre and other communities on the Peninsula today.

6.2 Archaeology of Ile Rouge

Prior to the 1992 survey, local residents of La Grand'Terre were well aware that the remains of several houses, gardens, a cemetery and a bakehouse were present on the island. Older people could remember the island being used as a summer fishing station by people from

La Grand'Terre; most recently, Mr. Baptiste Barter removed from the island the house he had lived in for many years. Evidence of the former presence of this structure remains in a deep cellar and wooden footings, now only a metre or so from the edge of the cliff.

The island rises steeply from the sea up an unstable sandstone or sand and cobble cliff to a relatively flat summit (Plate 6.1). Evidence of large tree stumps and roots in the cliff suggests that the island was once forested; today, there are no trees and only isolated pockets of shrubs on the otherwise grass-covered island. Several small creeks and springs are present. The island can be divided into two sections: the southeastern quarter, facing La Grand'Terre, is flat, rising gently to the west. A steep slope divides the lower terrace from an upper terrace which forms the northeastern section of the island. An automatic beacon is situated on the highest point, at the northeastern tip. The former community was located on the lower terrace and on the beach and on stilts against the cliffs at the southeastern corner (Figures 6.1 and 6.2). Access to the upper terrace is gained by a series of ladders, stairways and a rope above the gravel spit at the southeast tip. Boats used to be hauled up above high water with a wooden capstan on the beach; later, a gas-powered winch was set on a concrete block near the cliff top. A 1906 plan of the island in the possession of Abbott and Haliburton shows the lower community, a ladder to access the upper community, a feature which is presumably a series of flakes, and the French Cemetery (Figure 6.2). The photo (Figure 6.1) presumably illustrates the lower community of fisherman's houses and stores.

The survey started with a walkover of the perimeter of the island. On the south coast many sod-walled enclosures were noted along the edge of the cliff. No structural elements or artifacts were seen on the surface. About half way along the south coast the lower terrace gives way to a steep slope which leads to the upper terrace. From the southwestern corner around the west coast to the beacon no signs of any cultural changes were seen, other than the total denudation of tree cover. The east coast of the lower terrace is covered with many signs of human habitation: a wooden dam; drainage channels; more sod-walled enclosures; lazy bed horticulture; small, deep depressions probably the remains of outdoor toilets; a



Plate 6.1 View south over south eastern corner of Ile Rouge to mainland. Landing beach at left. Gully described in F-1 in foreground. Lazy beds and house/garden features at centre. Root cellar is prominent mount to left of cabin.



Plate 6.2 Cut stone and bricks in bakery feature, F-6

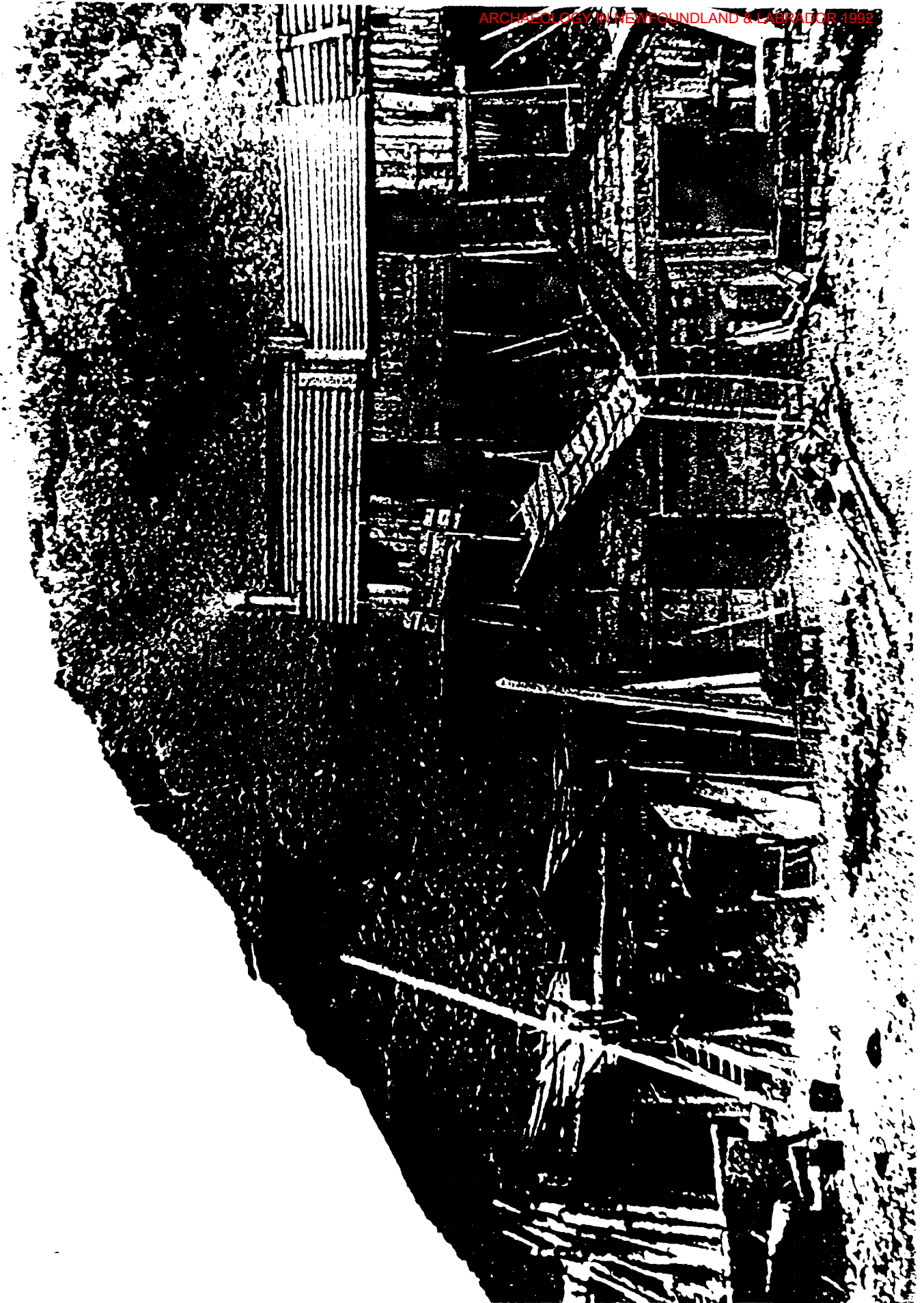
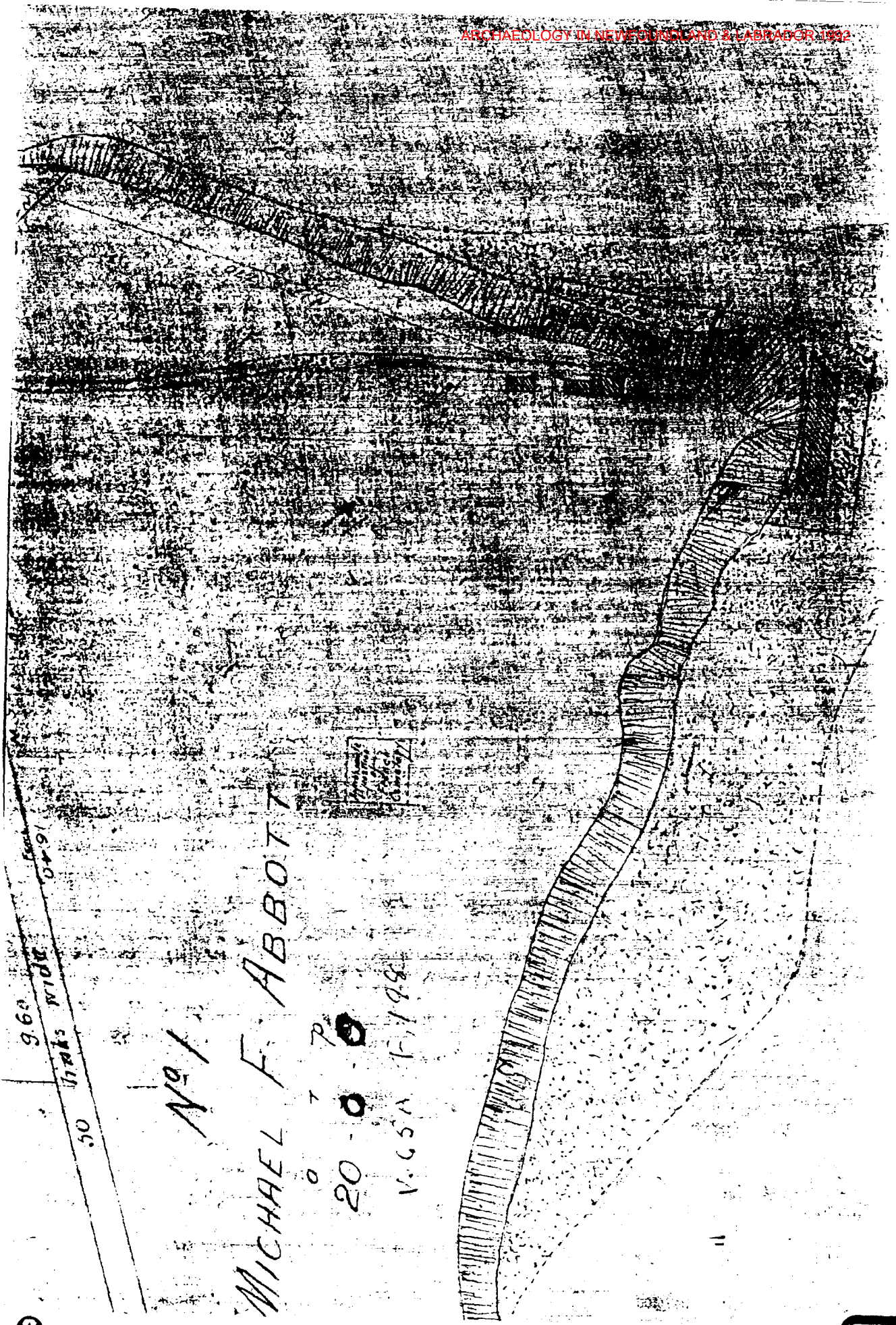


Figure 4.1 Fishing Station, Ile de la Grande, Unidentified photo, French centre mainland



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Figure 6.2 Plan of Ile Rouge, 1906

large depression said to have been a root cellar; several house cellars; frames for fish flakes and storage platforms; and other features. In several locations, artifacts were found eroding from the sod or on the slope of the cliff. Following the walkover, test pits were dug in areas thought to be of highest potential and a site sketch was prepared.

Features

Features found during this preliminary survey were mapped (Figure 6.3) and given a cursory description. Features were numbered as they were found during the mapping survey which started at the north end of the lower terrace, proceeded south to the southeastern tip of the island and terminated at the western end of the lower terrace.

Feature 1 (F1) is a 10 x 9 m enclosure consisting of a low sod wall; no internal divisions were noted. The eastern wall has been truncated by downslope erosion into a narrow but deep gully through which a stream flows. Several artifacts were noted on the slope of the gully:

- DdBt-1: 1, a kaolin pipe bowl wall fragment with an embossed vertical ridge;
- DdBt-1: 2, a curved kaolin pipestem fragment with the name DUBE or DUBL enclosed in an embossed outline on one side, and the letters CH presented in a similar fashion on the other;
- DdBt-1: 3, a small fragment of French coarse earthenware with traces of a green glaze, probably dating to the eighteenth century;
- DdBt-1: 4, a rimsherd from a refined white earthenware piece with a narrow green band near the rim, dating to the nineteenth/twentieth century; and
- DdBt-1: 5, a sherd from an olive green glass bottle, dating to the nineteenth/twentieth century.

Several test pits were dug in the interior of this enclosure and into one wall; no evidence was found of any occupation layer, wood fragments from a floor, soil change or anything

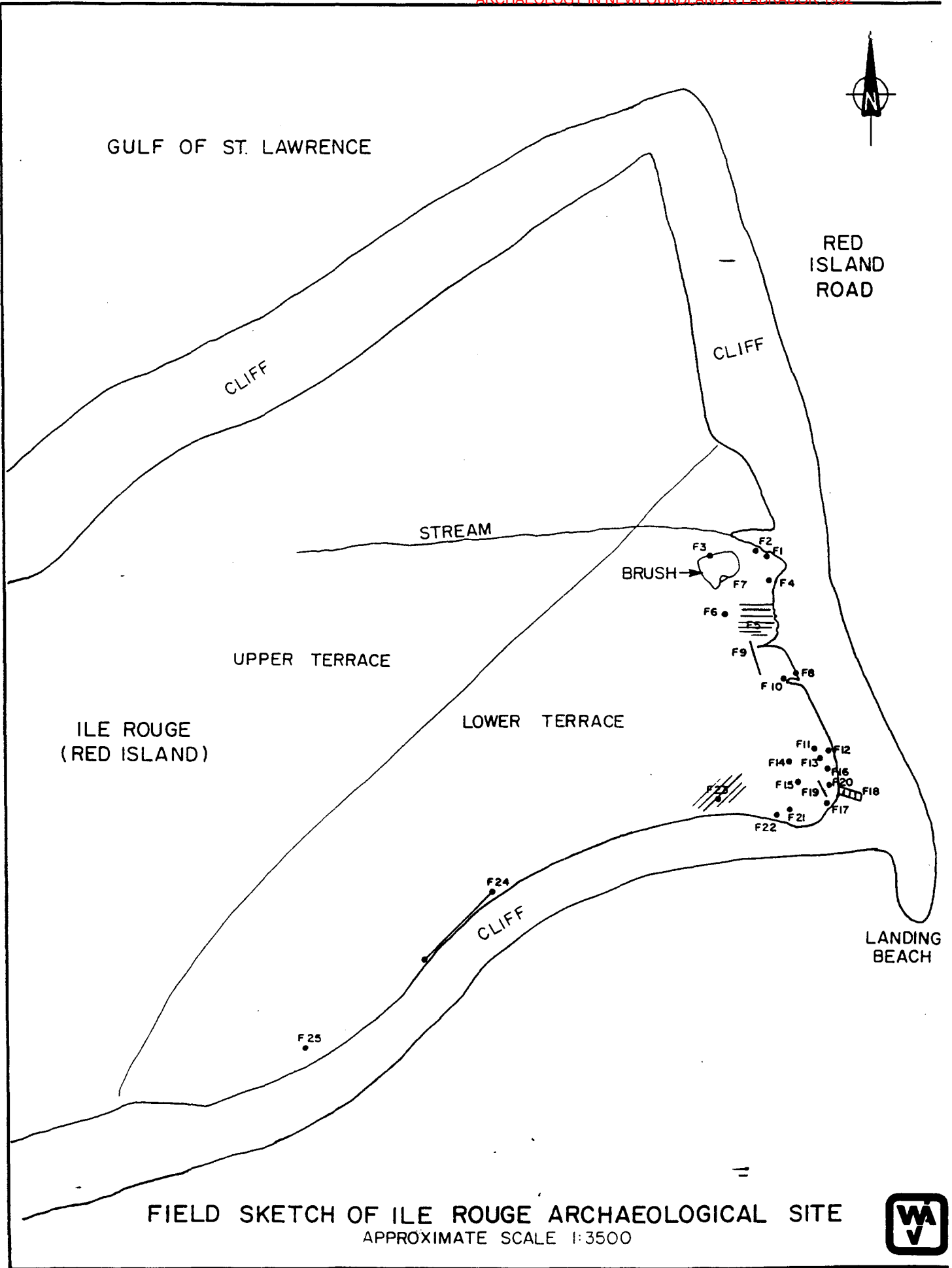
which would confirm that the enclosure was the outline of a house foundation. The name Dube or partial name Dubl on the pipestem is interesting in that local residents refer to the stream adjacent to F1 as Dubé Brook. However, it is more likely that the letters are part of DUBLIN, a common motif on pipes made in Bristol (Jackson and Price 1974). Several other pipestems were found in a gully on the island by Ms. Julie Oliver (1991: personal communication), possibly in the same gully. These are unusual; instead of the normal smooth, white kaolin, they are made of a coarse, brown material, perhaps representing an attempt at manufacture from local clay.

F2 is five metres northeast of F1, on the edge of the same gully. The feature is another sod walled enclosure, measuring 12 x 8, aligned almost north-south. No artifacts or internal features were visible.

F3 is similar to F1 and F2 in that it is a rectangular sod walled enclosure, measuring 11 x 6 m. It differs in that the walls, at 70 m high, are more substantial than those of the other two features. Test pits provided no information on the function or age of the feature. An area of thick brush extends southward for about 30 m.

F4 is situated on the edge of the cliff approximately 10 m south of F1. Two low walls or a shallow drainage channel surround an area approximately 15 x 20 m. A small stream flows to the cliff edge beyond the south wall of the feature.

F5 is an extensive area of lazy beds and drainage channels which stretches west and 70 m south from F4 to the edge of another gully containing a small stream. A deep drainage channel forms the western boundary of this area, which is presumed to be the remains of a garden in which root crops and other vegetables would have been grown. Two more drainage channels run parallel a few metres further west. It is possible that this system of drains worked in conjunction with a dam on the south side of the area of brush (F7) to control water flow for irrigation or to prevent flooding of the garden area.



FIELD SKETCH OF ILE ROUGE ARCHAEOLOGICAL SITE
APPROXIMATE SCALE 1:3500



240 89/05

4 Figure 6.3

F6 is a pile of bricks and imported stone (Plate 6.2), some cut into blocks, 25 m south of the area of brush. The pile, overgrown with a thick layer of sod, forms a prominent mound several metres in diameter. Holes dug in various places around the mound indicate episodes of unauthorized digging; it is not known whether any artifacts have ever been found. This feature is the remains of the bakehouse which provided the community with fresh bread and other baked goods. Test pits revealed a considerable depth of material, including several different kinds of smooth red, coarse red and coarse grey brick, cut stone, nails, and an iron spike. Local informants indicated that the bakery was run by the same person who later opened one in La Grand'Terre. A visit to that area revealed a similar mound of bricks and stone.

F7 is a wooden dam on the south edge of the area of brush, placed to control the flow of a spring which surfaces in the brush. Its proximity to the bakehouse suggests that this provided the water needed for baking.

F8 is a find spot in a gully on the edge of the cliff 130 m south of F1. Two unidentified bones and some fragments of ceramics, glass and brick were found on the surface of the gully. This area is about 30 m southeast of F9, which is interpreted as the possible location of houses shown on a plan of the island; the gully and cliff may be where garbage was disposed of from these houses. Artifacts found include:

- DdBt-1: 6, an unmarked kaolin pipestem fragment;
- DdBt-1: 7, an unmarked kaolin pipestem fragment;
- DdBt-1: 8, a small kaolin pipe bowl fragment, with a raised decoration;
- DdBt-1: 9, an undecorated sherd of refined white earthenware, dating to the 19th/20th century;
- DdBt-1: 10, a sherd of refined white earthenware with green and red parallel painted bands on the exterior, dating to the 19th/20th century;
- DdBt-1: 11, an undecorated sherd of white refined earthenware, dating to the 19th/20th century;

- DdBt-1: 12, an undecorated sherd of white refined earthenware, dating to the 19th/20th century;
- DdBt-1: 13, an undecorated sherd of white refined earthenware, dating to the 19th/20th century;
- DdBt-1: 14, three small sherds of English coarse earthenware, probably dating to the 18th century;
- DdBt-1: 15, a fragment of the base and push-up of a light olive green liquor bottle dating to the 19th/20th century;
- DdBt-1: 16, a fragment of an unidentified animal longbone; and
- DdBt-1: 17, a fragment of an unidentified animal bone.

F9 is a row of enclosures sharing common end walls to form an overall feature 33 m long by 7-9 m wide. The feature is fronted by one of the drains discussed in F5 above, which may have been present at the edge of a track from the beach to the bakery. A plan (Anon 1906) in the possession of Abbott and Haliburton shows a row of three buildings in the same area, approximately 46.5 m from the southeastern tip of the island (Figure 6.2). The southernmost of the three structures is somewhat wider than the other two, as was found during the survey. While it was assumed that the middle feature was a building 14 m long, the Abbott and Haliburton plan shows one small building attached to the larger one, then an equal sized gap and another building of a size similar to the smaller one to the south. These dimensions and proportions are reasonably consistent with those found in the field so this is most likely the site where the buildings, presumably houses, were located. No test pits were dug. The same plan also shows a discontinuous row of five houses on the side of the cliff. A photo in the French Centre at La Grand' Terre (Figure 6.1) indicates that the structures on the side of the cliff were fishermen's houses, equipped with chimneys and built adjoining each other. Below, presumably on the beach, is a row of five shacks, probably equipment stores, with their long access perpendicular to the shore. The Abbott and Haliburton plan shows a similar row of structures on the beach, but at the southeastern tip of the island, not directly below the stilt houses. Alternatively, this row of features could be wooden flakes on which fish was dried. The plan also shows a launch way leading from the

end of the track down the cliff to the beach on the eastern side of the point, between the southern two stilt houses. It is likely that the photo and plan are not contemporary and that the shoreline shacks, if the structures in the plan were such, had been moved. If the stilt houses were the fishermen's residences, the houses on the terrace above were probably those of the fishery manager, doctor, and more affluent tradespeople such as the baker (S. Barkham, pers. comm.). Alternatively, the upper long house row could be the hospital.

F10 is a small, rectangular, flat area a few metres west of F8, possibly a former building foundation. Another, smaller, flat area between F10 and the cliff may represent a small shed foundation.

F11 is one of a cluster of features near the access point from the beach, most of which seem to be more recent than those further north. F11 is the remains of a small 4 x 4 m shed with a low (25 cm high) sod wall forming the perimeter. Chipboard sheets on the ground probably mark the remains of the walls.

F12 is a 1 x 1 x 1.5 m depression near the cliff edge and was most likely excavated for use in a privy.

F13 is a modern frame for a fish flake or storage rack, some lobster pots and iron debris located between the Barter house cellar (F16) and the shed foundation (F11).

F14 is a privy depression similar to F12.

F15 is a still standing cabin measuring 5 x 3 m, built into a sand bank, facing east over the cliff to the sea.

F16 is the remains of Mr. Baptiste Barter's house. It consists of a rectangular outline with slight mounding of the sod around where the walls had stood, posts at the corners placed

deep into the sandy ground, and a cellar with steps leading up to the south end. Mr. Barter and his family used the cabin as a summer base from which to fish until about ten years ago.

F17 is a concrete platform which used to support the gas-powered winch for hauling boats up the beach. It replaced the former wooden capstan which was situated on the beach. The winch platform is on a small ledge part way down the cliff at the extreme southeast corner of the island.

F18 is the present stairs and handrail which provide access to and from the beach. It was built in the last few years; the lower portion of the stairs was washed away in a winter storm and has been replaced by a rope which must be climbed hand over hand for about 10 m.

F19 is a substantial depression dug 1 m into the top of the sandbank at the southeast corner of the island, directly above the access stairs. The feature is said to have been a cellar used by residents on the island for storage. It measures 14 x 5 m and has an entrance on either long side.

F20 is a wooden frame for a flake or storage platform, immediately east of the cellar. Many lobster pots are scattered around the area.

Features 21-25 are situated on the south coast of the island. From the southeastern point westward the terrace slopes gently upward and is occasionally divided into two or more levels, where wind action has eroded or differentially deposited the unstable, sandy material. In some cases, large sections of the terrace have slumped to a lower level.

F21 is a small cellar, marking the location of a former house, in a depression in the sandy summit 20 m southwest of the large cellar (F19).

F22 is a small, rectangular depression on the edge of the cliff, probably the remains of another privy.

F23 is a small area of lazy beds about 60 m west of the southeastern tip of the island.

There is a gap between F23 and F24 of 175 m in which there are no features. There has been considerable slumping and erosion along this part of the terrace which may account for the gap.

F24 is a 68 m long string of between six and eight enclosures which range from 4 and 7 m wide and between 7 and 11 m long. There is a gap of 17 m in the middle where there has been extensive frontal slumping; this space may be one or two more enclosure features. As with similar features on the eastern side of the terrace, the enclosures are formed of low sod walls and level interiors. No artifacts or internal features were found in any of the enclosures and no artifacts were found on the cliff face or slumped areas below the features. Test pits were dug in two of the enclosures and produced nothing but sand as deep as about 50 cm.

F25 is the westernmost of the features, situated 150 m from the far west end of the lower terrace, 100 m southwest of the near end of F24. The feature is a 7 x 8 m sod walled enclosure 4 m north of an area of slumped soil, 15 m from the edge of the cliff. A depression around the outside of the wall probably marks where the sod had been removed to form the walls. Four test pits were dug on a line through the centre of the enclosure from the edge of the slump to the back wall. No cultural material or soil changes or charcoal or anything else which would denote a cultural occupation was found. It had been expected, given the distance from other activity areas and the prominent location on the upper terrace, that this was the remains of a house used by the fishery manager or the doctor. However, no evidence was found of any building remains.

6.3 Conclusions

The preliminary field survey presented many unanswered questions. Many of the sod walled enclosures have the dimensions of buildings, yet in all cases no evidence was found inside

of any remains of floorboards, material which might have fallen below floorboards or been stored below the house, compaction and discolouration of the soil or other expected traces of former occupation. We were left with the feeling that either the occupants of the houses had been scrupulously tidy and all vestiges of the houses had been removed when the community was abandoned, or the enclosures were in fact walled gardens, not house foundations. However, the location and dimensions of F9 match those shown on the Abbott and Haliburton plan and the linear arrangement of the walled enclosures is similar to that found in F24. Many of the individual enclosures and those in the rows are of dimensions which conform to house sizes. It can be concluded, then, that these features were in fact houses or other built structures such as the hospital or store. In the case of F24, there were probably one or two gaps between the houses, as is shown for F9 on the Abbott and Haliburton plan.

Some of the larger, individual features may be walled gardens. At one point in the island's history, a farmer named Peter Payo (spelling unknown) ran a herd of cattle year round and grew his own hay for their feed. If this was the case, it is likely that the gardens would have been fenced and may have had sod-built walls for reinforcement and for shelter for the plants. Then again, the lazy bed areas on the east and south coasts could also have been fenced and would have served as communal gardens.

Information collected from residents Fred Moore, his father Alfred Moore and Anastasia Lainey, Alfred's wife's mother (now 90 years old) suggests that there was an older settlement along the south side of the terrace, where F24 and F25 are situated, while the features on the east side of the terrace are more recent, as is confirmed by the Abbott and Haliburton plan. Certainly, the modern foundations and artifacts partially support this contention; however, some of the artifacts found on the east side date to the 18th century.

7.0 POTENTIAL FOR FUTURE WORK

The lack of time allowed by the contract for field investigations, informant interviews and archival research and the inability to return to the island for a second day of investigations provided only partial information on some of the project objectives, and opened many new avenues of inquiry as well. The impression was gained that there is potential for future investigation of the history of occupation and use of the island and adjacent mainland (La Grand'Terre). An expanded program of archaeological and archival research into the four centuries of occupation of Ile Rouge has the potential to provide information of significance on several neglected areas of the history of the region.

The Island was in use as an anchorage and later as a fishing station from the late 16th century by people from the Basque regions of Spain and France and, later, people of French descent from St Pierre and Miquelon and Nova Scotia. A program of archaeological investigations on the Island may result in the discovery of structural and artifactual information on the early Basque visitors to the Port-au-Port area and certainly of the later French settlements. Underwater surveys may result in the finding of material related to the shore stations and to the Basque anchorage. Archival research and informant interviews would also be of great importance and would help to place Ile Rouge in the larger Basque, Acadian and French contexts.

Findings from all these avenues of research could then form the basis of museum or interpretation centre exhibits, and a series of guided and self-guided tours and publications. The Ile Rouge/La Grand'Terre area could become a focal point for visitors interested in the recent history of the Gulf area, an area which already offers tourists and educators such related developments as Louisbourg and Red Bay.

8.0 RECOMMENDATIONS

1. Additional research should be conducted in archives in France, Spain, England and St. Pierre and Miquelon as well as at the National Archives in Ottawa, the Canadian Parks Service archives in Louisbourg, the Public Archives in St. John's and elsewhere. The objectives would be to learn more of the history of use and occupancy of Ile Rouge and La Grand'Terre; to discover any photographs and plans which would reveal where and when buildings were located on the island, who owned them and what their function was; and to trace documentary evidence of Captain Cook's movements and observations in the area during his 1767 voyage.
2. A program of informant interviews should be conducted within the French communities on the Port au Port Peninsula, particularly La Grand'Terre, Cap St. Georges and l'Anse-a-Canards (Black Duck Brook), to collect information on use of the island and the present location of any artifacts and building parts which might have been removed from the island. For example, a milking stool from the Payo farm, a brass bell, a pipe bowl, and some clay pipe stems are known to be in local collections or housed in the Newfoundland Museum. Some of the persons suggested during the preliminary research as potentially useful informants are listed in Section 10. This program could be extended to St. Pierre and Miquelon and Cape Breton to interview families related to former Red Islanders and, if possible, to collect any relevant photographs and other documentation.
3. A comparison should be made with archaeological and archival evidence of 17th-19th French fishing stations elsewhere along the Eastern Seaboard in order to provide a better understanding of the possible function and form of the features present on the island.
4. Following the completion of archival research and informant interviews, a program of archaeological investigations should be conducted on the island to more fully

understand the nature, function and age of the features found during the 1992 investigations and to test other areas for subsurface deposits. Selection of areas of prime interest will be dependent upon the results of the background information, but will probably include the bakery (F6); F9, considered to be a row of house foundations; parts of F24, believed to be another, perhaps older, row of house foundations; and one of the features thought to be individual houses, e.g. F3 or F25. In addition, a surveyed plan should be prepared of the settlement area on the lower terrace, locating all features including house foundations, privies, gardens, lazy beds, drains and dams. An attempt should be made, using informants, old plans and aerial photographs, to discover the rate of erosion and, consequently, to estimate how many structures may have been lost down the cliff. Buildings thought to have been situated on the island to support the fishing settlement, including a hospital, lobster cannery and fish plant, merchant's store and, presumably, some farm buildings, should also be sought. The cemetery shown on the Abbott and Haliburton plan should be located, marked and protected.

The archaeological investigations should involve local residents in excavation, mapping, cataloguing and analysis, and in identification of the features and artifacts discovered. A laboratory could be established in La Grand'Terre, perhaps at the French Centre, where cleaning, analysis and cataloguing of artifacts could be conducted, preliminary conservation undertaken, site plans drawn and photographs developed. A temporary interpretation facility could be prepared where local residents could come to have related artifacts registered and, it is hoped, donated. Visitors would be encouraged to visit the archaeological sites as well as the interpretive facilities and learn about the overall program.

As there would undoubtedly be days on which the island could not be accessed during the excavation period, a secondary focus could be developed on the mainland side, perhaps at the remains of the bakery in La Grand'Terre and at the mouth of Caribou Brook, where Angela Moore's grandfather, a native of St. Malo, established

a residence in the mid-late 19th century. A related program, also suited to days on which boat travel is not possible, could involve a survey to discover the probably-Beothuk village site described by Sylvester Wyet in 1594 in Bay St. George (Barkham 1992) and to determine whether it contains any evidence of contact with the Basque fishing crews.

Several Federal programs exist which could provide funding for training and participation in the field work. One new program which is ideally suited is the *Access to Archaeology* program, which provides funding for enhancement of public awareness of heritage resources, for research studies, and for feasibility studies leading to the development and promotion of archaeological sites. Other programs include:

- *Challenge Summer Employment/Experience Development;*
- *Community Futures;*
- *Job Entry; and*
- *Labour Force Development Strategy.*

Ideally, an operating fund should be made available to enable the coordination of all phases of the archaeological, archival, training and interpretive program. This project has suffered in the past from a lack of sustaining core funding and consistent direction from the community. An application to the Access to Archaeology program must be made by December 1 for a grant for 1993 field work and for a feasibility study, and can be combined with other federal and provincial programs in a cost-sharing arrangement. Other programs have different deadlines, which should be identified.

5. Following completion of these projects, there would probably be sufficient new information and materials to develop several interpretive programs. These could include:

- a video film and/or a slide/tape package tracing all aspects of the investigations, which could be used in an interpretation centre, school programs and for promotion;
- interpretive signage on the island and in La Grand'Terre describing the features, history of occupation, relationships to other areas, fishing technologies such as use of the barachois at La Grand'Terre by the Basque for drying fish, use of flakes on the island by the French, and a comparison with Native fishing technology;
- an interpretive program featuring the importance of Captain Cook's navigation, mapping and exploration work on the west coast; and
- a series of pamphlets, booklets, photographic slides and posters for use by visitors and to serve as educational tools and souvenirs.

Artifacts recovered during excavation programs or donated by local residents could form the basis of a small exhibit, supported by graphic and text material, parts of which could travel for use in regional schools. The development of an interpretation centre in La Grand'Terre could feature all of the above information together with many other initiatives suggested by Selma Barkham, Michel Levasseur and other participants in the Tourism Conference held in Cape St. George on June 10, 1992. People trained in archival and informant research and archaeological/laboratory techniques could develop these skills for use in the interpretation centre and at archaeological sites in the area as guides for tourists, students and other visitors.

In summary, although the limited field inspection of Ile Rouge did not produce the expected abundance of artifacts and positively identified building remains, there is certainly potential for an expanded program of investigation. The enthusiasm for the project shown by residents of La Grand'Terre and other communities and by representatives of several provincial and federal funding and training agencies, and the opportunity to increase the state of knowledge of the historic French presence in Newfoundland should not be wasted.

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10.0 PERSONAL COMMUNICATIONS

Harold Abbott, Proprietor, Abbott and Haliburton, Port au Port

John Barter, Resident, La Grand'Terre

Selma Barkham, Historian, Chichester, England

Michael Clair, Manager Development Counselling, Department of Tourism and Culture, St. John's

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NAIN MARITIME ARCHAIC PROJECT

1992 Preliminary Report

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**Submitted to: Historic Resources Division
Government of Newfoundland and Labrador**

INTRODUCTION

The Nain Maritime Archaic Project was undertaken during July and August 1992 to address some outstanding issues in the Maritime Archaic prehistory of the Nain region. This was accomplished by dividing the project into two sub-projects with distinct objectives.

(1) Webb Bay-Port Manvers Run Sub-Project: Our focus here was testing Attu's Bight (HeCk-4), a late Maritime Archaic (4000-3500 B.P.) site near the junction of Webb Bay and Port Manvers Run, 30 km north of Nain (Figure 1). This was combined with the investigation of other nearby Maritime Archaic and Pre-Dorset sites. The goal of this sub-project was to contribute to the study of Maritime Archaic/Pre-Dorset social boundary relations.

(2) Nukasusutok Island Sub-Project: The main emphasis here was continued excavation at Nukasusutok-5 (HcCh-7), a middle Maritime Archaic (5500-5000 B.P.) site 28 km southeast of Nain. Our aim was to evaluate the nature of a suspected longhouse structure. Other Maritime Archaic, Dorset and Labrador Inuit sites would be reinvestigated, time permitting.

The project was implemented in the field by the author, assisted by Edward Flowers of Nain. Our accomplishments were modest given the small crew size and an abbreviated field season complicated by the late arrival of the first freight boat on August 1. We were aided in our endeavors by several Labradorians, including Joe Webb and Dennis Wyatt, who provided boat

transportation, and Gary Baikie, who assisted with the boat arrangements. Christine Denniston kindly provided accommodation during my stay in Nain.

WEBB BAY-PORT MANVERS RUN SUB-PROJECT

The author and field assistant Edward Flowers were transported to Webb Bay on July 21. We pitched camp at Double Island Cove, just inside the entrance to Port Manvers Run (Figure 2), and remained here until our return to Nain on July 29. Several sites within a 2 km radius of our camp were investigated.

Attu's Bight (HeCk-4)

Attu's Bight is a late Maritime Archaic (Rattlers Bight Phase) site located on the north side of Webb Bay, 1.5 km west of the entrance to Port Manvers Run (Figure 2). Discovered in 1985 by William Fitzhugh (Smithsonian Institution), Attu's Bight consists of cultural remains extending for about 350 meters along a set of sand and gravel terraces 19-21 meters above present sea level. Fitzhugh identified three different beach levels (A, B, C; Figure 3) which he suggested could indicate chronological differences within the site. However, the vertical distance between these terraces seems minimal, the slope very gradual, so I am not convinced the terraces have much relevance for relative dating of the site contents. According to measurements taken by P. Johnson (1969) during the course of mapping glacial features in the area, the vertical distance between terraces A and C is only 2 feet (0.60 meter).

Most of the site is severely deflated by wind erosion. Flakes and implements of Ramah chert and other materials lie exposed on the sand/gravel surface, distributed in linear patterns parallel to the beach terraces. In 1985 Fitzhugh identified 9 separate loci (concentrations of cultural material); the 1992 investigation added three more. These will be described briefly below, based on Fitzhugh's field notes (see Figure 3 for loci locations).

L-1: Ramah chert flakes at edge of terrace; 1992 surface collection: 3 biface fragments, 1 large greenstone flake. 4

L-2: Scatter of Ramah chert flakes 60 m long, 6 m wide. Just north of this was a cobble feature, subrectangular, 2.5 by 1.0 m. Fitzhugh surface collected a ground green slate preform and two Ramah chert micropoints.

L-3 and L-6: Scatter of Ramah chert flakes ca. 40 m long, 5-6 m wide. The only substantial in situ (uneroded) portion of the site is located here. Fitzhugh collected several Ramah chert biface fragments and flake points. Our 1992 test excavation was located here (see below).

L-4: Small scatter of quartz flakes; two quartz biface fragments. 1992 collection: Ramah chert stemmed point.

L-5: Flakes of Ramah chert, Mugford chert and slate; point and biface fragments.

L-7: Scatter of Ramah chert flakes, 120 m long; flake point and biface fragments collected. 1992 collection: Ramah chert stemmed point.

L-8: Oval ring of cobbles, 4 m diameter. Large chunks of Ramah chert, banded slate and quartz flakes; stemmed flakes collected.

L-9: Linear scatter of Ramah chert flakes, 50 m long. Two stemmed points, one similar to Sandy Cove Complex (Hamilton Inlet, 6000-4500 B.P.; Fitzhugh 1975)

L-10: Rock cluster, 1 m diameter (possible burial?), with adjacent 10 by 10 m scatter of Ramah chert flakes.

L-11: Rock cluster, 1 m diameter (possible burial?); no flakes.

L-12: small scatter of Ramah chert flakes; Ramah chert micropoint.

My original intention was to prepare a more detailed map of the site, but this was dropped since our surveying equipment had not yet arrived from St. John's. Instead, we began a test excavation in the only remaining in situ portion of the site: L-3 and L-6. We set up a small grid system which extended from the edge of the in situ deposit across the deflated area to the west. We excavated a total of 16 m², of which roughly 3 m² was in situ, the rest being a trowel-through of the exposed sand and gravel. Tools and flakes were point plotted and the flakes were collected by 1 m² units.

The sediments in the vicinity of L3/L6 consisted of coarse sand and pea-size gravel. The depth of deflation varied from 10-40 cm. The profiles from the excavation in the in situ deposits reveal some interesting stratigraphic details (Figure 4). About 15 cm BS (below surface) were a few flakes associated with a faint buried turf horizon. There was no distinct occupation layer, but surface flakes exposed in shallow portions of the deflated area (10-12 cm BS) suggest there may have been a more extensive occupation unit at about this level. Below this were at least two sterile humus layers within the sand, then at 35 cm BS another humus layer was positioned immediately above the main Maritime Archaic occupation.

The buried Maritime Archaic living floor consisted of red-yellow oxidized sand with charcoal flecks and faint red ocher

stains. No distinct hearth construction was noted, but small pockets of charcoal suggest a fire was kindled on the ground surface (Figure 5). A sample of charcoal from this concentration was radiocarbon dated to 4080 ± 100 B.P. (Beta-57126). Also associated with the charcoal were Ramah chert retouch flakes, a few tools (slate celt fragment, biface midsection, utilized flakes, mica fragments) and some tiny pieces of burned bone. The bone remains include a probable seal rib fragment and bird.

Figure 6 shows some of the artifacts recovered from Attu's Bight in 1992.

Summary

Excavation of the in situ deposit at Attu's Bight indicates there are likely two components present, the earliest dating about 4000 B.P. There are no chronological indicators for the later component, but enough time elapsed for at least two vegetation layers to have grown and been covered by drifting sand. The presence of multiple loci reinforces the impression that Attu's Bight was occupied sequentially over an extended period of time. The stemmed flakes from L-8 and the possible Sandy Cove style point from L-9 suggest occupations pre-dating 4500 B.P. (cf. Tuck's [1975] dating of stemmed flakes to 4500 B.P. at Saglek Bay, Rose Island Site Q). However, the low frequency of tool discard and the lack of distinct features suggest the occupations were mostly of a short term nature.

I do not think it wise to assume that the linear scatters of Ramah chert flakes can be interpreted unproblematically as

longhouses. The presence of two stratigraphically separated components at L-3/L-6 raises the possibility that some of the flake scatters in deflated parts of the site could be palimpsests of more than one occupation. Nor should we assume that flake scatters ranging from 40-120 meters long represent continuous single structures.

How should we interpret Attu's Bight in terms of Maritime Archaic subsistence-settlement patterns? Attu's Bight is unusual in that it is the only major Maritime Archaic site located in the inner bays of the Nain region. According to Fitzhugh's (1978:83) model, inner bay regions would have been occupied during the fall and winter since this would provide access to interior caribou herds. Today, Webb Bay is known as a good place for hunting seals in the spring when they are basking on the ice (ringed, harbour, harps and bearded seals). Interior caribou herds can be accessed by travelling up the Webb Brook valley at the head of the bay. Caribou trails paralleling the site terraces attest to local hunting potential as well. Black bear are abundant in the area as are various birds, salmon (Webb Brook) and char (Brice-Bennett 1978).

Given the scanty faunal remains recovered at L-3/L-6 (possible seal rib, bird), the lack of distinct features (hearths, house structures) and the low rate of tool discard, I think it most likely that Attu's Bight was a short term aggregation site occupied at various times from spring to fall.

It is not a good candidate for one of the elusive Maritime Archaic fall-winter settlements.

Finally, what is the potential for future research at Attu's Bight? Due to the extensive deflation and the low frequency of tools there is little potential for much else besides mapping flake distributions. It might be useful to excavate a portion of one of the linear scatters and point plot all the debitage to see if their distribution patterns conform to the longhouse model, but this would be a rather tedious job for minimal returns. Certainly the in situ area at L-3/L-6 could be subjected to further excavation, particularly to provide better documentation of the probable stratification, acquire additional charcoal samples for radiocarbon dating and more bone material for seasonality determination. Some of the rock features noted in 1992 could be excavated to clarify their function, but this would be problematic if they are burials, since the excavation of burials is prohibited by research agreements with the Labrador Inuit Association.

Double Island Cove-1, L-1 (HeCj-1)

This is a small Pre-Dorset site overlooking Double Island Cove at the entrance to Port Manvers Run (Figure 2). Discovered in 1985 by Fitzhugh, the site consisted of a small rock alignment and a minimal amount of lithic material exposed on the surface. The site was no greater than 15 m² in size, of which 6 m² was excavated. The alignment of rocks suggested a mid-passage may

have been present (Figure 7), but the feature was indistinct and downslope movement may have disrupted the structure.

The most prominent feature here was a depression ca. 2 m by 1 m in size, with a long axis running NW-SE. The depression was bounded by large rocks embedded into the surrounding sand/gravel. It was partly covered by a thin layer of yellow sand/gravel (possibly due to downslope movement). Excavation revealed that the lower portion of the pit was more restricted in size, about 2 m by 50 cm. The base of the depression was 15-20 cm below its top. The entire depression was filled with black humus-rich soil and charcoal flecks.

The northern side of the pit was bordered by flat rock slabs, which extended towards a cluster of larger "structural" rocks. Perhaps the slabs once lined the depression and were thrown out after use. At the center of the pit was a small inclined flat slab and 3-4 small fire-cracked rocks. Another inclined flat slab was positioned at the extreme eastern end of the depression. In the center of the pit, directly associated with the flat slab and charcoal, we found a few tiny retouch flakes of Mugford chert and a large burin spall.

Very little cultural material was collected from the site: 2 burin spalls, the base of a small triangular endblade, two other endblade fragments, possible microblade fragments and some utilized flakes (Figure 8). Very little debitage was present. The lithic raw materials were mostly Mugford chert, but also included crystal quartz. A sample of charcoal from the depression was

dated to 3640 ± 70 B.P. (Beta-57125). Several seeds and tiny burned bone fragments were retrieved by wet sieving soil samples from the depression.

Double Island Cove-1, L-4

This was the only new site registration of the summer. It is a Maritime Archaic structure located on the uppermost terrace of a rock outcrop which marks the southern edge of Double Island Cove (Figure 2). The site consists of one definite pit house and another possible pit house nestled under the rock outcrop on the extreme eastern end of the terrace. The pit house was identified as a faint depression with brighter green crowberry vegetation. The structure appears to be oval, ca. 4 m by 3.5 m and 20 cm deep. A few head-sized stones along the rim of the depression may be perimeter rocks. A shovel test in the center of the structure revealed quartz and Ramah chert flakes ca. 10 cm BS. We prepared a grid system to excavate a quadrant of the structure, but were unable to begin since our boat charter arrived to return us to Nain.

Adjacent to this confirmed pit-house was another depression a few meters to the northeast. We made two small shovel tests here but found no cultural material. Nevertheless, it is still possible that the feature may be cultural.

This brief inspection is not much to go on, but the pit house resembles the early Maritime Archaic pit houses at Aillik, near Makkovik (Fitzhugh 1981, 1984), which may date ca. 6000 B.P. Boulder pit houses from Karl Oom Island 3 in the Nain region have

been dated at 6080 ± 380 B.P. (Fitzhugh 1985:62) and 6120 ± 120 B.P. (Fitzhugh 1986:56). It would be useful to excavate the Double Island Cove structure because the contents are protected by a thick vegetation cover, so the possibility of finding charcoal for dating is quite good.

Conclusions

Although very limited in scope, the 1992 investigations in the Webb Bay-Port Manvers Run region provide some food for thought concerning Maritime Archaic/Pre-Dorset boundary relations. The dates for the earlier Rattlers Bight component at Attu's Bight and the Pre-Dorset site 1.5 km to the east at Double Island Cove do not overlap, even when the dates are calibrated (Table 1). When we take into account the other two dated Pre-Dorset components in the Nain region (Table 1) there is still no temporal overlap with the Attu's Bight date.

Table 1. Calibrated Radiocarbon Dates from Late Maritime Archaic and Pre-Dorset Sites in the Nain Area (after Stuiver and Becker 1986, Pearson et al. 1986).

SITE	RADIOCARBON B.P.	CALIBRATED B.C.
Attu's Bight (M.A.)	4080 ± 100	2875-2491
Double Island Cove (P-D)	3649 ± 70	2138-1894
Thalia Point-2 (A19; P-D)	3660 ± 140	2275-1833
Dog Bight L-5 (P-D)	3810 ± 75	2458-2141

The Attu's Bight dating could be interpreted as indicating that the Maritime Archaic abandoned the Nain region just prior to the arrival of Pre-Dorset. However, since we do not have a date

from the later occupation unit at Attu's Bight we cannot truly evaluate the potential for temporal overlap between the cultures. Alternatively, since early Pre-Dorset occupation was present by at least 3800 B.P. on the outer coast (Dog Bight L-5), the activity of late Maritime Archaic people at Attu's Bight could have "blocked" Pre-Dorset from the inner bay area until their presence at Double Island Cove ca. 3600 B.P. As noted by Fitzhugh (1986:57), this situation complicates the separate geographical "enclave" model suggested for Maritime Archaic/ Pre-Dorset boundary relations (Fitzhugh 1984). Additional radiocarbon dates from Attu's Bight and from Pre-Dorset sites along Port Manvers Run would help clarify this problem.

NUKASUSUTOK ISLAND SUB-PROJECT

After spending several days in Nain waiting for additional equipment to arrive by boat from St. John's and trying to arrange transportation, we eventually set out for Nukasusutok Island on August 5, transported by Dennis Wyatt. Nukasusutok is a medium sized island ca. 28 km southeast of Nain (Figures 1 and 9). Our main focus here was Nukasusutok-5 (HcCh-7), a Maritime Archaic site that was first excavated in 1979-80 (Hood 1981).

Nukasusutok-5 (HcCh-7)

Nukasusutok-5 is situated on two raised beach terraces (28-31 meters above sea level) on the south side of the island near the head of Wyatt Harbour. During previous field seasons a total of 124 m² was excavated in three separate areas. Areas 1 and 2

were located on the uppermost beach at 31 meters, while Area 3 was slightly lower at 28 meters (Figure 10). Area 1 was a small 16 m² excavation located adjacent to a blow-out at the eastern end of the upper beach. It consisted of rock alignments and abundant quartz flakes. Area 2 was the largest excavation field at the site, 77 m². Here we uncovered several hearths, rock alignments and dense concentrations of stone tools and flakes. The rock alignments were initially interpreted as representing two tent rings with external hearths. Radiocarbon dates for Area 2 were: 5575 ± 90 B.P., 5305 ± 175 B.P. and 5670 ± 175 B.P. (Hood 1981; Table 2).

Table 2. Radiocarbon Dates from Nukasusutok-5 (calibrated after Pearson et al. 1986).

PROVENIENCE	RADIOCARBON B.P.	CALIBRATED B.C.
Area 2, Pit 6	6100 ± 120	5230-4864
Area 2, Hearth 11	6040 ± 90	5195-4845
Area 2, Hearth 5	5670 ± 175	4773-4350
Area 2, Hearth 7	5575 ± 90	4509-4348
Area 2, Hearth 8	5305 ± 175	4350-3970
Test Pit C	4645 ± 65	3508-3350
Area 3, Feature 1	5090 ± 95	3995-3784
Area 3, Feature 3	**2770 ± 205	1257-790

** unacceptably recent

Area 3 was unusual in that it consisted of four rock cluster features, two of which were associated with thick oval deposits of red ocher. On the assumption that they might be burials we excavated beneath two of the features, but we encountered a thick

iron pan which impeded excavation (even with a pick axe). The burial hypothesis remains unconfirmed; indeed, the features may reflect a non-mortuary facet of Maritime Archaic ceremonialism. Radiocarbon dates from Area 3 were: 2770 ± 205 B.P. (unacceptable) and 5090 ± 95 B.P. (Table 2) The latter radiocarbon date and the 28 meter elevation below the main beach ridge suggest Area 3 is slightly later than Area 2.

The goal of the 1992 research was to reinterpret Areas 1 and 2 in the light of Fitzhugh's (1981, 1984) work on Maritime Archaic house structure development. Reanalysis of the 1979/80 floor plans suggested that the evenly spaced rock and hearth alignments extending from Area 1 to Area 2 resembled what would be expected from a longhouse. Consequently, our aim for the 1992 field season was to excavate an area to the west of Area 2 to see if the line of hearths extended further along the beach terrace, thus confirming the presence of a longhouse and extending its "known" length.

During the 1992 field season we were able to excavate a 25 m² area west of the 1979 excavation at Area 2 (Figure 11). About 5 m west of the last hearth alignment in Area 2 we uncovered the remnants of a disturbed hearth and a pit containing charcoal, red ocher and burned bone fragments. Unlike the 1979-80 Area 2 excavations, we did not encounter a distinct rock alignment. Instead, there were extensive "carpets" of fire-cracked rock over much of the floor of the 1992 excavation. Although scattered fire-cracked rock was present in the 1979-80 excavations there

were no carpet-like layers. Combined with a low frequency of tools and less quartz in the 1992 excavation, there was a different "feel" to this area than that of the 1979-80 units.

At the end of the 1992 field season it was concluded that a longhouse extended from Area 1 all the way to the 1992 excavation, implying a structure roughly 40 meters long, 5 meters wide, with 9 or 10 hearth alignments spaced every 3.5-4.0 meters to create a total of 9 or 10 compartments/segments. Since the cultural material extends further west along the terrace beyond the 1992 excavation it was thought that the longhouse might extend as far as the only major break in slope, which would result in a structure ca. 60 meters long.

Two radiocarbon dates were procured from the area excavated in 1992. Charcoal from the disturbed hearth was dated 6040 ± 90 B.P. (Beta-57124) and charcoal from the adjacent pit was dated 6100 ± 120 B.P. (Beta-58173). These dates came as a great surprise, since they were 4-500 years earlier than the dates from the neighboring Area 2 excavation (Table 2). The few tools found in the 1992 excavation are not particularly time-diagnostic: a crude stemmed point of quartz, the tip of an asymmetric biface of Ramah chert and some endscrapers of Mugford chert (Figure 12).

The early radiocarbon dates may explain why the "feel" of the 1992 excavation was different from the 1979-80 area. It is possible that the 1992 area is an early component and that the longhouse structure which appears to run from Area 1 to Area 2 is only about 30 meters long, stopping at the edge of the 1992

excavation. If this is true it suggests that the spatial structure and chronology of Nukasusutok-5 may be rather complex, requiring extensive excavation to unravel its settlement history. Perhaps the 4645 ± 65 B.P. date from a Smithsonian test pit at the western end of the site is not an anomaly.

These findings should caution us about uncritical application of the "longhouse model" to the interpretation of the spatial structure of Maritime Archaic sites. The 1992 excavation area appears to be in line with the series of evenly spaced hearth alignments that extend from Area 1 to Area 2, yet the radiocarbon dating argues against the presence of a continuous structure. Indeed, in the absence of radiocarbon dates from Area 1 we should also be cautious about interpreting the hearth alignments extending from Area 1 to Area 2 as a continuous structure. Furthermore, a sharp decrease in the debitage density at the eastern end of the 1979-80 excavation at Area 2 presents a spatial anomaly that could be interpreted in terms of structural discontinuity. Further excavation, radiocarbon dating and spatial analysis are necessary to establish the dimensions and chronology of the structure or structures at Nukasusutok-5.

Nukasusutok-12 (HcCh-14)

This early Middle Dorset site consists of at least 4 mid-passage structures, of which two were completely excavated in 1980 (Hood 1986). Unfortunately, the chronological designation is based solely on lithic typology, since the radiocarbon dates proved to be problematic. Two dates of 930 ± 64 B.P. and

1000 ± 75 B.P. fell into the Late Dorset time span. These were re-run with nitration pre-treatment, producing dates of 1110 ± 80 B.P. and 1660 ± 90 B.P. (Hood 1986:52-53). The latter remain problematic.

Our brief inspection of the site in 1992 did not reveal any new structures, but several implements were surface collected. We collected the tip of an unfluted endblade (Ramah chert) and a utilized flake from the exposed excavation surface of Structure 2. In the vicinity of unexcavated Structure 3 we found a complete asymmetric side-notched knife (Ramah chert), a side-notched knife base (Ramah chert), and a nephrite burin-like tool preform with wide side-notches (Figure ¹³ ~~12~~). The latter implements reinforce the relatively early Middle Dorset typological dating.

Nukasusutok-8 (HcCh-10)

Nukasusutok-8 is a late 18th century Labrador Inuit communal house settlement located on the southwestern portion of the island (Figure 9). The Moravian documents studied by Taylor (1974, 1988, 1990) indicate the settlement was occupied from 1773-1794, although Kaplan (1983) suggests occupation into the 19th century on the basis of house form. The site was investigated by W. Duncan Strong (Strong 1928), by J. Garth Taylor in 1966 (Taylor 1966) and was revisited briefly by Susan Kaplan in 1980 (Kaplan 1983:469). In 1992 we made a brief visit in order to test-pit a midden. The site description presented here is based primarily on Kaplan's (1983:469) account.

The settlement consists of 5 sod houses, several burial cairns and the remnants of a kayak stand or cache (Figure 14). Houses 1 and 2 are built into the side of a steep slope, while Houses 3, 4 and 5 are excavated into a relatively flat beach surface. Two house types are present. Houses 1, 2 and 3 are large rectangular communal houses with long straight entrance passages; this form was common in the 18th century. They measure about 8 meters along their rear walls and 7 meters along their side walls. House 3 has a wall top to floor depth of 1.6 meters and contains at least 2 sleeping platforms. Its entrance passage is about 7 meters long. Houses 1 and 3 have prominent midden deposits.

Houses 4 and 5 are smaller. House 4 measures 5 meters along its side while House 5 measures 6 meters along its rear wall and 5 meters along its side walls. Both have short entryways rather than long entrance passages. Kaplan (1983:469) dates these structures to the 19th century. However, this dating conflicts with the information from the Beck census of 1776-77 (Taylor 1974:16, 71), which states that 4 houses were occupied at that time. If houses 1-3 are attributable to the 18th century then either: (a) at least one of the small houses must have been inhabited in the 18th century to provide for the fourth 1776-77 house, (b) construction of the small houses modified or destroyed an 18th century structure, or (c) there is another as yet unidentified 18th century house hidden under the thick vegetation.

In 1992 we sunk a 70 by 70 cm test pit into the House 3 midden near the end of the entrance passage. This was excavated to a depth of ca. 50 cm BS, using 3 naturally defined collection levels. Level 1 (0-23 cm) was a highly humified zone with poorly preserved bone. Level 2 (23-36 cm) began where the deposit took on a more sandy/gravelly texture, which coincided with better bone preservation and included mussel shell remains and wood fragments. Level 3 (36-50 cm) commenced with a clear stratigraphic break in the form of a thin (1 cm) continuous layer of wood fiber resembling peat. Beneath the peat was 3 cm of dark-stained beach gravel and sand with poorly preserved bone, mussel shells and wood fragments, which were not collected. The excavation terminated at 50 cm within the basal yellow sand/gravel. A minute charcoal sample was procured from the yellow sand/gravel immediately below the cultural material in Level 3 (ca. 40 cm).

The total thickness of the well-defined bone bearing deposit was only 25 cm (somewhat thicker if the poorly preserved material in the humic/root zone is included). This relatively thin deposit suggests an intensive, but short-lived occupation.

Artifactual material recovered from the test pit consisted of the following:

Level 1: 1 hand wrought nail
 Level 2: 26 fragments earthenware ceramic (possibly French St. Onge Earthenware; cf. Auger 1991:40-41)
 1 hand wrought nail
 1 round iron shaft
 1 iron knife tip
 Level 3: 1 soapstone vessel sherd

This artifactual material is concordant with the late 18th century dating. However, the stratigraphic break consisting of the thin Level 3 midden deposit under the peat layer at least raises the possibility of an earlier pre-mission period component.

The faunal material has not yet been analyzed. In general, there is a high percentage of seal and caribou, with minor amounts of fox, dog, bird and mussel shell.

The ethnohistorical material pertaining to the Nukasusutok settlement is summarized in the Appendix to this report.

Conclusions

The 1992 field season at Nukasusutok-5 raised new problems concerning the chronology of the Maritime Archaic occupation and forced a reevaluation of our initial views regarding the nature of the hypothesized longhouse structure. The spatial and temporal dimensions of the site turned out to be more complex than anticipated. More excavation is required to clarify these problems. Areas 1 and 2 should be connected with a continuous excavation and we need radiocarbon dates from Area 1 to assess its relative contemporaneity with the 5500-5000 dates from Area 2. Extensive testing with broad horizontal exposures is required at the western end of the site and in other areas outside the Area 1 and 2 excavations to understand the overall spatial structure of the site.

The early Middle Dorset site at Nukasusutok-12 could also be the focus of future work. At least two mid-passage structures

remain buried in the gravel. These would probably provide fairly good structural data and we are in serious need of additional radiocarbon dates to assess the typological dating.

The Labrador Inuit communal house settlement could be the focus of a more intensive investigation aimed at understanding the socio-economic changes occurring in Inuit society during the period following the establishment of the Moravian mission at Nain in 1771. This might be an ideal settlement to investigate because of the detailed ethnohistorical data, which would permit a better linkage than is usually possible between the archaeological record and the people who produced it. Perhaps a house could be reconstructed so that Nain residents would have improved access to their heritage and tourists might have a "sight" to visit not too far from Nain.

APPENDIX

Ethnohistory of the Nukasusutok Labrador Inuit Communal House Settlement

We are highly fortunate to have significant ethnohistoric information on the Nukasusutok settlement that can be used to complement the archaeological data. J. Garth Taylor and Helge Taylor's research (Taylor 1974, 1988, 1990; Taylor and Taylor 1986) on the Moravian missionary diaries and periodical accounts provides some surprisingly detailed information on the social organization and personalities of the Nukasusutok community. The accounts of particular significance are those of Brasen et al. (1774), Beck (1780), Liebisch and Turner (1782) and Lister

(1777). Using the Taylor's analysis of these accounts we can construct a settlement history of the Nukasusutok community between 1773 and 1794, although the best information is from 1776-1777. The information includes the number of households, household size, the names of some inhabitants, the kinship structure for 1776-1777, a bit on economic and social activities and fragmentary data on what some of the inhabitants did before or after their residence at Nukasusutok, which provides some indications of household mobility.

The following ethnohistoric synopsis is derived entirely from the Taylor's published work. I have attempted to patch together from several publications all the bits and pieces relevant to Nukasusutok.

Overview

Nukasusutok was a semi-subterranean sod house settlement occupied during the winter. In Labrador, winter houses were generally inhabited from mid-October until late April, when the families established tent camps for spring sealing (Taylor 1974:51, 55). The Inuit moved into the winter houses prior to the fall hunt for the southward migrating harp seals. According to Taylor (1974:51), all the late 18th century winter house settlements were located in areas with access to migrating harps. In the Okak and Hopedale regions the Greenland whale was hunted prior to freeze-up, but the Nain area was not notable for whale hunting, probably due to the unfavorable bathometric conditions of the island studded archipelago (Taylor 1988:125). However,

sometimes stranded whales were found in the Nain area and towed to winter house settlements before freeze-up.

After freeze-up in mid-December Inuit activities were centered on breathing hole sealing or sealing at open water areas along the *sina* or at tidal "rattles." Caribou meat taken on fall hunts might be retrieved from distant interior caches (Taylor 1974:51-55). On some occasions, though, caribou winter near the coast and small herds may make their way out to Nukasusutok over the landfast ice, providing a local source of fresh deer meat.

Settlement History

The basic demographic data pertaining to the Nukasusutok settlement is outlined in Table 3 (derived from Taylor 1974:16). In the following account I have broken down the settlement history according to the years for which we have relevant information.

Table 3. Demographic Data for the Nukasusutok Settlement (from Taylor 1974:16; parentheses indicate estimates).

YEAR	NO. OF HOUSES	POPULATION
1773-74	2	36
1774-75	(3)	(60)
1776-77	4	62
1779-80	2	33
1781-82	2	50

1772-73:

The brothers Millik and Pattiguk, who would winter the next year on Nukasusutok, each had a winter house at Niatak (7 km northwest of the Nukasusutok settlement). Each household contained 20 people (Taylor 1974:77). Millik's wife Sattugana was an eminent shaman and performed a ceremony during the winter (Taylor 1974:87, 1985:123).

1773-74:

The Nukasusutok settlement consisted of 2 houses containing a total population of 36 people (Taylor 1974:16, 71). Millik (father-in-law) and Okarloak II (son-in-law) shared a household (Taylor 1974:75). Millik's wife Sattugana gave a shamanist performance concerning the weather and seal hunting possibilities. Taylor (1974:87) suggests that Sattugana's reputation as a shaman may have contributed indirectly to Millik's control over community economic activities.

Sikkuliak (father) and Kigluana (son), who would later reside at Nukasusutok, shared a house at Satosoak (30 km west of Nukasusutok).

1774-75:

Millik orders his sled and 12 dogs to be prepared for the missionaries when they leave the settlement. He sends his eldest son Aumarak and Akbik (son?) with them. Taylor(1974:80) cites this incident as one of the few documented examples of authority assertion by a household head.

1776-77:

In December 1776 a stranded whale was towed to the Nukasusutok settlement just before freeze-up (Taylor 1974:76-77, 1988:128, 1990:52). The baleen was described as "marketable" while the whale flesh was "spoiled" (Taylor 1988:128). However, the skin was still edible (Taylor 1990:59). Given this bonanza of whale skin, people from all over the Nain region converged on Nukasusutok to feast and celebrate. The community consisted of 4 winter houses, with a total of 62 people, and 8 snow houses which probably contained at least 38 visitors, for a total of 100-150 people (Taylor 1974:16, 1990:60). In January 1777 the Inuit built a festival house (*qaggiq*) of snow, 5.3 m high and 8.3 m in diameter, with an entrance passage. The *qaggiq* activities were mostly participated in by men, and included the *nuglutaq* game (in which a bone with holes is suspended from the ceiling and participants attempt to skewer the holes with sticks) and boxing (Taylor 1990:53-54).

Taylor (1974:78) was able to use the Moravian census data to reconstruct the kinship relations connecting the winter house households (Figure 15). I will summarize briefly the household composition.

Household 1: Sikkuliak was the head. The unit consisted of 10 people, including two wives, 6 children and the married son Kigluana (Taylor 1974:75).

Household 2: Millik was the head. The unit consisted of 16 people, including 3 wives. The second wife was Sikkuliak's

daughter, therefore Millik was Sikkuliak's son in law. This provides evidence for an uxori-local relationship. The household also included 5 of Millik's children, two of whom were married with their own families.

Household 3: Pattiguk was the head. The unit consisted of 6 people, including 3 wives and 2 children/offspring. Note that Pattiguk and Millik lived in the same settlement at Niatak in 1772-73.

Household 4: Tuglavina was the head. The unit consisted of 11 people, including 3 wives and Tuglavina's brother with his 2 wives and 3 offspring.

Taylor (1974:81) assumes that the 1777 Beck census ordered the households in terms of importance, implying that Sikkuliak (household 1) was most prominent. Taylor goes on to suggest that Sikkuliak's preeminence was due to his kinship tie as Tuglavina's brother (possibly elder), as well as being Millik's father in law.

However, the assumption concerning the Moravian ranking of the households may be invalid. We know that at some point Tuglavina gained "big man" status, related to his role as a shaman and as a middleman in the trade with Europeans. By 1786 he was sufficiently influential to acquire a two-masted fishing sloop (Taylor 1974:81, 1979). Additionally, we know that the brothers Sikkuliak and Tuglavina quarrelled periodically (Taylor 1974:82) and that they probably never shared a household. Consequently, Tuglavina's later status position and his

contentious relationship with his brother lead me to question the above assumption regarding household ranking. Parenthetically, this fraternal relationship might shed some light on the etymology of Nukasusutok given by Wheeler (1953:62-63): "the place where the brothers quarrelled". See also Fox (1979) for a relevant story from Labrador Inuit oral history.

1777-78:

Sikkuliak and his son-in-law Millik begin to build a house together at Okak (Taylor 1974:74).

1779-80:

This winter the Nukasusutok settlement consisted of 2 houses and a total of 33 people (Taylor 1974:16). Pattiguk resided here and his nephew Kapik left Nain (mission settlement) to live in Pattiguk's household (Taylor 1974:74). Sikkuliak and his son Kigluana shared the other household (Taylor 1974:75).

1780-81:

Sikkuliak and his son Kigluana shared a household at Kheovik (north of Voisey Bay; Taylor 1974:75).

1781-82:

Two households with a total of 50 people resided at the Nukasusutok settlement (Taylor 1974:16, 71). A stranded 18-20 foot minke whale was towed to the settlement (Taylor 1974:32, 1988:128). Three families moved from Nukasusutok: Millik, his married son Aumarak and Naksuk (Taylor 1974:74). Sikkuliak and Ketornek shared a household at Nain (Sikkuliak was the uncle of Ketornek's wife; Taylor 1974:74). A spring camp was established

seaward from Nukasusutok. On May 26 it consisted of 3 tents (22.5 people estimated) and 4 tents on May 27 (30 people estimated; Taylor 1974:18).

1783:

The Nukasusutok Inuit found "a hole in the ice with two sled-loads of sea birds", probably dovekies (Taylor 1974:54).

1784:

Millik and his eldest son Aumarak were killed by Tuglavina and others while trading at Cape Charles in southern Labrador (Taylor 1974:92).

1794:

Apkajunna, his family and 2 others visit Okak in February from Nukasusutok. He is instrumental in organizing the construction of a festival house. A 1783 Moravian account states that Apkajunna was originally from Saglek and a 1784 account mentions him as a whale harpooner at Okak. According to accounts from 1787 and 1794 he later became a middleman in the trade with Europeans, acquired a wooden boat and wintered in the Hamilton Inlet region (Taylor 1990:62).

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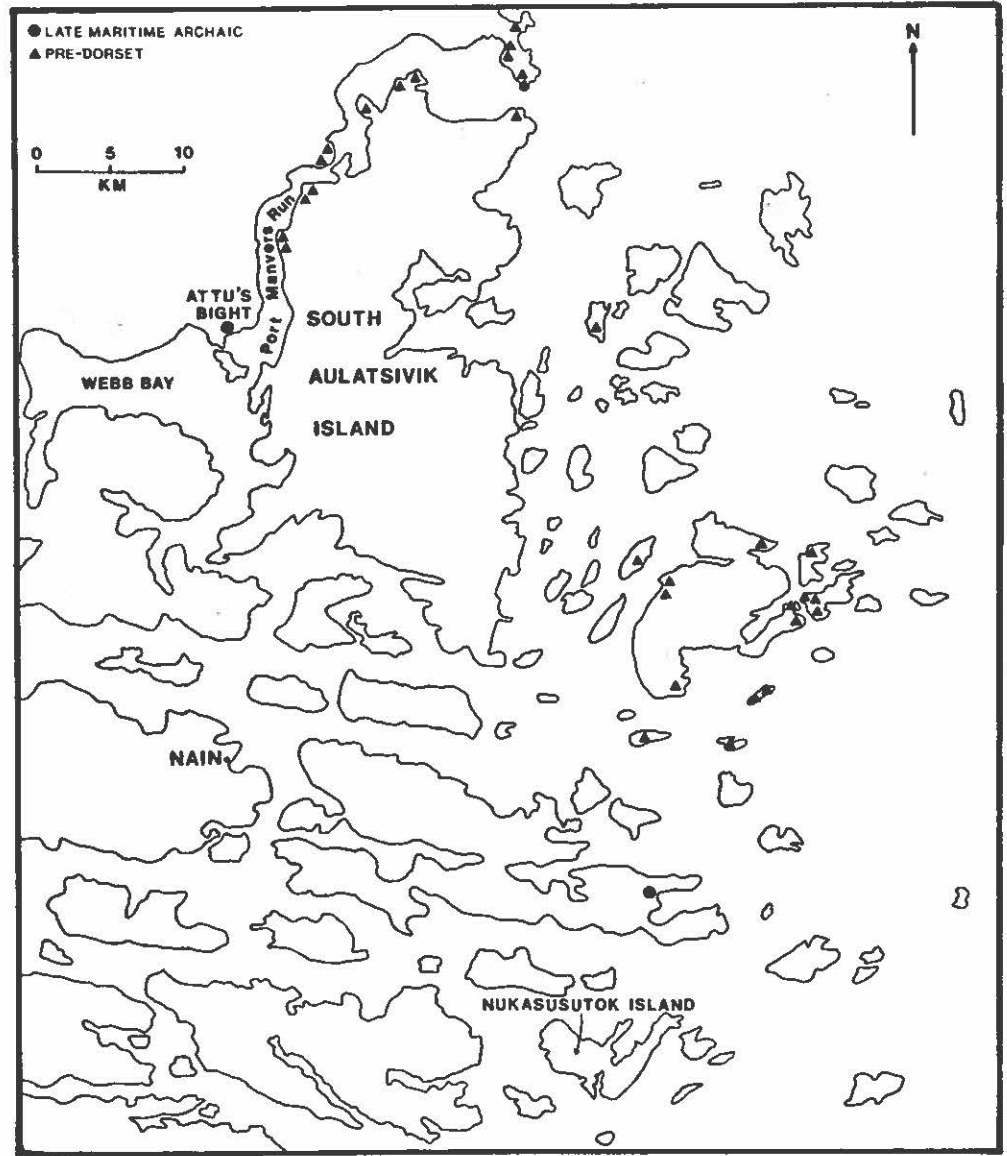


Figure 1. Map of the Nain Region.

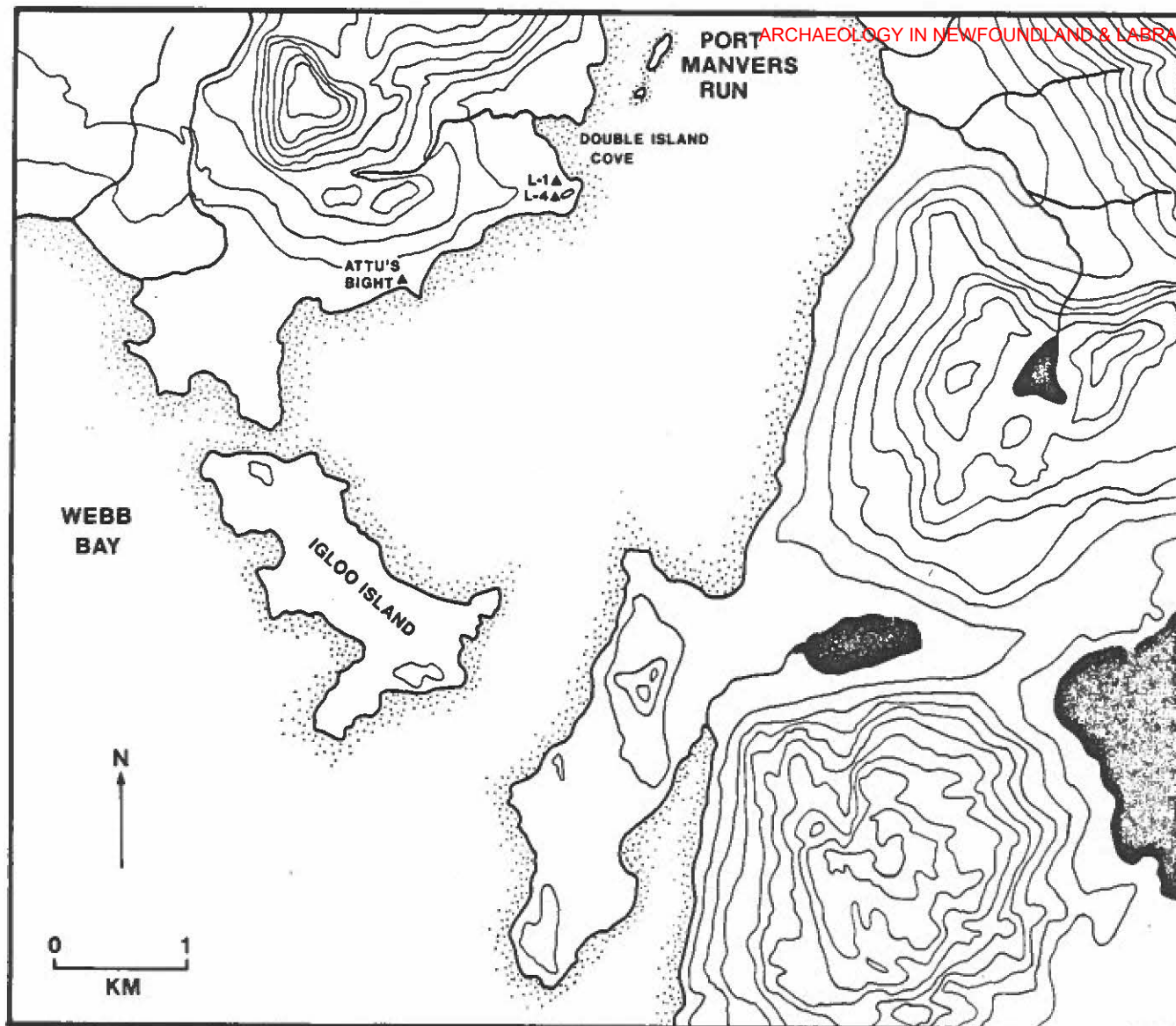


Figure 2. Map of the Webb Bay/Port Manvers Run Region.

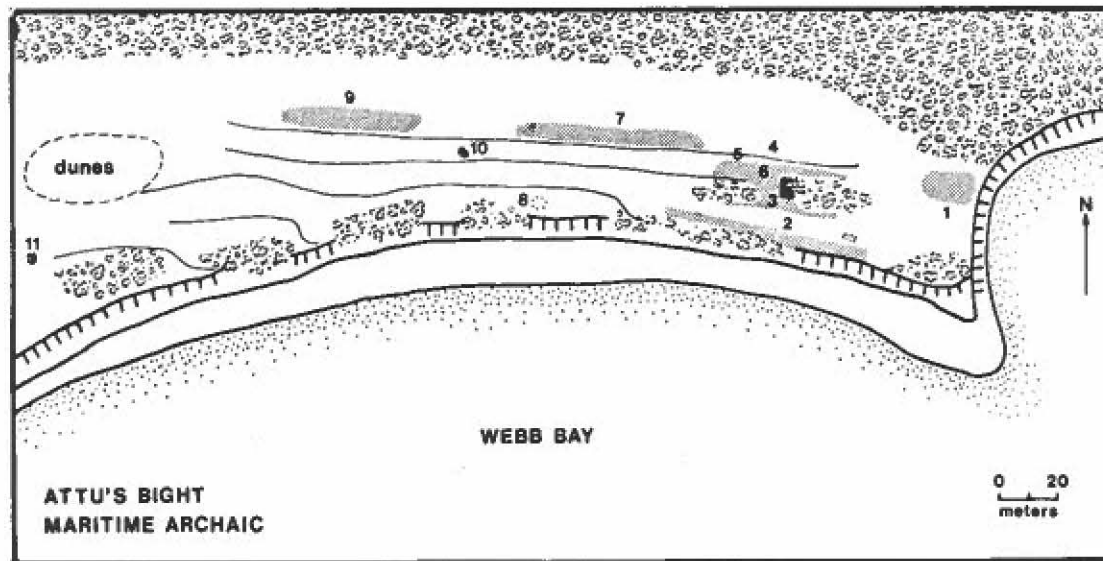
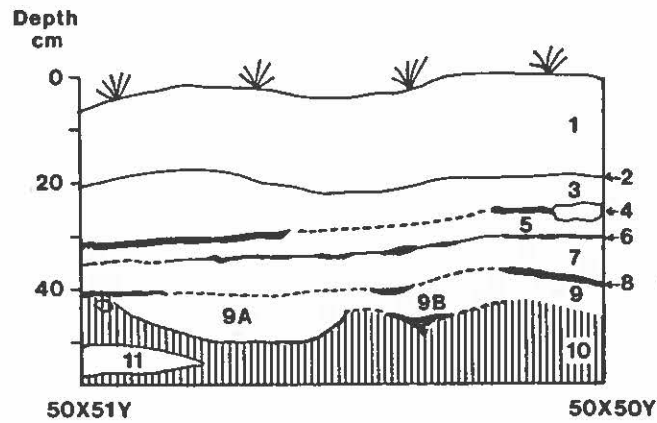


Figure 3. Attu's Bight Site Map (after a sketch map by W. Fitzhugh).



1. Gray sand with roots
2. faint buried turf layer, one Ramah chert flake
3. yellow-brown sand
4. buried turf layer
5. yellow-brown sand
6. buried turf layer
7. yellow-brown sand
8. buried turf layer, charcoal flecks
9. red-yellow oxidized sand, charcoal, Maritime Archaic cultural material
- 9A. basin-like feature of oxidized sand, little charcoal
- 9B. charcoal beneath cultural layer
10. yellow-brown sand/gravel
11. gravel lense

Figure 4. Attu's Bight, L-3/6 Stratigraphic Profile.

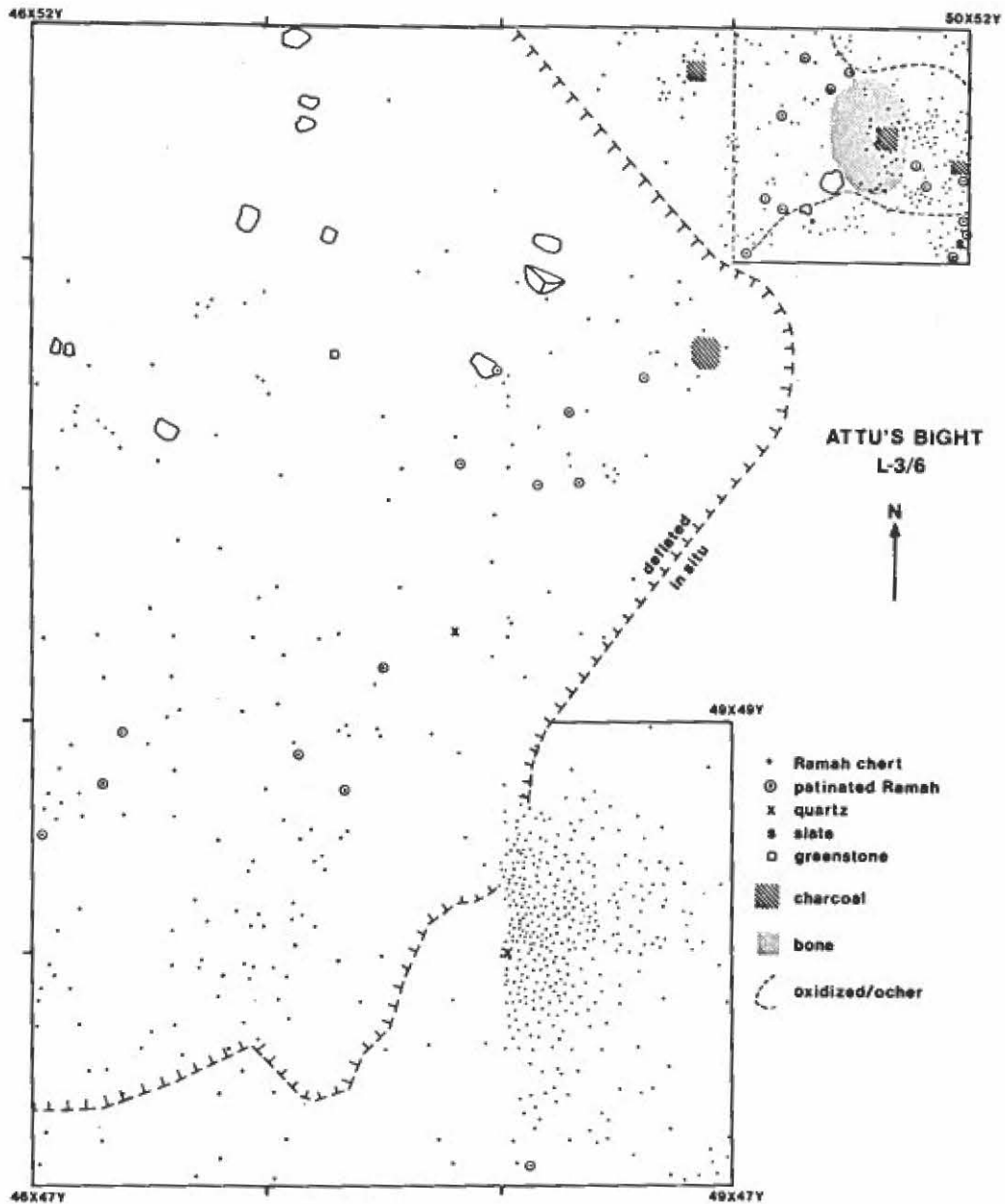


Figure 5. Attu's Bight L-3/6 Excavation Plan.

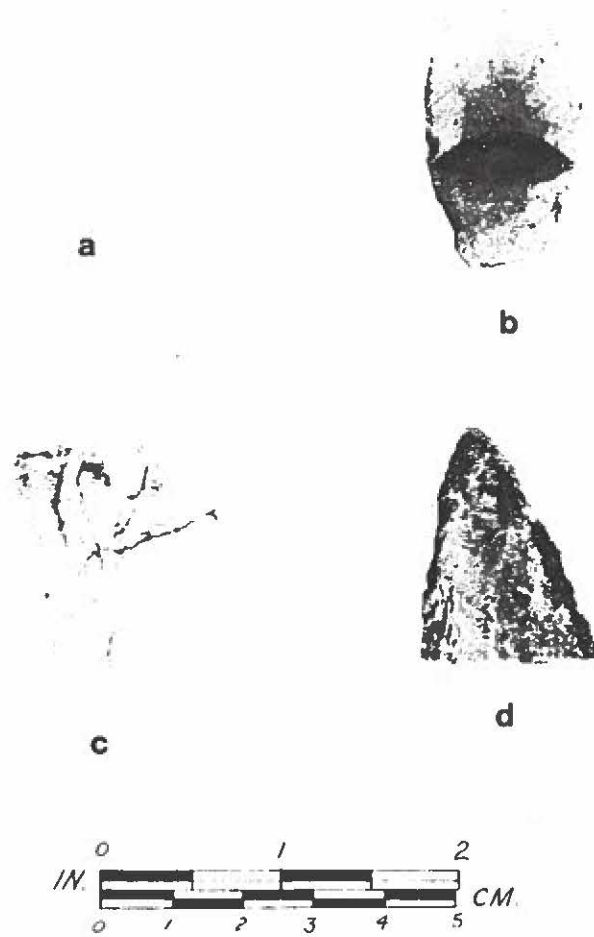


Figure 6. Attu's Bight Maritime Archaic Artifacts;
a: micropoint; b: stemmed biface preform; c,d: biface
fragments; all of Ramah chert, c and d patinated.

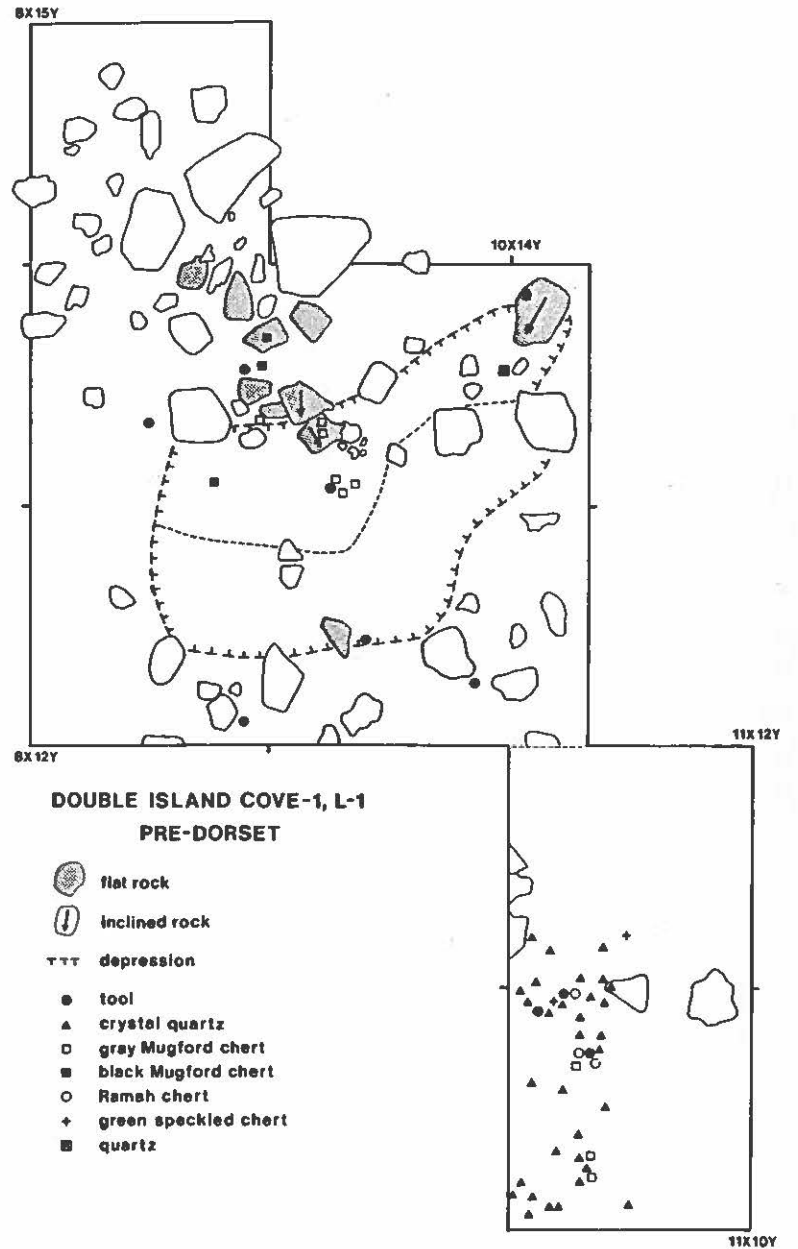


Figure 7. Double Island Cove-1, L-1, Excavation Plan.

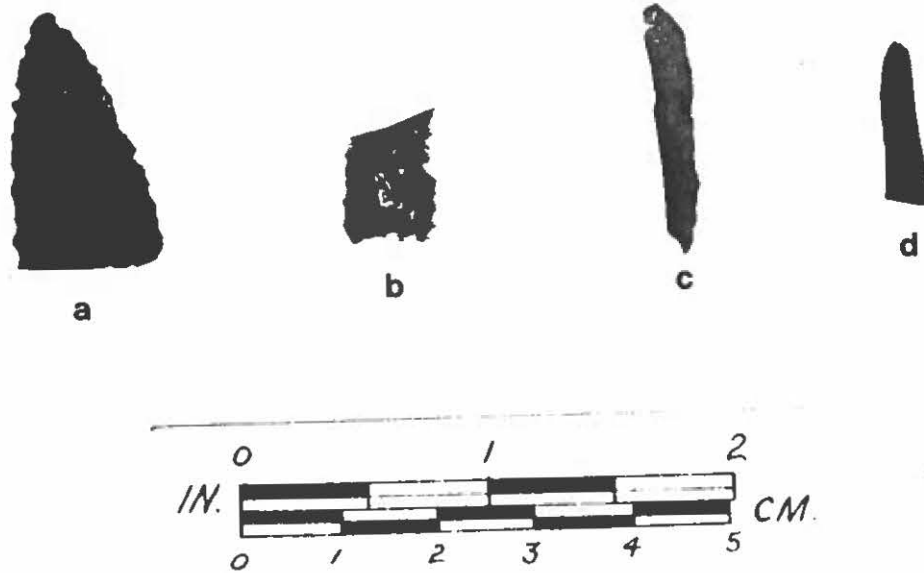


Figure 8. Double Island Cove Pre-Dorset Artifacts; a,b: endblade fragments; c,d: burin spalls; all of Mugford chert.

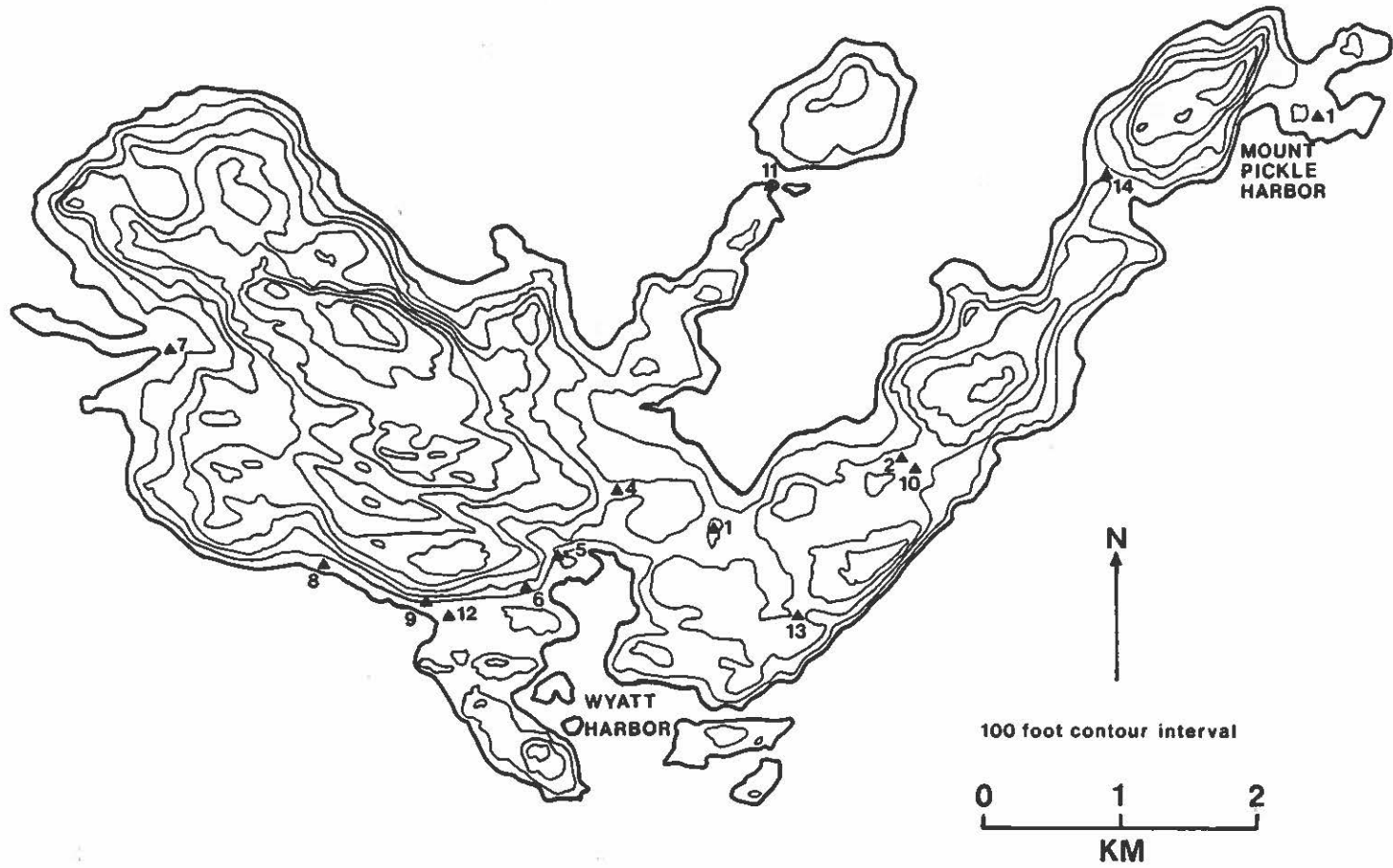


Figure 9. Map of Nukasusutok Island.

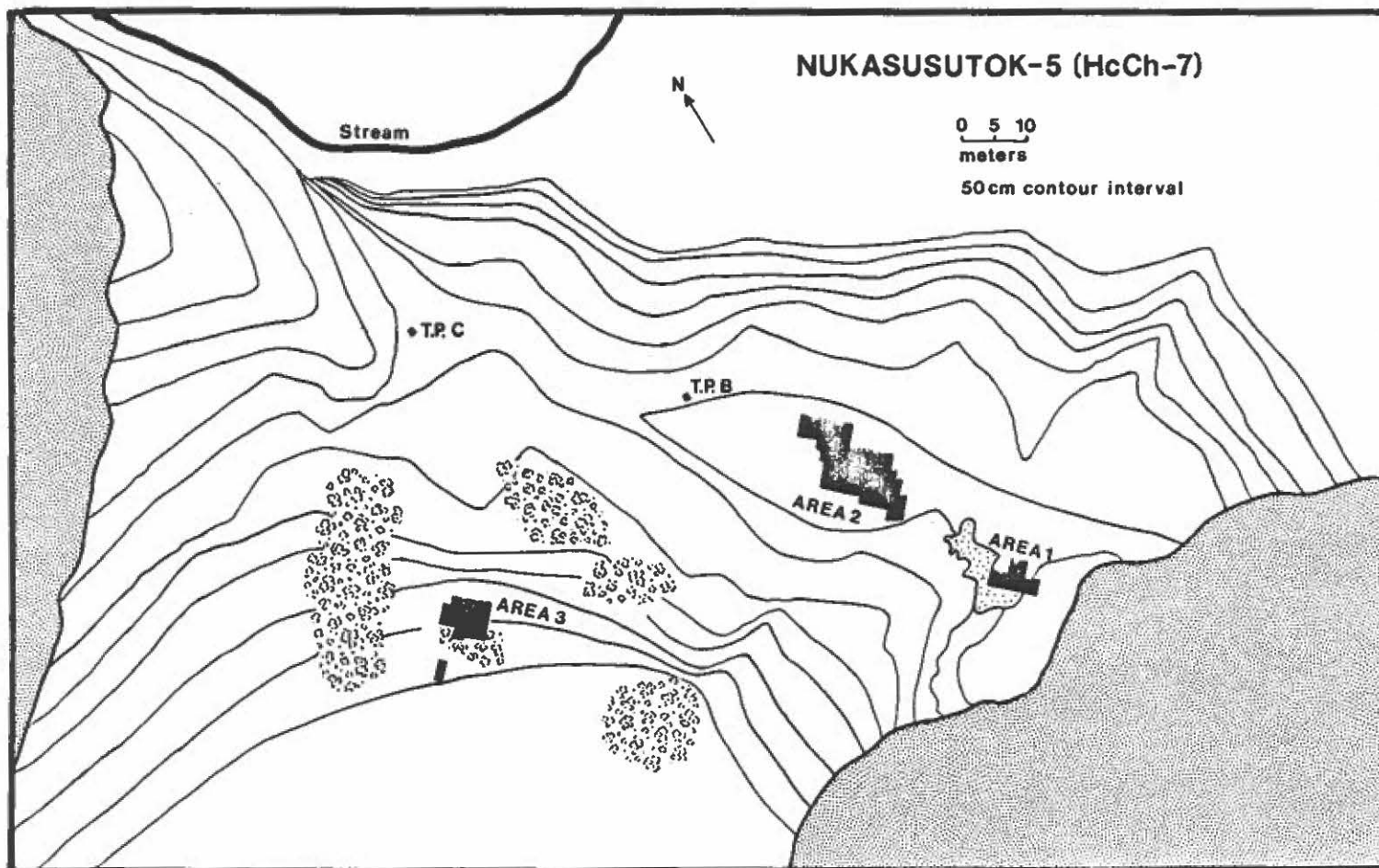


Figure 10. Nukasusutok-5 Site Map.

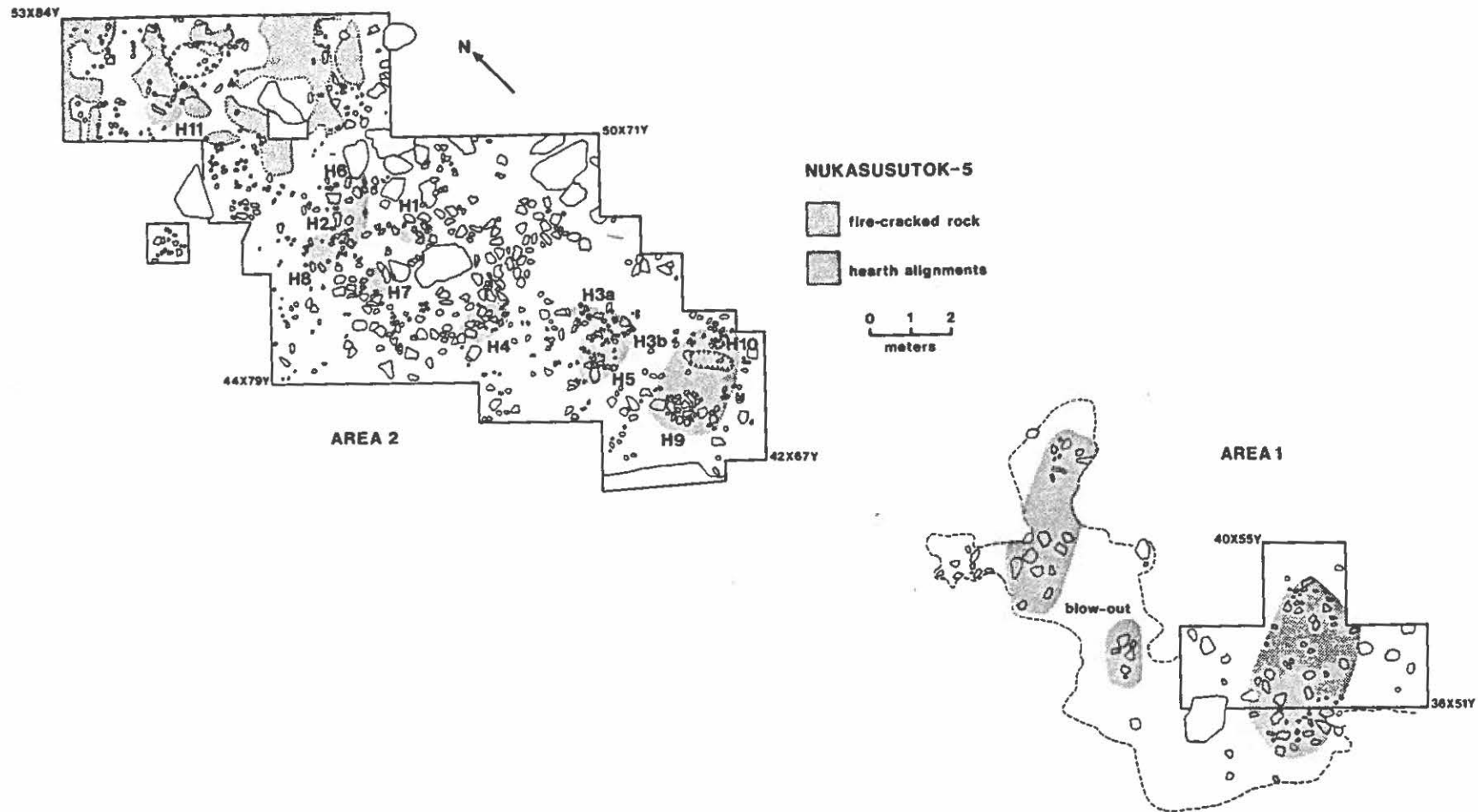


Figure 11. Nukasusutok-5, Area 2 Excavations.

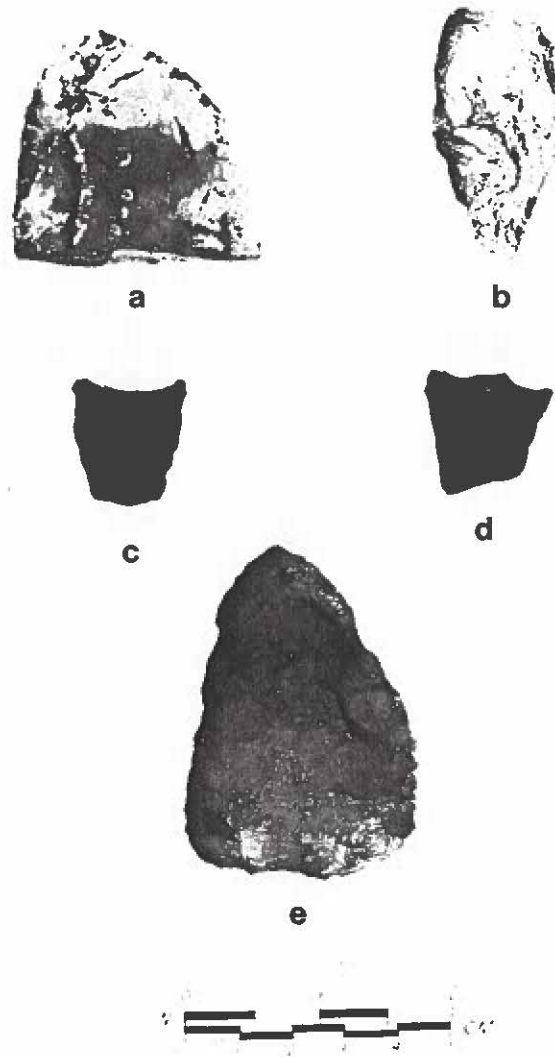


Figure 12. Nukasusutok-5, 1992 Maritime Archaic Artifacts;
a: biface, Ramah chert; b: stemmed point, quartz;
c,d: endscrapers, Mugford chert; e: celt/scrapper
preform, slate (79-80 Area 2 unit).

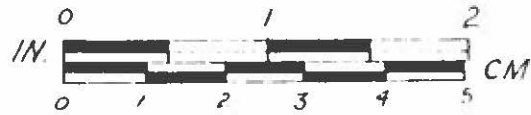


Figure 13. Nukasusutok-12 Early/Middle Dorset Artifacts;
a: burin-like tool preform, nephrite; b,c: side-
notched knives, Ramah chert.

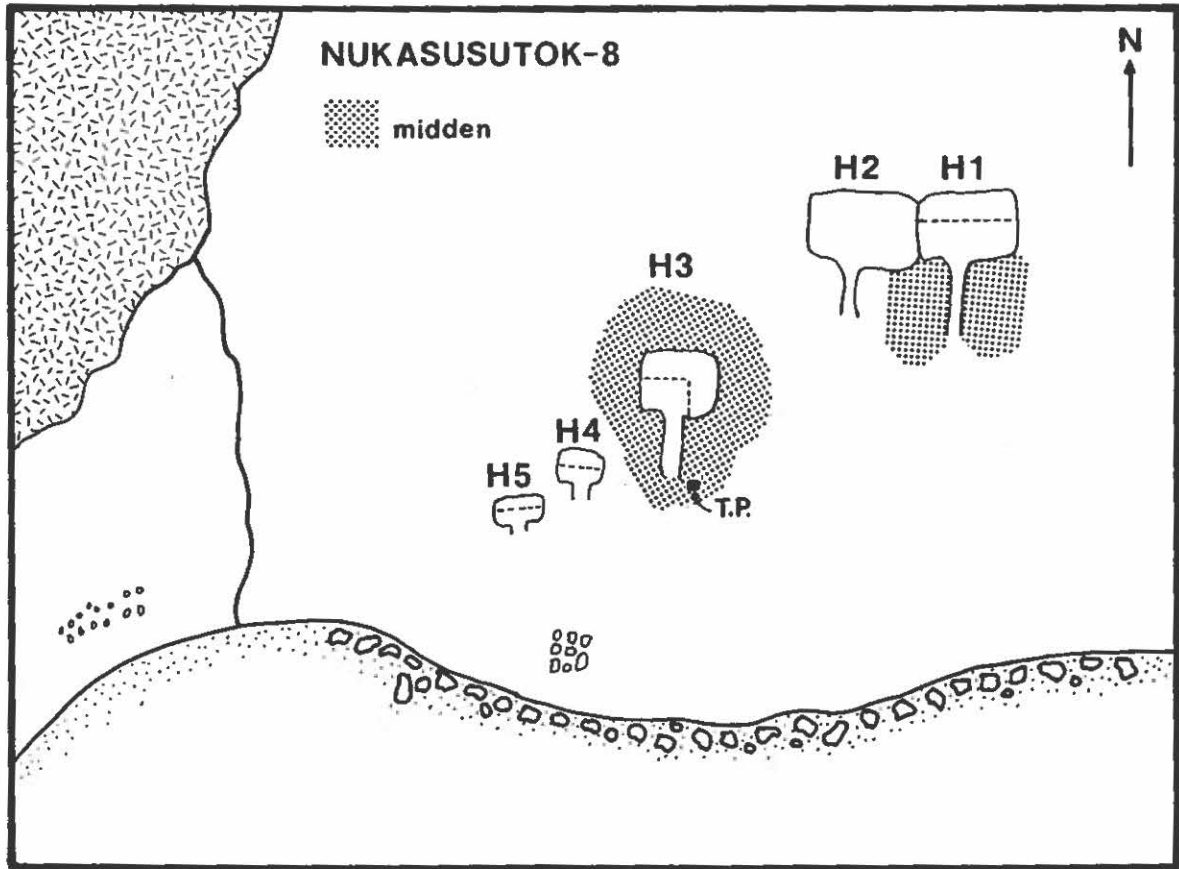


Figure 14. Nukasusutok-8, Labrador Inuit Communal House Settlement (after a sketch map by S. Kaplan 1983:469).

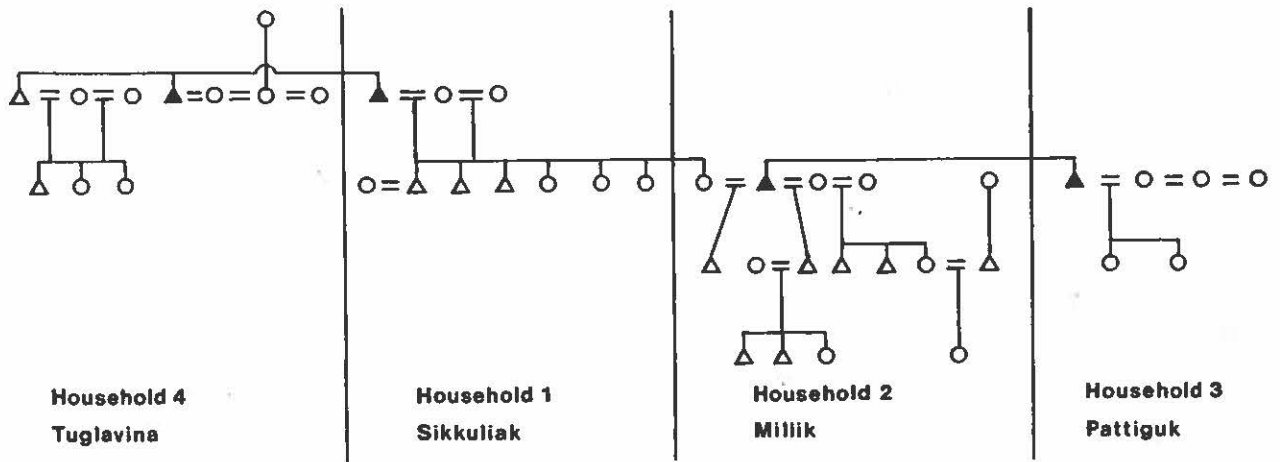


Figure 15. Kinship Diagram for the Nukasusutok Labrador Inuit Settlement, 1776-77 (re-drawn from Taylor 1974:78).

LABRADOR INTERIOR WATERWAYS

(KANAIRIKTOK RIVER BASIN)

PHASE 2 REPORT

Prepared for
Historic Resources Division

Prepared by
Kevin McAleese, M.A.

April, 1993

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OVERVIEW

1.1 Introduction

The three lakes surveyed in this second phase of the Interior Waterways Survey were Pocket Knife, Croteau and Snegamook Lake, which lie within the Kanairiktok River Basin. The major purpose of this survey was to improve resource inventory management of the River Basin. Within that general context, one of the principle survey goals was to locate stone tool source and quarry sites, especially the type of rock designated as Saunders Chert. Investigating source and quarry sites is an important initial step in determining the extent of interior Labrador chert distribution. Identifying chert tool sources assists research into tool and raw material distribution. In turn, this aids research into the settlement and subsistence patterns of interior and coastal Labrador aboriginal peoples.

Prior to the Interior Waterways Surveys, the archaeology of the Kanairiktok River basin was virtually unknown. Based on previous archaeological research in central Labrador, it was assumed the Kanairiktok River formed part of a route followed by prehistoric aboriginal people in their seasonal round of settlement and resource exploitation between the interior and coast. The Kanairiktok River is one of the few major rivers in central Labrador which connects the barrens and parkland of the interior with the Atlantic coast (Map 1).

The 1992 lakeshore survey recorded two prehistoric sites and 13 recent/historic sites, along with 13 geological sites that were potential source locations for tool manufacture. A few pieces of debitage were collected at the two prehistoric sites, and the raw material was sampled at four of the geological sites. The latter material usually consisted of quartzite, chert or fine-grained tuffaceous sandstones that appeared to be highly flakeable. Although the small prehistoric sites contained inadequate information for dating or determining cultural affiliation, limited interpretation will be presented. Some of

the recent/historic camps discovered were used by Innu, while others appear to have been used by geologists during mineral exploration surveys.

1.2 Report Outline

The goals of the 1992 survey are summarized along with a brief discussion of the methodology. This is followed by a review of the study area's environment, history and archaeology. The archaeological site, artifact and geological data is then presented and analysed. Since both prehistoric and recent/historic sites were recorded at each Lake, repetition is avoided by grouping site descriptions by Lake rather than by time period. This data description is followed by the site and artifact interpretation. Recommendations for future archaeological research in the Kanairiktok River basin are then presented. The report concludes with a list of references, photos and appendices.

1.3 Research Goals

Recording stone tool quarry sites contributes to current research on tool making by prehistoric peoples, as well as their trade, travel and subsistence patterns (Fitzhugh 1972:7). In 1991 part of Snegamook Lake was surveyed and three prehistoric sites with stone tools were ~~been~~ recorded. Some of these artifacts were made from Saunders Chert. This designation refers to a group of fairly distinct fine-grained cherts and felsites, and a grey banded lava (McCaffrey 1989:115-16). The chert colours vary including lavender, pink, purple, tan and green-black. The cherts often contain light-colored inclusions and can occasionally be coarse-grained (McCaffrey 1989:115-16). Tools made from this material have been found mainly on coastal Labrador sites, and have been dated to c.3500-2500 years before present (B.P.), the Intermediate Period in interior Labrador

prehistory (McCaffrey 1989:115-16).

The geology of the Pocket Knife and Croteau Lakes area looked especially interesting for locating Saunders Chert sources as well as quartzites and basalts (Map 2). Rocks visually and petrographically similar to Saunders Chert had been reported in the formation known as the Croteau Group near Pocketknife Lake (McCaffrey et al 1989:131). In addition, two historic canoe/portage routes used during the 19th and 20th centuries connect Pocketknife Lake with the Kanairiktok and other historic travel routes to the south (McCaffrey et al 1989:131; Scott 1933:117; Map 3). If this portage route was established during prehistory, possible Saunders Chert sources located in the Croteau Group would probably have encouraged use of the area.

1.4 Methodology

A literature review of the study area's environment and history was conducted prior to the field work. This background work included a review of 1:50,000 maps and aerial photographs, the latter especially valuable in locating promising site locations and possible survey camps. The 1992 field work was primarily a systematic ground search on foot of the most likely river bank and lake shore locations. Helicopter flying was occasionally used early in the field season in order to access spots of interest not accessible by canoe. For example, an aerial reconnaissance was made of Belly Fish Lake and the Pocket Knife Lake outlet stream valley, as this area was part of an historic travel route (Scott 1933).

In terms of using geological data, the study area's geology seemed an appropriate finding aid for conducting a search for prehistoric sites. This assumption is based on the premise that aboriginal people were skilled geologists in their own right, given their ability to find and use stone tool sources.

Documentary and oral history research was done as well, the latter via interviews with Innu elders (Appendix 1). Oral

history collected in 1991 provided important information on a few of the recent/historic sites recorded that year. In addition, a few prehistoric sites recorded then were located in close proximity to the recent camps. This information may have proven more valuable had it been collected prior to the ground survey, but unfortunately no informants were available just prior to the 1991 field work.

In June 1992 four elders familiar with the study area were interviewed, with the help of a translator, about campsites, travel routes and the area's animal and fish resources. These interviews helped focus the survey on locations with a greater potential for recent and historic sites. The interviews also provided a "snapshot" of the area prior to arrival. A few lakeshore areas indicated by the Innu in the 1992 interviews as recent camps were verified during the survey. They did not prove to have prehistoric components or indicate prehistoric sites in the immediate vicinity. Still, using these different types of data in conjunction helped guide the survey and provided data on recent/historic regional use and occupancy not visible in the archaeological record.

In late July Pocket Knife Lake was overflown by helicopter, as was Croteau Lake to the northeast. Following this aerial survey most of the Pocket Knife Lake shoreline and some of the surrounding hills were surveyed, work which included extensive test-pitting at all locations. However, the Lake's north arm, a small part of the main north shore and a small section of the southwest bay were missed (Map 1). Bad weather, usually characterised by three day rain storms from the northeast, delayed the survey here and forced a schedule revision. Two prehistoric and 11 recent/historic sites were located around this Lake.

By about mid-August the survey team flew into Croteau Lake in order to study the shoreline and surrounding hills. Two recent/historic sites were located but no prehistoric ones. By late August the survey party moved to Snegamook Lake for a look

at that Lake's north shore, missed in 1991 due to bad weather. A few sites recorded that year near the Lake's outlet at its east end were resurveyed as the Lake level was approximately .5 m lower than in 1991. Additional debitage was recorded at two of the resurveyed prehistoric sites, and four new recent/historic sites were also recorded.

1.5 Survey Summary

During the 1992 field work, a small artifact collection of 11 flakes was recovered from GcCi-1 and 2 on Pocket Knife Lake and GdCh-1 on Snegamook Lake. The flakes are made from mauve-colored and reddish quartzites, apparently local in origin, and from Ramah Quartzite. GcCi-1 appears to be a small lithic reduction station while GdCh-1 may be a fish camp.

A single hatchet head from GdCh-1 was the only recent/historic artifact recovered. Its age is unknown, though given its relatively good condition it probably dates to c.1950. Stylistically it resembles a Hudson's Bay Company "Pattern Axe" dating to the late 19th - early 20th century (Brown 1993:50-55). Boat remains were recorded at GcCi-2, tent spot remains were noted at a few of the recent/historic sites, and cut trees indicating camp spots or activity areas were noted at virtually all of them. The sites with tin can/bottle middens and with cut trees, which are small and relatively young looking, suggest occupation within the last 25 years. Both Innu and non-Innu have used some of these sites, and determining cultural affiliation at them is problematic.

ENVIRONMENT REVIEW

2.1 Introduction

The paleoenvironment of Pocket Knife, Croteau and Snegamook Lakes will first be reviewed, followed by a general description of the historic/contemporary environment. This review will point out differences between the area's paleoenvironment and its historic one. Some of these differences will be discussed in Section 8 of this report with regard to recommendations for future research.

2.2 Paleoenvironment

Given the small amount of data available on the study area's ancient environment, this summary is based mostly on research done in Hamilton Inlet (Fitzhugh 1972) and on the central Labrador coast.

According to marine sediment and shell radiocarbon dating, by c.7000 BP (years before present) Snegamook Lake and much of the upper half of the Kanairiktok River basin appears to have been ice free (Pintal 1990 Figs.14,15; Clark and Fitzhugh 1990:303). During that millennium the sea coast and Snegamook Lake would have been closer because of glaciation effects, such as land submergence and sea level rise. In turn, the lower part of the Kanairiktok River east of Snegamook Lake would, to some degree, have been drowned as a result of sea level change. Today the Kanairiktok River is 322 km long, with a watershed covering 12,274 km² (Anderson 1985:267).

Over the last 4500 years the climate of most of the central Labrador interior was characterised by two general trends. Based on paleobotanical research it appears that a relatively long, c.2500 year period of cool, wet weather was followed by a somewhat shorter, warmer one. This warm trend is then replaced by increasingly colder periods which culminate in the "Little Ice Age" c.500-300 years ago (Fitzhugh 1972:189).

In subdividing these trends, a few relatively short warm, dry periods punctuated the cool, wet stage at about 4200 BP. The

cool period finally ended sharply with a relatively short, warm episode c.1800-1600 BP. This episode initiated the warm trend, though it too was interrupted briefly by a c.200 year period of cool weather. The warm trend then continued until about 1000 BP., at which time increasingly colder periods occurred.

For approximately 500 years the cold and warm periods alternated, though the trend was to colder weather. This trend is indicated by the arrival of the Little Ice Age 500-300 years ago, c.1500-1700 AD (Fitzhugh 1972:189). These climatic fluctuations resulted in forest expansion northward in warm periods, and the reverse during colder periods (Fitzhugh 1972:189).

2.3 Recent/Historic Environment

Since the Little Ice Age a general warming trend is indicated for the central Labrador interior, though the region still experiences a subarctic, continental climate (Pintal 1990). Winters are severe with long periods of -15°C common (Banfield 1981:150-53). Freeze-up of the Lakes, according to one Innu informant, is usually about late November, while the ice usually went out by June (Enum Abraham pers.comm.1992). Snow accounts for about 40% of the study area's 800 mm annual precipitation (Pintal 1990 Figs.7,9), while its location at between 54° and 55° north latitude places it within the discontinuous perma-frost zone. Summers are cool with an average 12.5°C July temperature, though brief periods of hot weather in the mid- 20°C occur (Banfield 1981:150-53).

A few days of hot weather were noted during the field work, but most days were on the order of 15.0°C , and some were much cooler i.e. 5.0°C . These cool days generally occurred during three day periods of rain and wind from the northeast. In fact, 16 days out of 39 were wet and blustery, conditions which curtailed most survey work. Strong westerly winds usually blew the northeast storms away and often created whitecaps on the Lakes (Photo 1).

2.4 Terrain

Pocket Knife Lake's shape resembles a half opened pocket knife, with three major arms forming the handle and blade (Map). It is approximately 8.75 km long (north-south) by 9.0 km wide (east-west). In Montagnais it is called "Gowsheagmuit," which translates as "bright or clear" Lake (Nuk Nui pers.comm.1992), an appropriate description for its exceptionally clear, clean water (Photo 2). The clearness is probably the result of the Lake's relatively high elevation at 283 m above sea level (asl), its lack of feeder streams and perhaps its depth.

Pocket Knife Lake has only a single outlet stream on its west shore near the mouth of the north arm (Map 1). This outlet stream flows into a series of small ponds to the northwest that eventually drain into the Kanairiktok River, approximately 18 km to the north. The Lake's western shore is overshadowed by a long, relatively steep ridge at a height of approximately 440 m (Photo 3). The rest of the lakeshore is surrounded by much smaller hills at approximately 300 m above sea level. There are many small islands in the Lake, averaging approximately .5 km long by .25 km wide (Map 1). The largest cluster of six islands is located near the Lake's midpoint close to the north shore (Photo 4).

Croteau Lake, at 6.0 km long and an average width of less than .5 km, is relatively long and narrow. Its vertical cliffs and the surrounding steep sloping hills give it a greater degree of relief than Pocket Knife. This increased relief is especially noticeable at the 300 m asl cliffs and hills at about the Lake's mid-point and also near its east end outlet at 261 m asl (Photo 5).

Snegamook Lake is relatively large at 26 km long (east-west) by two to four km wide (north-south), with four major arms or bays (Map 1). The bays on the north shore are marked by steep hillsides and cliffs, while those on the south shore generally have gentler terrain with smaller hills and abundant areas of low, swampy ground (Photo 6). The Lake's west end has numerous bedrock outcrops comprised of a predominantly deep red coloured

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shale-like rock, much redder than the few bedrock points of reddish granite along the north shore. This latter shore has many narrow shingle beaches which are separated by the few granite points (Photo 7). The numerous, brush covered cobble beaches along the Snegamook lakeshore appear to reflect a relatively recent lower water level (Photo 8). These 'new' Snegamook beaches are, according to an Innu informant, a side effect of ten per cent of the Kanairiktok's tributaries being diverted into the Smallwood Reservoir in 1971 (Sylvester Andrew pers.comm.1991).

Instead of shingle beaches, the Lake's southeast and northeast quadrants are marked by a few sand or sand and gravel beaches. These sand beaches are probably the result of Snegamook Lake currents and sediment deposition near its east end outlet, and perhaps also to prevailing westerly winds.

2.5 Flora

Thick spruce and fir are the primary cover on the hills surrounding all three Lakes, although there are a few groves of birch. These groves tend to be on well-watered, steep slopes such as those found on the high west ridge in the southwest quadrant of Pocket Knife Lake, and on the steep southern shore of Croteau Lake (Photos 9,5). The surrounding rugged hilltops and ridges are lightly covered with a more open spruce/caribou moss forest (Photo 10). Numerous berries supposedly grow on points of land along both Lakes (Enum Abraham pers.comm.1992), though only a few Crowberry (*Empetrum nigrum*) and Bakeapples (latin) were seen during the field work in July and August.

Spruce/caribou moss forest is especially prominent along Snegamook Lake's north shore, an area that has also been severely burnt over in the recent past (Photo 11). Snegamook Lake is also noted for its distinctive brush and grass-covered vegetation on the mud flats and low, swampy islands near the Kanairiktok River estuary in the Lake's south west end (Photo 12). The growing season for vegetation in this relatively cool, interior Labrador

climate is only about two-thirds of the area's 150 ice-free days (Lopoukhine et.al 1977:40).

2.6 Fauna

Based on observations during the 1992 field work, wildlife seemed less plentiful in the study area than along the banks of the Kanairiktok River to the north. Moose sign was plentiful though none were seen. Beaver lodges and beaver-chewed trees were numerous on Pocket Knife and Croteau Lakes, though only one beaver was actually seen along with two otters. According to two Innu informants (Mary-Ann and Simon Michel pers.comm. 1992), fur trapping was a common activity at Pocket Knife Lake, especially at points of land where berries grew. In addition, the Innu also consider Pocket Knife to be a good fishing spot.

All the Lakes had a considerable amount of avian life including loons, various ducks, seagulls, Canada geese and osprey (Appendix 3). Tracks of an unknown large mammal, perhaps a lynx, were noted at Snegamook Lake. This Lake, and Shipiskan Lake to the northwest, are popular locations for winter caribou hunting according to Innu informants (Mary-Ann and Simon Michel pers.comm. 1992).

HISTORY AND PREHISTORY

3.1 Introduction

This review is based on archaeological research as well as documentary and oral history. Innu elders at Sheshatshit provided the oral information, complementary data on the study area's documented regional use and occupancy.

The spelling of Montagnais toponymy in this review is problematic. The author cannot speak Montagnais and some of the names were obtained through oral history work with non-English speakers.

3.2 Archaeology Review

Prior to Phase 1 of the Interior Waterways Survey, the Kanairiktok River basin was assumed to be part of a prehistoric travel route connecting the barrens and parkland of the Labrador interior with the coast. Stone tools previously found in both areas, in particular tools made from Saunders Chert, provided evidence for this prehistoric travel and exchange. The source of the Chert is unknown, though artifacts made from it are usually attributed to Intermediate Period Indian cultures dating to c.3500-2500 BP (McAleese 1992).

Analysis of a small collection of stone tools from seven sites recorded in 1991 supplied information on site function, occupation period and cultural groups (McAleese 1992). These tools were made of Ramah Chert, also called Ramah Quartzite for its similarity to both materials, along with some unknown quartzites and Saunders Chert. These tools were compared with other regional collections, including FjCa-9, the Piloski Garden site near North West River (Fitzhugh 1972:76,217), and a distinctive cache of Saunders Chert tools excavated from GlCg-1 on the central Labrador coast (Loring 1988:13-14).

The most diagnostic artifacts recorded in 1991, from GdCn-1

Shipiskan Lake Beach, appear to be Intermediate Period Indian dating to c.3500-2500 BP (McAleese 1992). They resemble Brinex and Charles complex (c.3200-2700 BP) assemblages, especially the latter, a North West River version of the Saunders complex (Denton & McCaffrey 1988:146; Fitzhugh 1972:7). Analysis of the balance of artifact collection was restricted by the small quantity, the few diagnostic tools, lithics with surface provenience and the absence of organic material for scientific sampling or dating.

No stone tool source or quarry sites were recorded during the 1991 Kanairiktok survey. But distinctive central Labrador cherts and quartzites and their quarries have been recorded in northeastern Quebec, especially around Mistassini Lake and in the geological formation called the Labrador Trough (Denton and McCaffrey 1988; McCaffrey 1989). Tools and flakes made of tan, grey and green cherts from the Trough, known as Fleming, Sokoman, Ruth and Wishart Cherts, generally date to the Intermediate Period (McCaffrey 1989:73-74,87-88). These materials have been recovered from workshop and habitation sites in the central Labrador interior, but not the coast (McCaffrey 1989; Ryan & Biggin 1987). Of the artifacts collected during the 1991 Kanairiktok survey, only the Ramah Chert has a known source in Ramah Bay on the Labrador north coast.

3.3 19th Century History

In this century and earlier the Montagnais/Naskapi ranged all over Labrador from Ungava Bay to Hamilton Inlet and the St. Lawrence Gulf (H.B.C. Archives 1843). This extensive travel was based primarily on caribou hunting (Speck 1933). This hunting mobility especially characterised the historic Montagnais/Naskapi settlement and subsistence pattern in the northern and central Labrador interior. Caribou hunting and fur trapping took place during the Fall, Winter and Spring, followed by sealing, fishing, bird hunting and trading during a brief Summer period on the

coast (Henriksen 1973:8-13; Fitzhugh 1972:49-50).

It can be inferred from the documentary record that the fur trade led to increased Aboriginal use of the Kanairiktok River basin, relative to prehistoric use. Labrador aboriginal people did alter their settlement and subsistence patterns in other Labrador regions in order to trade in furs, iron trade goods and non-native foodstuffs (Penney 1986; Thomson 1985). However, the documentary and archaeological records for the Kanairiktok River (Mishta-amishku-shipu) basin cannot, at present, demonstrate this.

Pocket Knife and Snegamook Lakes were part of an important travel route which connected Grand Lake near Goose Bay with the barren grounds of the interior, a distance of approximately 150 km (Scott 1933:116-33). This route was used during the 20th century at least, though Pocket Knife was apparently used mostly by the Northwest River Band as a resting stop or temporary camping spot (Enum Abraham pers.comm. 1992). It was also part of a trapping area that included Namaycush Lake to the south and some of the small lakes between Camel and Pocket Knife Lakes. A "base camp" was maintained at Namaycush (Little Seal) Lake, and smaller, temporary camps were then established along the Pocket Knife Lake shore (Enum Abraham pers.comm. 1992).

Snegamook Lake appears to have been used by both the Davis Inlet and Northwest River Bands (Speck 1931:565; Armitage 1989:95-98). The Lake's name in Montagnais is "Ashtinekamuk," which sounds somewhat similar to the English word. According to Innu informants the area around the Lake is good for caribou hunting (Simon and Annie Michel pers.comm. 1992), presumably in the Fall or early Winter. Snegamook Lake is also known for at least one spiritual place, an islet in its southeast quadrant where an Innu man hid when an A-gen, or evil spirit, was chasing him (Enum Abraham pers.comm. 1992).

Croteau Lake does not appear to have been used by the Sheshatshit Innu, at least not in recent memory (Enum Abraham pers.comm. 1992). However according to one informant, the Lake

may have been used by the Davis Inlet (Utshimasits) Innu as it was apparently more in their territory (Simon Michel pers.comm. 1992). Traplines were operated by the Sheshatshit Innu to the southwest of Croteau on Pocket Knife Lake and to the southeast on Camel Lake (Nuk Nui pers.comm. 1992).

3.4 Early 20th Century History

Prior to the 20th century, documented references to either Aboriginal use or European exploration of the Lakes are rare and vague. It appears the Lakes were largely unknown to Europeans and Euro-Canadians up to the early 20th century.

The name Pocket Knife is not documented on maps until the early 20th century (Scott 1933; Map 3). Since its half-opened pocket knife shape is best seen from the air, the Lake may have been named c.1930 following the first aerial surveys of central Labrador.

Innu fur trapping and fishing in the Pocket Knife Lake area were first documented c.1920 (Scott 1933:116-33). At this time Pocket Knife Lake was used by the Labrador Settlers as part of an overland travel and fur-trapping route between Northwest River and the central Labrador interior, especially during the winter (Scott 1933:116-33). The route followed the shores of Grand Lake out of Northwest River, then continued along the shores of the Otter Lakes, Pocket Knife Lake, and over to Snegamook Lake on the Kanairiktok River (Scott 1933; Map 3; Photo 13).

From Snegamook Lake the route followed the lower Kanairiktok River to the coast, a River section Labrador Settlers and early Euro-Canadian explorers occasionally called the "Snegamook River" (Scott 1933). The latter useage probably resulted from river travel into and out of the interior from Snegamook Lake. The Innu had a marker along this section of the route, in a tree on the riverbank at the cutoff point for Ugjoktok Bay (Scott 1933:124).

Innu use of the Kanairiktok River is reflected by 13 fairly

recent sites which appear to have been abandoned within the last 20-30 years (McAleese 1992). They are marked by standing and collapsed tent poles, by cobble tent rings, by bottle glass and tin cans, and by moss-covered wooden sleds.

3.5 Late 20th Century History

Euro-Canadian exploration of the Pocket Knife Lake area appears to have begun in the late 1920s, mainly by parties of geologists searching for gold (Ryan 1984:161). They explored the Pocket Knife Lake area in the 1940s and discovered deposits of iron and various sulfides (Ryan 1984:161). The personnel involved in this early exploration often included residents from the North West River area (Ryan pers.comm. 1992). They initially acted as guides and canoemen and, later, as geological explorers in their own right. By c.1940 air transport out of Goose Bay largely replaced boat travel, though the old portage route was, and still is, "followed" by float plane and helicopter pilots carrying passengers and freight into the Pocket Knife area (Myra pers.comm. 1992).

The pioneering mineral exploration efforts of these individuals are remembered in the names of certain lakes in the region, such as Croteau Lake, named after two geologist brothers (Ryan 1984:161). The contribution of North West River guides and prospectors in this exploration work is also commemorated in the names of certain mineral showings, such as the Michelin and Montague uranium deposits near Walker and Moran Lakes, respectively (Ryan and Wilton pers.comm. 1992).

3.6 History and Prehistory Summary

The study area appears to have been a prehistoric travel route connecting the barrens and parkland of the Labrador interior with the coast. Stone tools found in both areas, in particular tools made from Saunders Chert, provide evidence for

this prehistoric travel and exchange. The source of the Chert is unknown though artifacts made from it, found on both the north and central coasts and in the interior, are usually attributed to Intermediate Period Indian cultures dating to c.3500-2500 BP. More detailed analysis of artifacts collected previously near the study area and in the Labrador interior has been restricted by small quantities, few diagnostic tools, lithics with surface provenience and no organic material for scientific sampling or dating.

By the mid-19th century at least the Pocket Knife Lake area appears to have been traditional Innu hunting territory (Henriksen 1973:4-8). By the early 20th century Euro-Canadians frequented Pocket Knife Lake as part of an overland travel and fur-trapping route. This route connected Lake Melville with the north central coast via the central interior. This historic canoe/portage route was probably developed by the Innu in order to hunt, trap and fish in both the central Labrador interior and the coast.

Geologists began exploring the Pocket Knife Lake area for valuable minerals c.1930. This exploration was initially by boat along lakes and rivers, including the old portage route linking Lake Melville with the central coast. Lakes such as Croteau, the surname of two geologists who worked in the area, commemorate this relatively early mineral exploration.

SITE DESCRIPTIONS

4.1 POCKET KNIFE LAKE

GcCh-1 Winter Camp Island

This site is marked by at least three U-shaped features cut out of the surrounding trees (Photo 13). The features measured approximately 6 x 6, 8 x 5 and 7 x 6 m, with their "open" ends pointing east. Many small conifers are also axe-cut about 50 cm above the ground (Photo 14). The features are located on the most northly island in the Pocket Knife Lake island cluster near the north shore, near the Lake mid-point (Map 1). The site area, oriented southwest-northeast, has good southern exposure and measures 90 x 25 m in total. It is located on the island's east side about 15 m back from the shore (Photo 15).

The U-shaped features appear to be tent spots as they are about the size of the canvas cabin-style tents used by the Innu. The height of the trees in the features suggest the trees were cut in the Winter, probably for tent flooring. Given the tree height and exposure, this site is probably a fairly recent Innu winter camp, c.10-20 years old. Its central position on Pocket Knife Lake would lend itself to trapping and hunting around the lakeshore, activities that Innu informants mentioned they practiced at Pocket Knife Lake (Enum Abraham pers.comm. 1992).

GcCh-2 Boot Island

A few conifers axe-cut about 50 cm above the ground mark this site, along with at least one poorly defined, U-shaped spot cut out of the surrounding trees. These axe-cut trees are located within a relatively long, narrow clearing about 150 x 20 m (Photo 16), oriented approximately northeast-southwest through the middle of this boot-shaped island, the largest in the Lake's north shore island cluster (Photo 17).

This site may not have been used as a camp, given its few cut trees and poorly defined, U-shaped tent spot, c.20 years old. The "topped" trees suggest Winter cutting, probably by the Innu

as a source for tree boughs for tent flooring (Henriksen 1973:22).

GcCh-3 Little East Island

A few axe-cut conifers about 50 cm high are located at the north tip of this smallest island in this cluster (Map 1). Most of the island is heavily treed, but the cut trees defining the site are located in a small clearing which measures about 30 m². The cut trees are five metres inland from a few large boulders at the shoreline.

Given the few cut trees and absence of clearly defined tent spots, the site may not be a camp but an area used for unknown activity, probably within the last 20 years. As with GcCh-2, the "topped" trees suggest Winter cutting by the Innu for tent flooring.

GcCh-4 Double Face Camp

This site initially appeared to be an Innu camp, given its stacked tent poles and wooden camp-furniture remains. Moreover, it is in an area traditionally used by the Innu, the Lake's southwest quadrant. However, the site has also been a Newfoundland Department of Mines and Energy exploration camp. According to Ryan, one of the Department's personnel, a mapping and survey crew camped here in the summer of 1974 (pers.comm. 1992).

It is located on a prominent bedrock point on the Lake's east side and covers an area approximately 70 x 50 m (Map 4; Photo 25). It is bordered on the west by a bedrock ledge approximately two metres above the Lake, and on the east by a boggy area about 1.5 m below the bedrock ledge. Well worn trails criss-cross the entire site.

The camp is defined by clusters of tent poles on the ground, at least three tent spots, a probable meat rack, a latrine, a cache, two middens and various collapsed camp furniture (Photos 18-23). The cache, about 50 cm deep and 50 cm in diameter, has a lid

of stick-framed transparent plastic. Two collapsed tables made of debarked sticks nailed together in a triangular shape, are the furniture pieces in best condition (Photo 26). Adjacent to one table is a collapsed frame of poles arranged in a conical shape. However, the most notable item is a tree stump carving with two faces positioned over top of each other, resembling the theatrical "Comedy/Tragedy faces (Photo 24). This carving is located in a fairly open area at the camp's south end, facing northeast.

Though no definite Innu tent spots were noted, the double face carving was probably done by the Innu as it was not there during the geologists occupation (Ryan pers.comm.1992). Since the carving's prominent, mid-camp location would not have been overlooked, the carving must post-date their occupation. The probable meat rack appears large enough for hanging meat from a large mammal, suggesting former Innu use as well (Photos 20,24). Given these items plus the cut tree height and the southern exposure, this camp was probably used by the Innu during a Winter within the last 10-15 years.

This date estimate is bracketed by the well documented 1974 geology camp, apparently the first at the site (Ryan, pers.comm. 1992). Newspaper pieces found at the latrine describe the life of former Prime Minister Trudeau and his wife Margaret, suggesting the c.1970s date. In a midden there are also relatively well preserved cans of "Vitaminized Scotian Gold/Canadian Choice Apple Juice" and "Heinz Tomatoe Juice." The cultural affiliation of the group who used these products and their deposition date is difficult to determine.

GcCh-6 Loon View Island East

This site is well defined by many axe-cut tuckamore about 50 cm high on the southern-most island in this island cluster (Photo 26). The axe-cut trees are spread over an area measuring 30 x 15 m on a bedrock and boulder shelf. This area is about three m above the Lake and about three m inland from the Lake edge on the island's south side (Photo 27). The site is oriented east-west

with excellent southern exposure and a thick belt of trees to the north and west. It appears to have been used within the last ten years.

GcCh-7 Loon View Island West

A few axe-cut conifers about 50 cm high are located in a rectangular-shaped clearing at the western tip of this island, the same one as for GcCh-6 (Photo 28). The cut trees are positioned five m inland from a singular and distinctive bedrock point (Photo 29). The clearing, a natural feature measuring 30 x 20 m with a bedrock section bisecting it, is surrounded by trees and well protected from the wind (Photo 30).

The site does not appear to be a camp, but rather a locus for some unknown activity. The height of the cut trees suggests Winter cutting by the Innu for tent flooring within the last 20 years. However, the area may also have been used in the Spring to Fall period as the bedrock point is an excellent boat landing spot.

GcCh-8 East Arm View

A few axe-cut conifers were noted on the east side of a small point at about the mid-point on the Lake's south shore. A poorly defined U-shaped clearing, approximately 4.0 x 3.0 m, was also noted near the cut trees (Photo 31). It was tucked away in a grove of spruce on fairly level ground, while the conifers were on a 15° slope with good southern exposure overlooking a small cove. As with other sites of this type that do not appear to be camps, this spot may only have been used as a source for tent poles or tent floor boughs within the last 20 years .

GcCh-9 Canoe Landing

This site is defined by a cluster of three axe-cut logs, each about two m long, just south of a small creek. The logs were found adjacent to each other at the shore edge, aligned parallel with it (Photo 32). A well worn trail paralleled the creek and wound up to a pond about .5 km upslope and inland (east) from the logs. They

probably served as a canoe/boat launching point, and would serve to keep a canoe from being dragged over rocks at the shore. Innu informants mentioned that the bottom of this bay was part of a travel route between Pocket Knife and Camel Lakes approximately 40-50 years ago, as well as a trapping area (Nuk Nui pers.comm. 1992).

GcCi-1 West Ridge Lookout

This prehistoric site was defined by a debitage scatter covering a 600 m² relatively flat area on the ridge overlooking Pocket Knife Lake (Photo 33). Mauve coloured quartzite flakes and chunks were located in three loci on the edge of this prominent ridge (Photo 34). The main scatter of about 50 flakes lie on bedrock approximately 50 m north of the actual ridge summit, at a point overlooking the bottom of the Lake's south arm (Photo 35). The other two debitage loci along the ridge edge were 30 and 60 m north, respectively. The debitage at these two loci were comprised more of mauve quartzite chunks and core pieces (Photo 36).

Most of the site area is barren and treeless except for a few patches of tuckamore and caribou moss (Photo 37). As such, the site provides an excellent, 360° view of the surrounding ridge top and plateau, including the numerous quartzite and basalt boulders and outcrops scattered over the plateau. Much of this quartzite may have originated from a geological zone characterized by "quartzite, slate and conglomerate" (Geology Map 78171 Pocket Knife Lake). A north-south trending belt of this zone, 14a, lies approximately 200 m west of GcCi-1, while a second belt is 3.5 km west of the site. These belts could have been the source for the GcCi-1 mauve quartzite. East-west oriented glacial scours along the bedrock indicate the travel route of at least one glacial event (Photo 38), which could have transported quartzite from this zone to the site area.

GcCi-2 West Ridge Backside

This site was defined by about six pink quartzite pieces located 100 m south of GcCi-1. These fist-sized pieces were

clustered in a two m diameter area on a 25° west-facing slope (Photo 39). The slope is on the backside of the ridge overlooking Pocket Knife Lake, not on the ridge itself. The area has numerous pink quartzite boulders and cobbles, stone which appears to be of good tool-making quality i.e. quite flakeable. The site has good southern exposure and a fine view of two small ponds in the valley about 50 m down slope (Photo 40).

GcCi-3 North Arm Mouth

A number of chain sawed conifers and a tin can midden were located at the point of land on the Lake's north arm mouth, west side (Map 1). Two cans with their manufacturers labels printed on them were "UCO creamery butter" (United Coops of Canada, Toronto) and "Estabrooks Red Rose Coffee" (Photo 41). The midden and cut trees are spread over a relatively long, narrow strip on the point's south side measuring about 1000 m². Just inland from the forested strip is a boggy area with boulders.

As with GcCi-4 (below), this site was mentioned as a camping spot by Mary-Ann and Simon Michel (pers.comm. 1992) during travel between Pocket Knife and Snegamook Lakes within the last 50 years. The use of a chain saw and relatively good condition of the tin cans suggests this camp was occupied c.30 years ago.

GcCi-4 Sausage Lake Portage

This site was defined by eight, axe-cut tree stumps, all about 1.5 m high (Photo 42). The stumps, all debarked and nearly rotten, stand in two roughly aligned rows perpendicular to each other in an area measuring 10 x 12 m. A rectangular clearing measuring about 4.0 x 5.0 m is located within the tree stump area, located on a relatively level terrace on the southwest bank of the Pocket Knife Lake outlet stream (Photo 43). The streambank terrace, with about 50% tree cover, is mid-way along the stream and 10 m south of it. A few cut trees were also noted scattered along the northeast stream bank.

Innu informants mentioned this area was a camp spot during winter travel between Pocket Knife Lake and Snegamook Lake (Mary-Ann and Simon Michel pers.comm. 1992). The Pocket Knife Lake outlet stream and the series of lakes into which it flows formed part of the historic portage route between Lake Melville and the interior and the central coast. Use of this travel route by the Innu and others was documented during the 1920s (Scott 1933).

Given that forest trees often appear to be aligned, the position of the modified stumps may be a natural occurrence. Yet if the tree stumps and clearing in their midst reflects a former camp, then the stumps may have served as standing tent poles for the canvas cabin-style tents used by the Innu. Since most of the stumps averaged 1.5 m high, with only two having axe marks at their base, they were probably cut in the Winter. In that case the stumps were probably cut for the trees they formerly supported, which then would have been used for other purposes, such as tent poles. The canvas, cabin-style tents still used by the Innu require at least five poles, two at either end of the tent and one ridge pole, though more poles are often used (Henriksen 1973:22). The cleared, rectangular area within this stump cluster may have been a spot for that tent type. The condition of the stumps suggests occupation within the last 50 years.

GcCi-5 Small Point

Two small, axe-cut conifers about 50 cm high were noted in a clearing on a small point at the very bottom of the Lake's south arm (Map 1). The north-facing point, about 200 m in diameter, is only lightly treed with good south and east exposure and thick tree cover to the north.

Given the few cut trees and absence of obvious tent spots this site is probably not a camp, but an activity area of some sort. The "topped" trees suggest Winter cutting by the Innu for tent flooring within the last 30 years. Innu informants mentioned that the Lake's south-west bay was used as a camping area during portages over to Namaycush Lake (Mary-Ann and Simon Michel

pers.comm. 1992).

GcCi-6 Single Birch Point

A few axe-cut conifers were noted at the bottom of a small cove in the Lake's southwest bay, immediately south of the bay's southern-most island (Map 1). This is a lightly treed, fairly level area that faces north. This appears to be another activity area, not a camp, and the few "topped" trees suggest Winter cutting by the Innu for tent flooring within the last 30 years.

GcCi-7 Sausage Lake 3

This site was marked by 15 axe-cut stumps and a cluster of small stakes. The stumps averaged about one m high and the three stakes are about 40 cm long (Photo 44). The stumps and stakes are located on a small lake terrace on the northwest side of the first pond into which the Pocket Knife Lake outlet stream flows. Although most of the site area was heavily treed, there was a 25 m² clearing adjacent to the stake cluster which had a fair southern exposure. A small brook with a beaver lodge was located just north of the area at the pond's north end.

This site is on the travel route between Pocket Knife and Snegamook Lakes used by Innu informants within the last 40-50 years (Mary-Ann and Simon Michel pers.comm. 1992). The clearing, stakes and stumps may have served as a tent spot approximately 10-20 years ago, possibly for an Innu trapping camp given the nearby beaver lodge.

4.2 CROTEAU LAKE

GcCg-1 Croteau Peninsula Channel

This camp was defined by a tent spot with two overlapping wooden poles tied together with rope near their apex, along with a tin can midden (Photo 45). The midden contained a black plastic bag and a few "Scotian Gold" brand apple juice cans.

These items were on a small point approximately 250 m², on the

north shore of the lake at about its mid-point (Photo 46). A narrow channel measuring 5.0 x 3.0 m divides the point. The tent poles are on the north side in a small clearing surrounded by trees (Photo 47), and the midden on the south side in a grove of trees.

Given the relatively good condition of the tent pole lashing and the midden material, this camp was probably occupied within the last 20 years. Croteau Lake was not mentioned by the Sheshatshit Innu informants as an area in which they trapped or hunted, at least not during the last 50 years. However, the informants speculated that Davis Inlet Innu may have used the area (Mary-Ann and Simon Michel and Nuk Nui pers.comm. 1992). Alternatively, the camp may reflect use by geologists during their surveys in the central Labrador interior over the last six decades (Ryan 1984:161-64).

GcCh-5 Shore Tree

A single axe-cut conifer was noted on the east shore of a small point. This point, at about the mid-point on the Lake's north shore, marks the eastern border of a large bay. The cut tree is directly below the middle of the ridge on this point, about 50 m northeast of the point's tip (Photo 46).

As with other sites of this type that do not appear to be camps, this spot may only have been used as a source for tent poles or tent floor boughs. Since the Innu informants had little information about Croteau Lake, this site may reflect use by geologists (Ryan 1984:161-64).

4.3 SNEGAMOOK LAKE

GdCh-1 South Beach Outlet

Seven pieces of debitage were collected during the resurvey of this site, first recorded in 1991. These included five small Ramah Chert flakes and one relatively large flake of white quartzite (Photo 48). The flakes were found within four m of the low water mark during low water conditions. All the debitage came from an

area measuring 30 x 18 m at the beach's north end. The beach here is about 500 m south of the Lake's outlet, the Kanairiktok River.

At the high beach edge thick willow and alder grow, bounded by thick spruce on peat-covered sand dunes. Pieces of contemporary bottles and tin cans were scattered in the willow/alder vegetation, suggesting use within the last 10 years. A few axe-cut trees were also noted during shovel-testing of the spruce-covered hollow behind the dunes. No tent spot features were located, but this beach-edge hollow is very similar to Innu tent camp sites recorded in 1991 at Shipiskan Lake (McAleese 1992).

GdCh-3 North Beach Outlet

A hatchet head, with a few small pebbles wedged in it, was found at the southeast end of this beach (Photo 49). The poll or hafting hole in this somewhat rust covered hatchet appears to be narrower than that found in contemporary ones.

This south-facing beach is located at the north shore of the Lake's outlet, the Kanairiktok River. Because of fluctuating lake levels the beach here grew and shrank about three metres during our week-long camp, a situation which facilitated finding the hatchet head at the beach's extreme low water mark (Photo 50).

The hatchet head, on the order of 50 years old given its rust and non-contemporary shape, reflects recent/historic use. An unmodified quartz crystal was also found about 150 m northeast of the original site area on a west-facing beach. Two fine-grained, quartzite core flakes or exhausted, small cores previously recorded here (McAleese 1991), indicate the site's prehistoric use.

GdCh-4 Cabin Cellar

This log lined cellar or cabin foundation is located at the bottom of the Snegamook Lake northeast arm (Photo 51). The 16 m² feature is about 1.5 m deep, it is dug into a sandy matrix and is partially filled with contemporary garbage. The nails visible in the wood all appear to be relatively modern wire ones, suggesting

construction within the last 50 years.

The cellar is about ten metres south of the present Labrador Airways cabin in a small grove of spruce just above the high beach line. A relatively large stone/brick fireplace and chimney is located about five m east of cabin. Contemporary garbage is strewn about the site area and there are numerous small middens along the bush at the high beach edge.

GdCi-2 Boat Camp

This camp is located in a grove of birch on the high beach at the lakeshore about 650 m southeast and across from the long island in the Lake's east end. The artifacts at this site, recorded in the previous field season (McAleese 1992), have suffered some damage over the year. The transom of the 18' wood-canvas freighter canoe has been partially crushed by a few relatively large birch limb pieces which have fallen on it (Photo 52). The rest of the boat is still in relatively good condition, with most of its horizontal strips still nailed onto the five vertical ribs (Photo 53). It appears to be about 20 years old.

The folding canvas-wood "director's" chair noted in 1991 has also been taken from its original location in one of the site tilts and redeposited on the beach in a broken state. At least one tool, a bastard file, has been taken from the same tilt. Given this disturbance this site has definitely been visited by someone over the year. During the 1992 oral history research, David Nuke of Sheshatshit mentioned that Innu from the community hunted and trapped at Snegamook Lake during the 1991/1992 winter.

GdCi-3 Bird Islet

A somewhat battered quartz pebble on the east side gravel/shingle beach was noted here (Photo 54). Although not clearly worked, its condition and singularity suggested aboriginal deposition. However, given the durability of quartz it may simply have eroded out of a host rock from the north end of the beach (Photo 55).

GdCi-5 Spike Point

This site is defined by a two eight inch spikes and a cast, L-shaped iron bracket. The bracket is about ten inches long and has two notches and five screw/nail holes (Photo 56). All the pieces, which are relatively new looking with little rust, suggest recent use, i.e. within the last 10-15 years. The bracket resembles part of an outboard motor boat transom section or motor attachment.

The site is located on a similar type of reddish granite point as GdCi-6, one km westward. GdCi-5 is approximately 1.75 km south of the long island at the east end of Snegamook Lake, and approximately 2.25 km west of the mouth of the Lake's northeast arm. GdCi-5 is quite barren with only a little wind-swept tuckamore covering it. There are good views east, south and west from it's summit, about four m above the lake.

GdCi-6 Flag Point

A home-made flag comprised of an orange garbage bag tied on a pole was noted at this distinctive bedrock point of reddish granite. A spice jar and some 12 guage shotgun shells were also seen here, spread over an area approximately 50 m². The flag was rolled up around the pole and lying on the ground beneath some trees.

The point is quite barren with only a little wind-swept tuckamore and a few red currant bushes growing on it (Photo 57). From it's summit, about five m above the lake, there are good views east, south and west (Photo 58). South of the point approximately 1.75 km is the long island at the east end of Snegamook Lake, while east of the point approximately 1.25 km is the mouth of the Lake's northeast arm.

The 12 guage shells suggest the site was probably used for bird hunting while the flag indicates a signalling function, perhaps for boat transport. GdCi-2, almost due south of the point and across the Lake, has the remnants of a wooden boat. The good condition of the artifacts suggest the camp cannot be more than c.10-15 years old.

GdCi-7 Long Island

There is a round depression about 2.5 m in diameter by 35 cm deep in the boulder field at the south tip of this long, narrow island at the Lake's east end (Photo 59). No rim was visible around this saucer-shaped depression and no artifacts were associated with it. Scattered within and around it are the skeletal remains of a large mammal, probably a moose. Small avian bone, probably duck, was found on the beach near the boulder field as well, and none of the bone was worked. This narrow, low island is very thickly covered in willow and alder, and most of it is comprised of sand, though its shore is nearly all shingle beach and boulders (Photo 60).

SITE and ARTIFACT INTERPRETATION

5.1 Introduction

Description and analysis of the artifacts and their provenience will be dealt with first. Only the sites with the most diagnostic artifacts will be discussed in any detail. Regional comparisons of the small artifact collection will also be made.

In terms of settlement and subsistence interpretation, new type classifications for the 1992 sites will not be attempted given the small number of sites and artifacts. Oral history environmental data will be drawn on in order to help interpret site seasonality and economy.

5.2 POCKET KNIFE LAKE

GcCi-1 West Ridge Lookout

The bulk of the mauve quartzite flakes recorded here measure between 5.0 and 10.0 cm in diameter. Many have percussion bulbs and striking platforms but none have been retouched. The roughly linear-shaped flake scatter measured approximately 10 m x .50 m (Photo 35). A cluster of flakes is located at the northeast end, overlooking the cliff edge. A few of these flakes are mixed in with the moss cover, but most lie on the bedrock surface. Slightly modified fist-sized chunks lie within a 100 m radius of the debitage, while a few slightly larger pieces and some small cobbles of the quartzite raw material lie within 200 m.

GcCi-1 appears to be a briefly used reduction station given the absence of retouch and of incomplete or finished tools. The few larger, modified pieces north of the main scatter suggest an early stage in this process while the smaller, relatively uniform sized flakes suggest a later manufacturing stage.

This location also appears to have been a hunting lookout point, with its impressive view of the hills and terraces below and of Pocket Knife Lake. The site would have been relatively fly free as well as it is totally exposed, along with most of

this ridge (Map 1; Photo 33). The provenience and probable functions of GcCi-1 suggest it was used between Spring and Fall.

GcCi-2 West Ridge Backside

Only a few of the reddish quartzite pieces were conchoidally fractured. One piece appears to have been slightly worked with two flake scars and a striking platform visible (Photo 62). The size of the pieces and the absence of smaller flakes or tool fragments suggests this site is a small, briefly used lithic reduction station. If so, GcCi-2 would have been used between Spring and Fall.

GcCh-4 Double Face Camp

This camp illustrates the ambiguity of recent sites in terms of cultural affiliation. If similar types of camping equipment and imported supplies are used by both aboriginal and non-aboriginal people at briefly occupied camps, it is difficult to distinguish a site's cultural affiliation and occupation sequence.

In the early 1970s this distinct, tree-covered bedrock point was occupied by Newfoundland Department of Mines and Energy geologists. Yet the camp's stacked tent poles and wooden camp-furniture remains resemble those at Innu camps recorded by the author in 1991 at Shipiskan Lake, 35 km to the northwest (McAleese 1992). This southwest quadrant of Pocket Knife Lake is in an area traditionally used by the Innu (Enum Abraham pers.comm. 1992). Innu informants mentioned that points of land with berries and small mammals were preferred for establishing trapping camps (Mary Ann and Simon Michel pers.comm. 1992). As with other Pocket Knife Lake camps, this one was probably used for that purpose and for fishing and caribou hunting (Enum Abraham pers.comm. 1992) between Fall and Spring. Finally, the Innu are no doubt responsible for carving the double face sculpture (Photo 24), probably within the last 20 years.

5.3 SNEGAMOOK LAKE

GdCh-1 South Beach Outlet

The five small Ramah Quartzite flakes collected here are of a uniform small and roundish shape (Photo 62), which suggests just one phase in the manufacturing process, probably resharpening. A greater quantity of debitage would be expected if lithic reduction or large-scale tool manufacture had occurred.

A number of unusual purple sandstone slabs lie on their sides in a cluster at about the midpoint of the sandy beach. These slabs, initially interpreted as site "furniture," are not artifacts proper but their provenience can indicate how a site may have functioned i.e. perhaps hearth reflector stones.

However, the relatively large size of the stones, about 1.5 x 1.5 x .30 m, suggests they did not function as such and are probably non-cultural.

Except for the one slightly larger and more weathered whitish quartzite flake recovered, the 1992 debitage is very similar in size and raw material to the one Ramah Chert and two translucent quartzite flakes collected here in 1991. The quartzite flakes are probably from local sources, such as quartzite veins and cobbles found along the Snegamook Lakeshore (Photo 63).

Although a small collection, the nine pieces of debitage from GdCh-1 comprise the largest collection in the study area. Therefore this is a relatively significant site, given the reconnaissance nature of the survey. Little can be said about this site's settlement-subsistence role, and much of it is speculation. The mix of Ramah Chert and local quartzites suggests this may be a Saunders complex assemblage (Denton and McCaffrey 1988; Fitzhugh 1972) dating to c.3500-2800 BP. It has been suggested that the people who produced this kind of assemblage followed a settlement-subsistence system in which they spent their summer's on the coast (Fitzhugh 1973:137). If so, this seems to rule out summer use of GdCh-1 and therefore implies a Fall to Spring occupation.

This use period is supported by the site's provenience on one

of the Lake's largest, east end beaches (Map 1). This beach is relatively close to the Snegamook Lake outlet, the Kanairiktok River, a position which would have made it easily accessible for camping and as a canoe landing spot between Spring and Fall. In Winter the beach would probably have been too exposed for occupation, though the few cut conifers noted in 1992 adjacent to the upper beach edge suggest how an inland location might have been used during prehistory. There is an excellent view of the lake from the beach, an advantageous location for receiving warmth from the sun, especially during its low Winter and early Spring position. Therefore, a brief but perhaps regular occupation during the Spring seems likely, perhaps as a fishing camp given its lakeshore location. The tin can and bottle debris found on the upper beach edge indicates recent use within the last 10-15 years.

GdCh-3 North Beach Outlet

Based on style comparisons the hatchet head appears to be a Hudson's Bay Company "Pattern Axe" dating to the late 19th - early 20th century (Brown 1993:50-55). These were made by the Welland Vale Works, a tool manufacturer which began operating in St. Catherine's, Ontario in 1869 (Brown 1993:50-55). The hatchet head was X-rayed at Memorial University's medical facilities in order to determine if there was any identification data, such as manufacture's marks (Photo 64). Unfortunatley, none were revealed.

In speculating on the head's provenience, the relatively good condition suggests recent deposition. This may have been by the Innu, given their historic and recent use of Snegamook Lake (McAleese 1992), including operating a former fish camp located at the bottom of the Lake's northeast arm. Alternatively, both geology exploration crews and federal fisheries staff have visited the Lake over the last 30 years, visits which may have resulted in deposition of the hatchet.

The single quartz crystal recorded here in 1992, along with the two white quartz core flakes found in 1991 (McAleese 1992) indicates prehistoric use. The crystal, though unmodified, is a

type and form of stone tool raw material commonly used for tool making. Patinated cortex covers about 30% of its surface.

GdCi-2 Boat Camp

This site, initially recorded in 1991, was interpreted as a bird and perhaps moose hunting camp (McAleese 1992). The 18' wood-canvas boat recorded here appears to be a freighter canoe given its squared transom and curved bow (Photos 52,53). Each side of the hull is made of approximately 10 horizontal strips covered in canvas and nailed onto five vertical ribs. The relatively good condition of the nails and wood used in it suggest manufacture within the last 20 years.

The boat may have been used to transport people around the Lake since GdCi-2 is across the Lake from GdCi-5 and 6 (Map 1). A coiled flag noted at GdCi-6 was probably used for signaling, while the iron piece noted at GdCi-5 may have been part of an outboard motor mount (Photo 56). GdCi-2 is also directly south of the long island in the Lake's east end, a possible bird hunting location.

A similar looking boat to that found at GdCi-2, though heavily damaged, was noted in 1991 on the portage trail at the first major Kanairiktok River rapid downriver from Snegamook Lake (Map 1).

GdCi-3 Bird Islet

Given the islet's glacially-derived boulder/cobble composition, determining occupation and use at GdCi-3 is problematic. The features tentatively identified for this site in 1991, rock-lined boat runs, tent features and wall-like alignments, may not be cultural. They were previously interpreted as "site furniture," not artifacts proper, but their provenience can effect the ease of landing a canoe and establishing a camp. During the resurvey it was clear that some of the shore features were somewhat disturbed compared with their 1991 condition. The apparent alignment of the rocks was probably the result of glacial ice and shore ice activity (Photos 54,55).

GdCi-7 Long Island

The depression here is probably natural given the boulder field's lack of artifacts, undulating surface and shore edge location. The shore edge here, as with GdCi-3, is probably subject to lake ice pressure.

However, the depression is suggestive of a cache pit, while its 2.5 m diameter is large enough to be the remains of a small house pit (Photo 59). A tent ring seems less likely as there is no visible rim. The large mammal bone scattered around its edge appears to have been deposited fairly recently i.e. within the last five years, given its relatively fresh appearance and surface provenience.

GEOLOGICAL SAMPLE/ARTIFACT ANALYSES & SOIL DESCRIPTIONS

6.1 Introduction

Petrographic analysis via thin sectioning and X-ray fluorescence (XRF) were the methods used to study mineral composition and structure of the rock samples (Williams *et.al.* 1982). Both petrography and XRF have been previously used by archaeologists for analysis of Ramah Chert and other Labrador lithic materials (Lazenby 1980; Luedtke 1979,1978). In addition to these practices, laboratories are readily available and the analytical procedures are standardized and reasonably priced.

With XRF analysis, approximately 10g the sample is heated and ground into a powder in order to form a pellet. This is bombarded with X-rays in order to determine its trace element composition (Hutchison 1974:290-295). Both analyses were coordinated by Jeffrey Button, the author's a student geologist and the author's field assistant, at Memorial University's Earth Sciences Department. His summary of the analyses follows (Sections 6.2-6.4; Photos 65-71; Tables 1-3).

6.2 Overview

During the 1992 archaeological survey of Pocketknife, Croteau and Snegamook Lakes, simple descriptive parameters were recorded for the soils and bedrock at selected test sites. This included Munsell colour codes and pH analysis for the soils, and descriptions of hand samples from bedrock outcrops. Where bedrock was suitable for stone implement manufacturing, samples were collected for thin sectioning and petrographic analysis. Also, a flake from GdCh-1 and one from GcCi-1 were thin sectioned for comparison with petrographic descriptions of known prehistoric quarries along the northern coast of Labrador.

6.3 Soil Characteristics

Soil development is not extensive around Pocket Knife and Croteau Lakes. Near the shorelines, test pits could rarely be dug to greater than 0.6 m before encountering dense cobble and boulders. The area falls within the zone of scattered permafrost (Fisheries and Environment Canada, 1978, map 32), and at several sites frozen ground occurred at about 0.3 m below surface. Large, exposed boulder fields are a frequent feature along the shores of these lakes, the stone being derived from local outcrops. The high ridges are almost exclusively bare rock.

One notably thick sand deposit occurs on the west shore of Pocket Knife lake, to the north of the inlet stream. Here test pits could readily be dug through fine sand to greater than 1.0 m. No stratification or structure was observed to this depth. The deposit is presumably a glacial feature, being roughly drumlinoid, and about 75 m long across the base.

Thick sand deposits are by contrast extensive at the east end of Snegamook Lake. The banks of the Kaniariktok river, at its outlet, are cut through 8 to 10 m of fine sand. This aerially extensive cover would seem to have high potential for prehistoric site preservation.

Soil profiles in all areas consistently showed the typical horizons of podzol development, with little variation in colour. A representative sample from Pocket Knife Lake gave the following Munsell colour codes:

Horizon	Munsell Colour Code
Organic Layer (wet)	10 R 2.5/2
" (dry)	10 R 2.5/2
Leached Layer (wet)	10 YR 4.5/2
" (dry)	5 YR 7/1
Sesquioxide Layer (wet)	5 YR 3/3
" (dry)	7.5 YR 5/4

This sample was also used for pH determination. For each of the three horizons, the soil fraction passing through a 2.00 mm

mesh was mixed with an equal volume of deionized water. The slurry was given half an hour to equilibrate, and it's pH then determined potentiometrically with a meter calibrated to known buffers of pH 4.01 and 6.86 (Black, et al, 1965):

Horizon	pH
Organic Layer	3.58
Leached Layer	3.67
Sesquioxide Layer	4.63

These readings indicate rather acid conditions in the soil.

6.4 Petrography

It has been suggested that the Pocket Knife Lake area might be the source for stone implements manufactured from Saunders Chert (McCaffrey et. al., 1986). Petrography has proven useful in distinguishing visually similar lithic sources; notably, Lazenby used thin section analysis to differentiate between four different stone sources along the northern coast of Labrador (1980). At least two of these sources were known prehistoric quarries.

Results of petrographic analysis for three outcrops around Pocket Knife and Croteau Lakes are presented here, along with a description of a stone flake found at GcCi-1 and one at GdCh-1. Thin sections were ground to the standard 0.3 mm thickness at the lapidary shop of the Earth Science Department and examined under plane polarized and cross polarized light with a transmitted light petrographic microscope. Where possible, optical properties were determined on individual mineral grains. All stratigraphic names for this area are taken from Smyth and Ryan, 1979.

GSA 26 (west end of Croteau Lake)

This sample is fairly representative of the upper strata of the Brown Lake Formation within the Bruce River Group. The hand sample is a pink, laminated siltstone with some dark red banding

(Photo 67). Lamillae are approximately 1.0 mm thick. Under magnification and in plane polarized light the lamination is seen to persist to about 0.1 mm thickness for individual layers. The section presents a dusty look, created by fine clays and/or opaques which are dispersed so as to give a distinct textured appearance. Crossed polars reveal the groundmass to be mostly very fine quartz of silt size. Numerous inclusions of quartz and opaques of about 0.1 mm diameter also occur.

GSA 32 (north ridge of Croteau Lake)

This is a light green laminated siltstone. The hand sample is distinguished by orange-brown reduction spots of about 2.0 mm diameter. Weathered surfaces are white. Magnification again shows lamination to persist to about 0.1 mm thickness (Photo 68). Though somewhat dusty in plane polarized light, it lacks the distinctive texture of GSA 26. The lamillae are defined by crinkled layers of very fine opaques and/or clays. This and the previous sample show some small, curved fragments in places, which appear to be glass shards; these rocks have in fact been classified as tuffaceous sandstones and acid tuffs (Ryan and Smyth, 1979). This feature could possibly be used to good effect where thin sections of implements made from the Saunders Chert are available for comparison.

GSA 33W (south ridge of Croteau Lake)

This sample was collected from the Sylvia Lake Formation, described by Ryan and Smyth as "...green to gray mafic rock. Locally...amygdaloidal and porphyritic" (1979). The locality is of interest here because of the occurrence of workable gray to mauve chert nodules within the country rock (Photo 69).

The host rock has well-rounded quartz grains, 1.0 to 2.0 mm on the long axis, which are comprised of much smaller grains. Subhedral plagioclase, up to 2.0 mm long and frequently twinned, is also present.

Individual grains in the chert are visible only under the

highest power objective. Fine quartz veinlets cut the chert but not the host rock. Again, the chert appears dusty under plane polarized light. Minor chlorite (pale green and non-pleochroic) occurs in both chert and host rock. Traces of carbonate (probably calcite) appear as high order interference colours under crossed polars, in both chert and host rock.

GcCi-1 (west ridge, Pocket Knife Lake)

This sample is from a scattering of flakes found on one of the exposed sections of outcrop. It is a mauve quartzite with no visible banding. It may have originated in the Seal Lake Group of rock which is exposed in the high ridges rising abruptly above the west shore of Pocketknife Lake. Locally it consists of quartzite units of various colours, with basalt sills intruding them. In places the quartzite is good quality, workable stone.

The sample's individual quartz grains range approximately from 0.3 to 0.5 mm on their long axes, are subangular, and have rough contacts (Photo 65). Long axes are aligned to give a strong grain fabric. The quartz shows undulatory extinction indicating that the rock has been subject to strain (Photo 66). Opaques are scattered throughout the rock; these are anhedral, generally less than 0.1 mm in diameter, and comprise about 5% of the modal mineralogy. There are also several grains of a highly birefringent mineral showing first order greens and reds under crossed polars; under plane polarized light these are yellow-green and non-pleochroic. The grains were too small for reliable optical parameters to be determined, and an identification was not possible.

GdCh-1 (South Beach Outlet)

A number of gray, translucent stone flakes were found scattered along the beach were suspected to be Ramah Chert prior to microscopic examination. They ranged from about 1.0 to 5.0 cm along their longest axes. They were clearly distinguished from the natural beach material by mineralogy and by degree of roundness. For example, the Snegamook Lake beaches are comprised mostly of

felsic minerals, the quartz of which is generally opaque and milky in colour; sand grains are very well rounded.

Lazenby (1980) has shown that for at least four different rock types along the northern Labrador coast, including Ramah Chert, visual inspection alone can be unreliable. For comparison with her descriptions, one of the smaller Ramah Chert flakes was thin sectioned and examined microscopically.

Under plane polarized light the thin section showed no variation in relief and was quite featureless (Photo 70). With crossed polars only the low, medium gray interference colours of quartz were present. Grains ranged approximately from 0.1 to 0.2 mm in diameter, a size more characteristic of quartzite than quartz. The grains were subangular, anhedral and had fairly smooth contacts (Photo 71).

Though this sample lacked the pronounced fabric of Lazenby's Ramah Chert sample 77-4 (1980), undulatory extinction indicated that the rock had undergone some strain. The quartz was optically positive and uniaxial (higher temperature polymorphs may be negative and biaxial).

Clearly, this material very closely matches Lazenby's sample 77-4 from the Ramah Bay quarry. In terms of grain size and shape, grain contacts and strain indicators, it is unlike her descriptions of Saglek Quartzite, Ryan's Quartz or Cod Island Chert.

Lazenby quotes Morgan (1975) to the effect that the Ramah Group between Nachvak Fjord and the north shore of Ramah Bay is less deformed than outcrops south of Ramah Bay. It is possible that the material collected at Snegamook Lake was quarried from the outcrop north of Ramah Bay since it appears less strained than the sample from the Ramah Bay quarry itself. However the scale of strain homogeneity within the Ramah Group would have to be established in detail to validate this suggestion.

6.5 Additional Chert Analyses

6.5.1 Introduction

All of these analyses were undertaken in order to

investigate the geochemical composition of Saunders Chert, as well as to determine trace element composition of the samples for sourcing purposes.

6.5.2. Saunders Chert

One of the principal research goals of the Interior Waterways Survey was to locate Saunders Chert source(s). Chert is a "microcrystalline quartz with very few chemical impurities substituting in crystal structure but often with abundant impurities trapped as microinclusions" (Rapp 1985:358). This rock type is generally considered to be a fine grained sedimentary rock formed through chemical precipitation in a marine environment.

During the course of the field work and analyses, it became apparent that the Saunders Chert geochemical characteristics were not well defined. The original Saunders designation referred to a group of fairly distinct fine-grained cherts and felsites, and a grey banded lava (McCaffrey 1989:115-16). Saunders Chert colours include lavender, pink, purple, tan and green-black. The Chert often contains light-colored inclusions and is occasionally coarse-grained (McCaffrey 1989:115-16).

The above general description of Saunders Chert allowed for the inclusion of quite a range of material, especially since colour and inclusion percentages can vary over a few metres distance in an outcrop. In addition, no detailed geochemical analyses defining Saunders Chert elemental constituents were available. Thus it appeared that a more precise geological assay was required in order locate possible source areas.

6.5.2.1 Microscopy

A petrographic study of Saunders Chert was first undertaken with Ryan, a geologist, using a Zeiss microscope. The Chert samples, from both the interior and the coast, included one scraper from GdCn-1, Shipiskan Beach, and 11 scrapers from

GlCg-1, Daniel Rattle near Davis Inlet (Loring 1988). These scrapers appeared to typify Saunders Chert as they manifested most of the previously mentioned visual characteristics.

Surprisingly, this microscopic study was not able to determine any petrographic characteristics of the scrapers that reflect their chert composition. Diagnostic characteristics that were absent include glass shards, inclusions different from the ground mass, grain size and grain orientation (see Section 6.4)

The scrapers are made of an extremely fine grained material which appears not to be chemically precipitated chert, but instead quartz rich mudstone, either argillaceous (clay based) or siliceous (silica based). Alternatively, they may be a rhyolitic dust tuff/tuffaceous volcanic sediments (Ryan pers.comm. 1992).

The mudstones, like chert, are sedimentary rocks but they differ from it in their constituent elements and in their formation process. Sedimentary rocks are also transitional in nature, that is, one can grade into another. Grain size and structure can change depending on various environmental processes. For example, argillaceous and siliceous mudstones can grade into finer cherts given the right combination of minerals and deformation (Williams et.al.1982:297-317).

Rhyolitic dust tuffs, comprised mainly of ash and pebbles, are formed via volcanic eruptions (Williams et.al.1982:260), or on the chilled or rapidly cooled margin of a magma chamber. Tuffaceous volcanic sediments are similar to the dust tuffs, except these are deposited in low-lying regions and become mixed with sand, mud and gravel (Williams et.al.1982:261).

The only artifact studied whose composition was determined is the distinctive black scraper GlCg-1/56 which appears to be made of fine grained quartz (Ryan pers.comm. 1992). This analysis then, has been unsuccessful in providing distinctive Saunders Chert characteristics, although it has served to correct what appears to be a mistaken identification of the GlCg-1 scrapers.

6.5.2.2 ICP/Mass Spectrometry

A Saunders Chert flake from GfCc-1 near Marshall Falls on the Kanairiktok (McAleese 1992), was analysed via ICP (Inductively Coupled Plasma) Mass Spectrometry (Table 4; Graph 1). Although found on the surface and therefore subject to physical and chemical weathering, this lavender and white banded flake with white inclusions appeared to be a fair example of Saunders Chert (Section 6.5.2).

It was verified as a chert based on its geochemical composition (Table 3; Graph 1). The anomalous position of the rare earth element Ce (Cerium), compared with neighbour elements on the chondrite-normalized graph, reflects Cerium's depletion from the sample via precipitation in sea water. Chert's typically have this Ce anomaly, which is indicative of their origin in, or contact with, a marine environment (Fryer 1983:347).

6.5.3 X-Ray Fluorescence

The siltstones (GSA 26,32,33W) and the quartzite flake from GcCi-1 were analysed via XRF as budget limitations precluded ICP Mass Spectrometry in their case. Ten oxides and 19 elements were present in the siltstone and quartzite samples, though not all were present in each (Tables 1,2,4). In general, the analysis indicates a heterogeneous suite of elements with a few extremely high percentages, though most register less than one percent. The outstanding percentages of SiO₂, 77.91 to 95.42, are not unusual given that cherts and chert-like rocks are composed mainly of SiO₂ (Table 2). However, this high concentration creates an imbalance with regard to the amount of other elements present in very small percentages i.e. TiO₂.

Since few studies of this kind have been done, comparisons with other chert geochemical signatures are restricted. One comparison that can be made is between major element oxides in

GSA 33W, a Croteau Lake chert, and nine samples of Ramah Chert analysed in a previous study (Rutherford and Stevens 1991; Table 2). It can be seen that there are considerable differences in the percentages of most elements i.e. SiO₂ and Al₂O₃ at about ten percent, and Na₂O and Fe₂O₃ at about three percent. These differences would be useful for differentiating the two cherts if their original proveniencing data were deemed inadequate, especially given the unreliability of visual inspection.

DISCUSSION/RECOMMENDATIONS

7.1 Introduction

The significance of the geological analyses will first be summarized and discussed, followed by an assessment of the archaeological field work. Based on the 1991 and 1992 surveys, certain areas within the Kanairiktok River Basin can be highlighted for further research. This highlighting reflects the overall context of managing the region's cultural resources as well as three specific research goals: locating stone tool source and quarry sites, investigating prehistoric settlement and subsistence patterns and investigating historic travel and exchange routes.

7.2 Geochemical Analyses

7.2.1 Saunders Chert

The ICP Mass Spectrometry analysis of the Saunders Chert flake clearly defined its geochemical signature. Interpreting the Saunders Chert scrapers from GlCg-1 (Daniel Rattle) as fine-grained siliceous rocks, though not cherts, is tentative given that they were only subject to microscopic analysis. That analysis suggests that their composition reflects volcanic origins rather than sedimentary. These results will aid future Labrador chert studies, and in terms of future field work are discussed further in Section 7.2.3.

7.2.2 Other Lithic Samples

A summary of the physical characteristics and structural fabric of the siltstone and other chert samples is presented below. These characteristics include grain size, appearance, degree of angularity/deformation and crystal arrangement. Some of these samples appear to be good examples of flakeable stone (Photos 64-71).

GcCi-1 (photos 64-66) - the quartz grains are from 0.3-0.5

mm on their long axes, with opaques of 0.1 mm evenly distributed; the quartz grains are subangular and somewhat deformed as they show undulatory extinction; their long axes are aligned which gives strength to the fabric, and which probably aids in tool manufacture.

GSA 26 (photo 67) - the fine pink siltstone (tuffaceous sandstone) grains rest in layers less than 0.1 mm in diameter, though opaques and quartz inclusions are slightly larger.

GSA 32 (photo 68) - grain layers less than 0.1 mm in diameter, but with greenish grains and less distinct layering than GSA 26; weathered surfaces are white with orange reduction spots about 2.0 mm in diameter; probable glass shards in GSA 32 and 26 are diagnostic of their tuffaceous (volcanic) nature.

GSA 33W (photo 69) - size and angularity of the extremely fine grey chert grains is difficult to determine - their diameter is approximately less than 0.1 mm, while that of the quartz grains in the mafic host rock is 1.0-2.0 mm; the chert also has fine quartz veinlets and possible traces of calcite.

GdCh-1 (photo 70) - the quartzite grains in this Ramah Chert flake are 0.1-0.2 mm in diameter; they are subangular and somewhat deformed (undulatory extinction); the grains are very homogeneous and have well defined boundaries; these boundaries may allow for good conchoidal fracture when Ramah Chert is worked into tools.

7.2.3 Lithic Sample Recommendations

Additional Saunders Chert samples need to be analysed in order to determine the geochemical range to the signature. ICP Mass Spectrometry provides the most detailed breakdown of the material's elements and therefore the most exact isotopic signature. This procedure would require only one milligram samples, a much less invasive and destructive technique than thin sectioning and XRF. With this technique not only could flakes be sampled, but so to could tools, including the scrapers mentioned in this study. However ICP Mass Spectrometry analysis is

considerably more costly than thin sectioning and x-ray fluorescence, i.e. \$120.00/sample versus less than \$25.00/sample.

Assuming the GlCg-1 and GdCn-1 (Shipiskan Beach) scrapers are volcanic in origin, then surveys and sample collecting should be conducted in areas with volcanic rocks. One promising looking outcrop is near the bottom of Flowers Bay (Map 13N/10-15; Ryan pers.comm. 1992), about 30 km southeast of GlCg-1. Other outcrops that should be investigated are the tuffaceous sandstones of the Brown Lake Formation, Bruce River Group (Map 13/K6) in the high country west of Pocket Knife Lake.

Ramah Chert flakes should also be included in this study as there are differences in constituent elements within the Ramah Chert beds. A good match between samples and the Ramah Chert beds would help to ascertain the sample source area within the beds. Button argues (Section 6.4) that the Ramah Chert flake analysed via microscopy resembles a sample that Lazenby collected from the north shore of Ramah Bay. ICP/ Mass Spectrometry or some other isotopic analysis method, such as XRF, could verify a Ramah Chert artifact/source match given adequate sample size.

7.3 Archaeological Survey Recommendations

Certain characteristics of the Kanairiktok River Basin's paleoenvironment suggest territory for future surveys. One of these is the Kanairiktok River's former mouth area, c.35 km west of the present mouth. Marine sediments and shells dating to about 7900 years ago have been located c.35 km west of the present Kanairiktok River mouth (Awadallah and Batterson 1990:372-73). These reflect deglaciation and its effects, i.e. land submergence and sea level rise, which would have combined to shorten the lower Kanairiktok east of Snegamook Lake relative to its present length (Map 1). This ancient river mouth/sea shore area may have provided suitable resources and terrain for prehistoric occupation, such as the Maritime Archaic Indians. Any other post-glacial features in the vicinity, such as paleo-

beaches of ancient lakes, should also be investigated. Coastal and lakeshore beaches would have provided good camp spots during prehistory.

The upper Kanairiktok River basin may also have deglaciated terrain suitable for prehistoric occupation. Snegamook Lake and perhaps Shipiskan Lake appear to have been ice free by c.7000 BP (Pintal 1990 Figs.14,15; Clark and Fitzhugh 1990:303). This deglaciation may have exposed the present highlands between Snegamook, Seal and Pocket Knife Lakes (Map 1). Today these north-south trending highlands, c.450-600 m asl, provide excellent views of the surrounding countryside. A flake scatter was found almost immediately by the 1992 survey crew during a cursory survey along a highland ridge overlooking Pocket Knife Lake's west side (Photos 33,34).

One site is slim evidence for use of this territory, but it may reflect a preference by prehistoric peoples. If the caribou moss, lichen and scanty forest cover growing today is characteristic of the area's vegetation during post-glacial times, then this region would probably have been good caribou habitat. This factor would have been an important lure for prehistoric peoples to the area. Also, the region's scanty alpine/sub-alpine vegetation cover and quartzite rich geology would have aided prehistoric peoples in their quest for flakeable stone.

These highlands would also have been closer to the sea as a result of deglaciation-caused land submergence and sea level rise. It is noteworthy that a probable interior Maritime Archaic site (HaCv-4) has been recorded north of the Kanairiktok River Basin near the upper headwaters of the Kogaluk River (Ryan and Biggin 1987:7), approximately 170 km inland from the coast in a similar environment to the highlands described above.

The highlands, with their relative absence of vegetation and easily visible geology, positively affect archaeological field work. Surveying the heavily forested lakeshores and riverbanks at the lower elevations with only a small crew was difficult.

The few prehistoric sites recorded reflect this problem. Therefore, in terms of ground survey technique, a systematic high elevation survey of this region should be undertaken.

Not only are field conditions more favourable in the highlands, but surveying them also serves to balance the bias introduced by an assumption of prehistoric occupation based on a model of lowlands historic settlement. During prehistory, it may have been the highlands, not the lower riverbanks and lakeshores, that were more heavily used.

In terms of locating more recent Montagnais/Naskapi sites, detailed surveys should be done of junction points along the historic overland route connecting the Northwest River area with the central coast. These locations may have been used as seasonal camp spots, use which would leave more of a record than travel along the route itself. For example, portage locations such as the point approximately 30 km upstream from Kanairiktok Bay where the route along the Kanairiktok River left the Valley for Ugjoktok Bay (Scott 1933:116-33; Map 3). Employing Innu informants or field assistants should be mandatory with this approach.

Finally, the compilation of a geographical information system (GIS) of Kanairiktok River basin archaeological sites would be a worthwhile endeavour in terms of both resource management and future research. This type of computer system enables different kinds of spatial data, such as points and polygons, to be combined and analysed. Patterns and statistical relationships evident in this spatial data can then be studied. For example, 1:50 k topographic map data can be combined with air photo/satellite imagery data in order to investigate terrain features or land use changes over time (Simms 1992:6-7).

The Kanairiktok River basin GIS could include a wide range of environmental data pertaining to archaeological site locations. The GIS would aid resource managers in monitoring impacts to the resource base. In terms of research, it could be used to generate predictive models of archaeological site

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potential for the Kanairiktok, models which could then be tested through ground survey.

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Nui, Nuk
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Maps, Figures, Tables

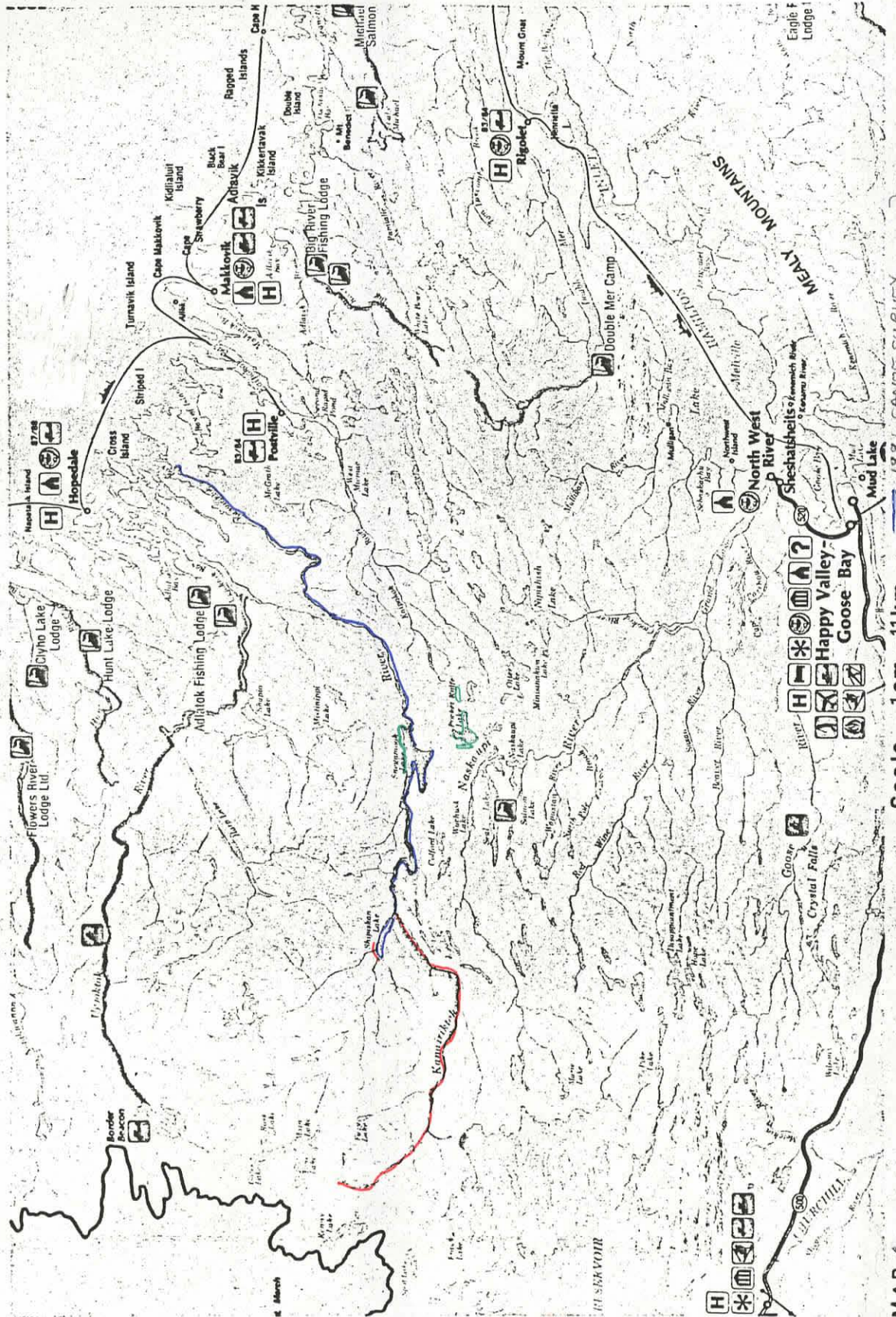
Map 1
 "A Visitor's Guide to Travel in Labrador." Memorial University Geography Dept., Cartographic Laboratory. 1986.

Map 2
 Map 1079A "Snegamook Lake." Geological Survey of Canada. 1959.

Map 3
 "The Kenamu River and Northwest River to Hopedale." J.M. Scott **The Land That God Gave to Cain - An Account of H.G. Watkins Expedition to Labrador, 1928-29.** Chatto and Windus, London, and Penguin Books. 1933.

Figure 1
Chondrite-normalised plot: Taylor and McLennan, **The Continental
Crust: its Composition and Evolution**. Blackwell. 1985.

CENTRAL LABRADOR



1991 CANOE SURVEY } PLUS SHOVEL TESTING
 1991 HELICOPTER SURVEY }
 1992 CANOE SURVEY }

Scale 1cm = 11km

MAP 4.



Legend

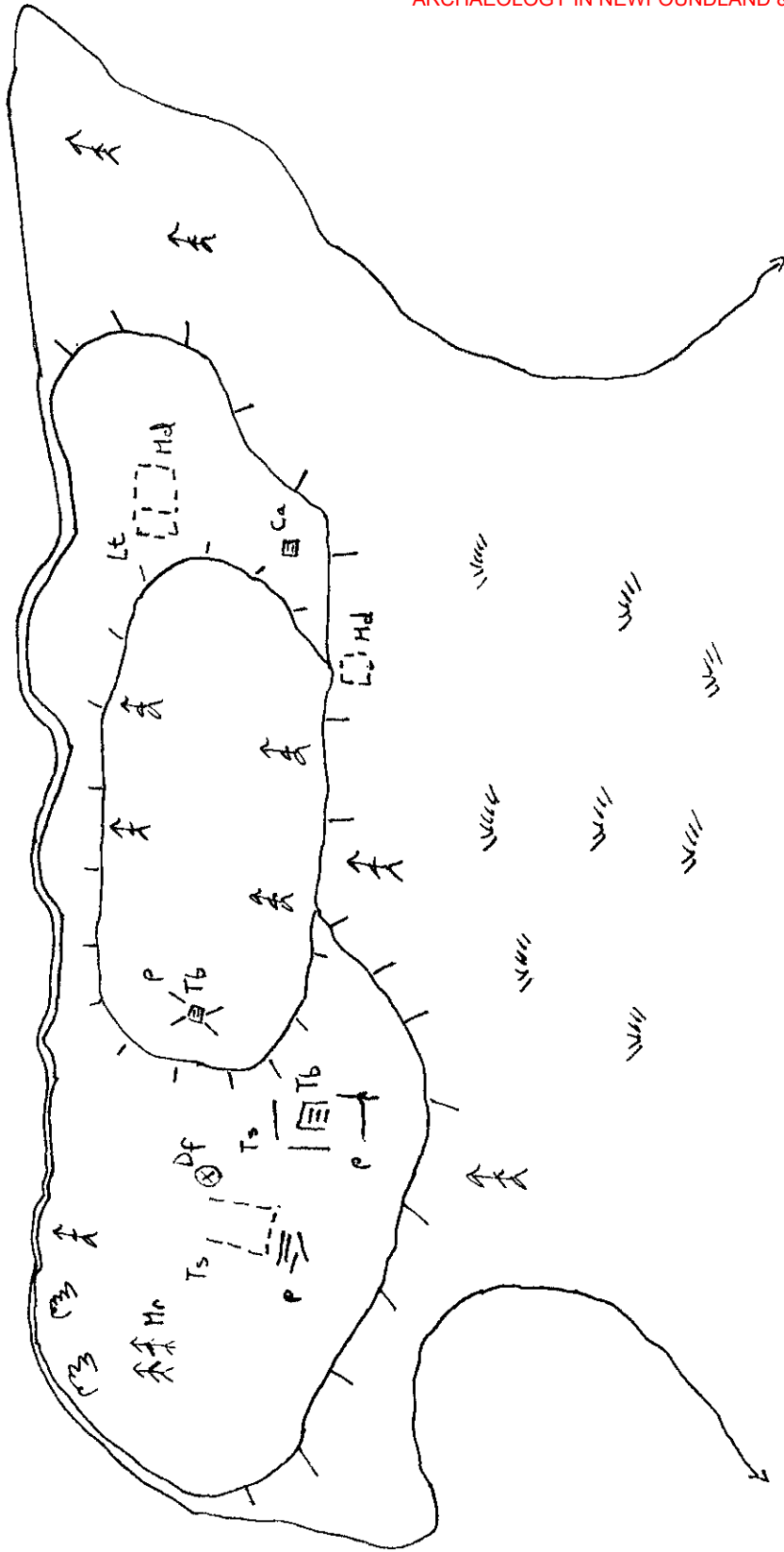
- 3-6: CROTEAU GROUP VOLCANIC ROCKS; ALSO SOME SANDSTONE, GRIT & CONGLOMERATE (5)
- 7: CONTINENTAL & MARINE TYPE SEDIMENTARY ROCKS; 7a. REDDISH QUARTZITE, FELDSPAR CHERT, 7b. GRIT & CONGLOMERATE
- 9a: RED SLATE, ARGILLITE, SILTSTONE
- 10: SEAL LAKE GROUP VOLCANIC ROCKS, RED & GREEN BASALT, MINOR TUFF & FLOW BRECCIA, THIN LAYERS OF SEDIMENTARY ROCK
- 1992 STUDY AREA

Map 2



MAP 3.

POCKET KNIFE LAKE



Scale

1 cm = 20 m

Contour Interval

2.5 m

Legend

- Lt - Latrine
- Mr - Meat Rack
- Ts - Tent Spot
- P - Tent Pole
- Tb - Table
- Df - Double Face Carving
- Hd - Midden
- Ca - Cache
- Bog - Bog
- Conifers - Conifers

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Table 1
Elements, Oxides and Chemical Symbols

Sulfur	S	Sodium Oxide	Na ₂ O
Chlorine	Cl	Magnesium Oxide	MgO
Scandium	Sc	Aluminum Oxide	Al ₂ O ₃
Vanadium	V	Silicon Oxide	SiO ₂
Chromium	Cr	Phosphorous Oxide	P ₂ O ₅
Nickel	Ni	Potassium Oxide	K ₂ O
Copper	Cu	Calcium Oxide	CaO
Zinc	Zn	Titanium Oxide	TiO ₂
Gallium	Ga	Manganese Oxide	MnO
Arsenicum	As	Iron Oxide	Fe ₂ O ₃
Rubidium	Rb		
Strontium	Sr		
Yttrium	Y		
Zirconium	Zr		
Niobium	Nb		
Barium	Ba		
Cerium	Ce		
Lead	Pb		
Thorium	Th		
Uranium	U		
Nickel	Ni		
Copper	Cu		
Zinc	Zn		

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Table 2
 Percentage Concentrations of Major Oxides
 by X-ray Fluorescence

	GSA 26	GSA 32	GSA 33W	Ramah Chert*	-Samples
Oxides:					
Na ₂ O	0.57	1.86	3.25	.01-.20	
MgO	0.40	0.73	2.30	ND**	
Al ₂ O ₃	7.56	17.54	10.34	.02-.71	
SiO ₂	95.42	78.18	80.92	94.4-99.8	
P ₂ O ₅	0.04	0.01	0.23	.01-.13	
K ₂ O	3.13	6.08	1.60	.01-.43	
CaO	0.24	0.03	2.28	.04-1.6	
TiO ₂	0.16	0.22	0.41	ND**	
MnO	0.02	0.01	0.06	.01-.04	
Fe ₂ O ₃	0.81	1.20	3.56	.02-1.17	

*Sample from Rutherford and Stevens (1991:17), analysed via Atomic Absorption.
 ** No Data.

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Table 3
 Concentrations of Major Elements in Saunders Chert sample by
 ICP/Mass Spectrometry (Parts Per Million/ppm)

Saunders Chert	
Elements	
Li	1.926
Rb	73.287
Sr	26.21
Y	4.614
Zr	79.398
Nb	5.193
Mo	0.077
Cs	1.718
Ba	222.079
La	16.111
Ce*	13.905
Pr	3.512
Nd	12.892
Sm	2.142
Eu	0.297
157/Gd	1.914

*The rare earth element Cerium.

Table 4
 Concentrations of Major Elements by
 X-ray Fluorescence (Parts Per Million/ppm)

	Sample 1 GSA 26	Sample 2 GSA 32	Sample 3 GSA 33W	-Samples
Elements:				
S	27	25	73	
Cl	50	46	30	
Sc	7	ND**	9	
V	ND	9	68	
Cr	ND	ND	48	
Ni	ND	ND	16	
Cu	3	4	34	
Zn	13	40	40	
Ga	6	18	6	
As	ND	ND	ND	
Rb	85.4	183.2	54.3	
Sr	71.7	35.4	203.8	
Y	13.6	25.3	13.2	
Zr	168.1	174.7	156.2	
Nb	6.1	18.2	8.6	
Ba	347	523	393	
Ce	53	124	44	
Pb	19	23	17	
Th	6	24	7	
U	ND	4	ND	

Sample 1 - pink laminated siltstone (Photo 67)

Sample 2 - light green laminated siltstone (Photo 68)

Sample 3 - grey to mauve chert (Photo 69)

*ND - no data

Saunders Chert Sample (G_fCc-1) Extended Chondrite-Normalised Plot *

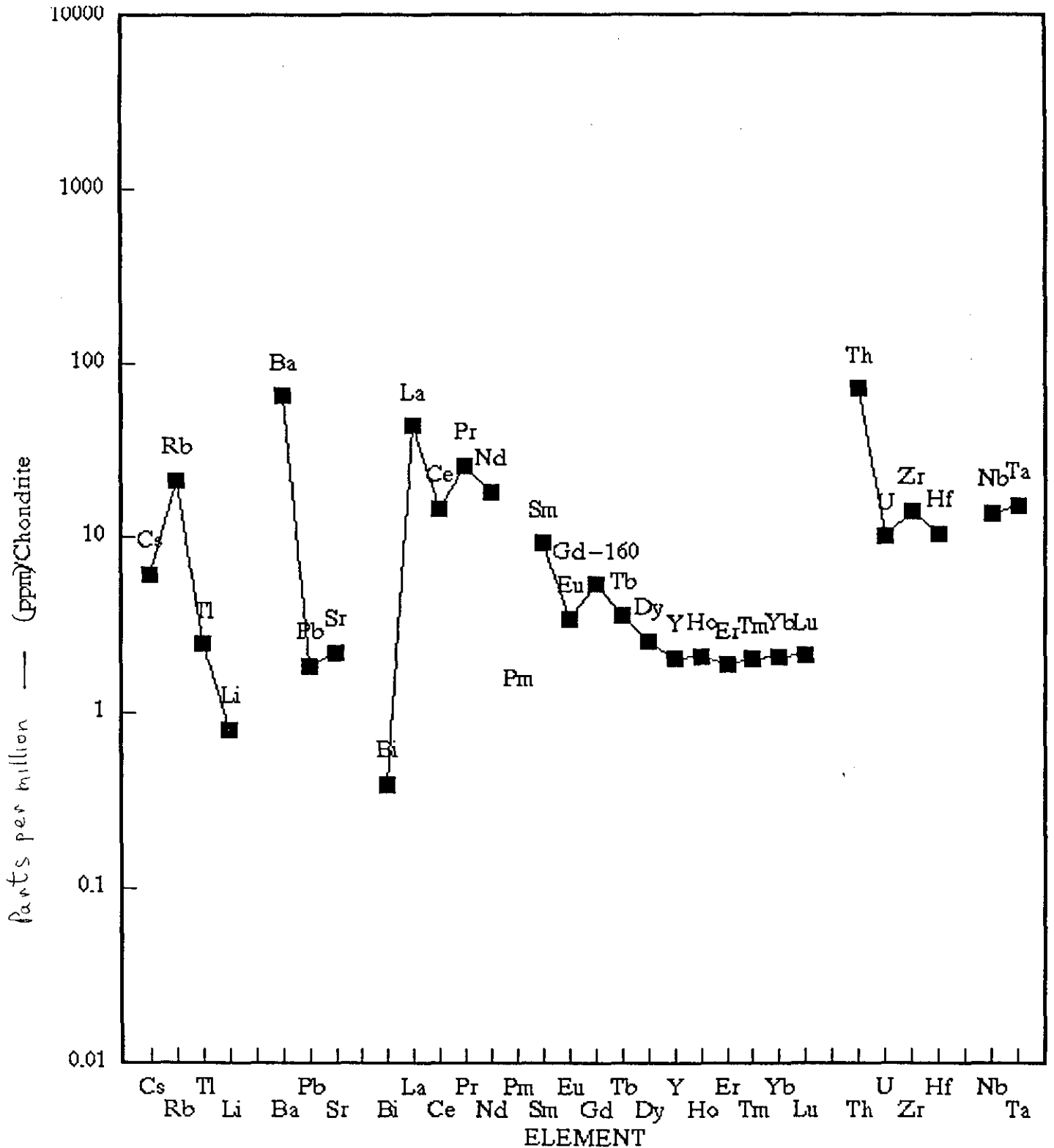


Figure 1

* TAYLOR + McLENNAN 1985

Appendix 2
1992 Oral History

Sheshatshit Informants

1. Mary Ann and Simon Michel; age mid-60's
2. Nuk Nui; age mid-90's
3. Enum Abraham; age mid-60's

Oral History Questions/Topics

1. Where are/were the camps located?
2. What was there principal function? (ie. hunting, trapping, fishing?)
3. What season were they occupied?
4. What was the size of the group using the camp?
5. What route did they follow to get there, and to leave?
6. What kinds of shelter/tents did they use there?
7. What kinds of animals/fish did they catch there or in the area?
8. What kinds of tools or goods were made there?
9. Were there changes made to the camp layout over time? Describe them.
10. What made the camp special, if anything?
11. What was the Montagnais name for the camp or area, and what does it mean?

Oral History

Informant 1: Mary Ann and Simon Michel

-Simon knows of the Pocket Knife Lake area as he learned about it through hunting and trapping with his uncle in that territory back in the 1940's. Mary-Ann travelled through the country at least once in the winter.

-points of land were good camping spots as that is were berries often grew, and they were also good spots to set up snares as small mammals frequented the points.

-Simon pointed out the bottom of the Lake's south arm as a

camping area, as well as the point of land northeast of the Lake's outlet stream. This point is on the west side of the mouth of the north arm. People supposedly used this area during their portages over the "Sausage Lakes" between Pocket Knife and Belly Fish Lakes.

-This river/lake portageing travel was done on foot, with no dog transport, or by canoe. They borrowed boats from settlers on the coast when they travelled there ie. Hopedale (Postville?) to trade.

Mary-Ann mentioned a tale associated with a marsh area about the middle of this north arm on its west side. A woman gave birth by herself to a child in this location, and the child (male?) had a very long life. It is a respected area.

Simon thought the Innu may also have camped at the bottom of the east arm in the area closest to Camel Lake. Croteau Lake, to the northeast, was supposedly the territory of the interior ie. barrens? people ie. the Naskapi. Whereas, the Montagnais were more forest people.

These camps were only used as a resting place for a couple of days at a time by about 6-7 families. They lived in about 6-7 tents, and each family had about 3-4 canoes, with about 20-30 canoes per group. During the open water season, the canoes were often left at strategic locations along the travel routes ie. at portage points, so they would not have to be carried over the trails. Use of other peoples canoes appears to have been based on the honour system. During the winter people travelled on foot (snowshoes) and did not use dogs.

The old camps should be marked by tree stumps and willow growth. Boughs were also burnt during abandonment of the camp as part of the cleaning up process.

-the Lake's west side was part of the winter travel route connecting Grand Lake with Snegamook Lake. Grand Lake was a central meeting place at Christmas, and Snegamook Lake and area had lots of animals ie. caribou.

-Pocket Knife Lake was known to have lots of fish and beaver, and

toboggans were made there.

-People travelled down to Grand Lake via Pocket Knife Lake for Christmas visiting and returned via the latter Lake in late February.

-Camel Lake translates as "the oldest lake."

-in terms of workshop sites, one was located near a big hill shaped like an Innu hat located on the north side of the Kanairiktok between Shipiskan and Snegamook Lakes. Apparently wood for building various items was readily available, along with animals such as geese, otter and beaver.

-they occasionally met white people travelling through the country. Once near Lake Michikimau they met a man who had a big lump on his forehead. They gave/traded him some mocassins and snowshoes and, since he was inexperienced with snowshoes, he walked very slowly. She wondered if he ever made it (ho,ho).

Informant 2: Nuk Nui

-he is familiar with Pocket Knife Lake via at least 2 visits he made there about the time the Goose Bay air base was being built, about 1942. The visits were in the Spring and the Winter.

-Pocket Knife Lake was known for its good fishing, but not for caribou.

-People made toboggans at Pocket Knife Lake.

-the point of land at the mouth of Pocket Knife Lake's north arm shore of on its northwest side was a camp spot and portage point over to the "Sausage Lakes" and Belly Fish Lake. This was a Spring route which avoided canoeing the rapids between the Pocket Knife Lake outlet and the first pond of the "Sausage Lakes."

-the bottom of the east arm of Pocket Knife Lake was a winter camp spot and portage point over to Camel Lake.

-canoes were left at/near the camps at the portage points so that the boats need not be carried over the portages. All the Innu travelling the routes followed the honour system in using and replacing each other's canoes. Moreover, no family had a specific territory for their use.

- people camped in canvas tents along the Pocket Knife Lake shore, and tree stumps should provide evidence for this.
- Belly Fish Lake approximately translates in Montagnais to "whitefish"
- Pocket Knife Lake is called "Gowsheagmuit" which translates in Montagnais to "bright"
- In the Spring, one of the above trips could be done on snowshoes in less than a day, depending on the snow cover and frost.

Informant 3: Enum Abraham

- he knows Pocket Knife Lake from visiting/travelling there about 40 years ago.
- he/people? camped for 3 weeks during the Fall/Winter (Nov., Dec.) at camps along the north shore.
- Pocket Knife Lake translates in Montagnais as "bright lake." Its clear water made it a particular lake, different from others.
- Pocket Knife Lake was known more for its fur trapping rather than fishing, but fishing was good there.
- A "base camp" was maintained at the southwest bottom of Namaycush where a major stream was located. The Namaycush (Little Seal Lake) camp was on a major travel route between that lake and Grand Lake to the south. Smaller, temporary camps were then established along the Pocket Knife Lake shore.
- Canvas tents were set up on cleared camp spots on both lakes.
- Pocket Knife Lake was part of a trapping area that included Namaycush and some of the small lakes between Camel and Pocket Knife Lakes. However, Croteau was not included in that territory.
- Older camps may have been located at the bottom of the Pocket Knife Lake east arm, marked by old stumps.
- Freeze-up on Pocket Knife was usually about late November, while the ice usually went out by June.
- during his grandfather's time (pre-aviation) the Innu were less mobile. With air transport they increased their travelling distance.

-in terms of spiritual places, he knew of the Snegamook Lake story of the A-gen chasing a man who hid on the Lake's rocky islet.

Appendix 3

Artifact Measurements

POCKET KNIFE LAKE

GcCi-1 Mauve quartzite flakes (largest to smallest)

1-1: 5.1 x 4.6 x 1.2 cm.

1-2: 4.4 x 4.2 x 0.9 cm.

1-3: 4.5 x 3.9 x 1.0 cm.

1-4: 3.9 x 3.7 x 0.8 cm.

GcCi-2 reddish quartzite flake

2-1: 4.4 x 2.6 x 2.2 cm.

SNEGAMOOK LAKE

GdCh-1 one relatively large flake of white quartzite

1-1: 4.0 x 2.5 x 1.0 cm.

four small Ramah quartzite flakes (largest to smallest)

1-2: 2.1 x 1.1 x 0.35 cm.

1-3: 1.45 x 1.2 x 0.45 cm.

1-4: 0.9 x 0.7 x 0.1 cm.

1-5: 1.05 x 0.55 x 0.7 cm.

GdCh-3

Hatchet head 3-1: 15.0 x 8.8 cm (6" x 3.5") with a poll 4.4 cm (1.75") long x 3.8 cm (1.5") thick; weight = 734 gm.

The hatchet head, initially stored in deionized water at the Memorial University Archaeology Unit conservation laboratory, is now being treated with sodium hydroxide. It should be fully stabilized by December, 1993.

Quartz crystal 3-2: 4.1 x 2.3 x 1.7 cm. (no worked surfaces noted).

GdCi-2

Wood-canvas freighter canoe: horizontal strips, 1.0 m long x 10-12 cm wide, nailed onto five vertical ribs which appear to be modified 2" x 4" studs.

APPENDIX 4

Field Season Fauna

AVES:

Pocket Knife Lake:

- Osprey (*Pandion haliaetus*)/1 time
- Merlin (*Falco columbarius*) /1 time
- Northern Waterthrush (*Seirus noveboracensis*)/several times
- Yellow-Rumped Warbler (*Dendroica coronata*) /several times
- Northern Junco (*Junco hyemalis*)/several times
- Gray Jay (*Perisoreus canadensis*)/frequent

Croteau Lake:

- Common Loon (*Gavia immer*) several times
- Gulls (*Laridae*)/many times

Snegamook Lake:

- Canada Goose (*Branta canadensis*)/several times
- Ruddy Turnstone (*Arenaria interpres*)/frequent
- Northern Raven (*Corvus corax*)/1 time
- Sharp-Shinned Hawk (*Accipiter striatus*)/1 time

Pocket Knife and Snegamook Lakes:

- Common Loon (*Gavia immer*) many times on Pocket Knife and occasionally on Snegamook (breeding pairs with young)
- Gulls (*Laridae*)/many times on both

MAMALLIA:

Pocket Knife Lake:

- Beaver (*Castor canadensis*)/sign only
- Otter (*Lutra canadensis*)/2 animals, 1 sighting
- Moose (*Alces alces*)/sign only

Croteau Lake:

- Black Bear (*Ursus americanus*)/one had been at the Noranda Minerals exploration camp prior to our arrival

Snegamook Lake:

- Lynx (*Lynx canadensis*)/sign only

APPENDIX 5

Photo Captions

1. Pocket Knife Lake looking west with Camp 1 and GcCh-8 on peninsula in middle ground.
2. Aerial view of Pocket Knife Lake looking west. GcCh-4 is located on peninsula in middle ground.
3. Aerial view of Pocket Knife Lake's west ridge, looking south.
4. Bedrock outcrop on Pocket Knife Lake west ridge, and Pocket Knife Lake looking east.
5. Pocket Knife Lake looking north from west ridge. The Lake's northern arm in the background was not surveyed.
6. Snegamook Lake camp looking west. GdCh-3 is located on the beach, while the Lake's outlet (Kanairiktok River) is approximately 200 m southward.
7. Aerial view of the GdCh-3 beach and the Lake's outlet (Kanairiktok River), looking east.
8. GcCi-1 is located on the bedrock outcrop in the foreground, with Pocket Knife Lake in the background, looking east.
9. Croteau Lake, east half, looking east from the Lake's south ridge.
10. Snegamook Lake, southwest quadrant. Note burnt over forest in the background on the Lake's north shore.
11. Kanairiktok River "estuary" at Snegamook Lake's west end, looking northwest past author in canoe.
12. View southeast from Pocket Knife Lake west ridge. Lakes in background formed part of historic canoe/portage trail (Section 4).
13. GcCh-1 looking northwest, with Rex Button standing in one of its U-shaped tent spot features cut out of the surrounding bush.
14. The central part of GcCh-1 looking northeast, with Rex Button taking a GPS fix surrounded by many small axe-cut trees.
15. An aerial view of the island where GcCh-1 is located, looking northwest. The U-shaped tent spot features are cut out of the taller conifers on the island's north side, with the cut trees in a strip to the south.

16. GcCh-2 looking southeast down the island's corridor where cut trees and a possible U-shaped tent spot were noted.
17. Aerial view of GcCh-2 looking south. The east end of the treeless "corridor" is the area with cut trees and a possible U-shaped tent spot.
18. GcCh-4 tent poles, looking southeast.
19. Collapsed pole table and tent poles at GcCh-4, looking southwest.
20. Collapsed meat rack at GcCh-4, looking west.
21. Cache with plastic/pole lid at GcCh-4.
22. Tin can midden at GcCh-4 on its southeastern edge.
23. Collapsed pole table at GcCh-4, with tent pole/scaffolding in the background, looking south.
24. Double face carving at GcCh-4, looking west.
25. Aerial view of GcCh-4 looking south.
26. Aerial view of "Loon View Island," Pocket Knife Lake, looking southeast. GcCh-6 is at the east end while GcCh-7 is at the west end.
27. GcCh-6 looking west, with Rex Button shovel testing in the background. Note numerous cut trees.
28. GcCh-6 looking northwest. The site area is in the clearing at mid-photo.
29. GcCh-7 looking east, with Rex Button shovel testing in the background, the area with a few cut trees.
30. GcCh-7 looking northwest. The site is about 50 m to the right of the bedrock slab at the island's western tip.
31. GcCh-8 looking west. The site is directly behind and upslope from the aviation gas barrels at the photo's left end.
32. GcCh-9 looking west, with Rex Button in the canoe and adjacent to the cut logs.
33. Aerial view of GcCi-1, looking south with Namaycush Lake in the background. The site is about midway along the ridge.
34. GcCi-1 looking north. The flake scatter is located near the edge of the exposed bedrock in the foreground.
35. GcCi-1 looking east, with the flake scatter in the gravels

above and below the trowel.

36. The view south from GcCi-1, with Namaycush Lake in the left background.

37. Raw material and partially worked mauve quartzite chunks in the vicinity of GcCi-1. Trowel points north.

38. Glacial sours on bedrock near GcCi-1, with Pocketknife Lake in the left background.

39. GcCi-2 site area looking northwest. Raw material and partially worked reddish quartzite chunks are located mid photo.

40. The view of columnular basalt sills from GcCi-2, looking southwest.

41. A tin can midden at GcCi-3. The can at the lower left has the label "Estabrooks Red Rose Coffee, while the label on the one above is "UCO creamery butter," made by the United Coops of Canada, Toronto.

42. GcCi-4 looking west. Axe-cut tree trunks and stumps are visible in the left foreground and mid-photo background.

43. Aerial view of GcCi-4 looking west. The site is midway along the left bank of the Pocketknife Lake outlet stream about 30 m west of the islet.

44. GcCi-7 looking southwest. Note the axe-cut tumps, mid-photo, each approximately one metre long.

45. GcCg-1, with overlapping and tied tent poles adjacent to the north-pointing shovel.

46. View of Croteau Lake, mid-section looking north from the ridge on the Lake's south side. GcCh-5 is located on the small point towards the right end of the photo on the Lake's north shore.

47. Rex Button shovel testing at GcCg-1, looking north.

48. GdCh-1 on Snegamook Lake, looking north. This site's debitage was located on the stretch of beach between Rex Button and the canoe, about 2-3 metres above the Lake.

49. The GdCh-3 hatchet head, found at the water's edge.

50. GdCh-3 looking southeast. The hatchet head was found near the stick at the water's edge, about mid-photo.

51. GdCh-4 looking northeast. Note log cellar/foundation used as a midden in foreground, and abandoned chimney base at right background.
52. GdCi-2 boat stern, transom and planks.
53. GdCi-2 boat, port side, looking north toward the stern and transom. Note canvas on planks to Rex Button's right.
54. GdCi-3 looking south. Note canoe paddle between beach area that appears to be bordered by cobble alignment. This alignment is probably the result of lake ice rafting.
55. GdCi-3 looking north. Canoe paddle is located within a cobble-lined depression, apparently formed by lake ice rafting.
56. GdCi-5 looking east. Note metal bracket in left foreground and spikes at mid-photo, right side.
57. GdCi-6 looking southwest. Flag and artifacts were located on top of bedrock point, in low bushes.
58. View west from GdCi-6. Note cobble/shingle beach in cove.
59. GdCi-7 cobble-lined depression. Depression "rim" is marked by white bags in background and in foreground by black camera case, below which is a mammal longbone.
60. The cobble spit at the south of the Long Island in Snegamook Lake, with the GdCi-7 cobble-lined depression centre marked by a surveyor's notebook. Rex Button takes a GPS fix in background.
61. A piece of worked reddish quartzite from GcCi-2.
62. The debitage collected in 1992 from GdCh-1.
63. A quartz vein in a boulder near GdCh-3 on Snegamook Lake.
64. A small sample of flakes from GcCi-1, Pocketknife Lake.
65. X-ray photograph of the GdCh-3 hatchet head.

Photomicrographs of Artifact and Geology Samples structural fabric

(Camera: Zeiss M35 on a Zeiss microscope/Film: Kodak T-Max 100 ASA/Scale: 1 x = 1.6 cm).

POCKET KNIFE LAKE

66. GcCi-1 mauve quartzite flake; 2.5x lens, cross polars light, neutral density filter; note undulatory extinction in quartz

grains, serrated grain boundaries and subgrains on margin of larger grains.

67. GcCi-1 mauve quartzite flake; 10.0x lens, cross polars light, green filter; note subgrain development along interlocking grain boundaries. The 'fastening' of these boundaries probably contributes to the stone's flakeability i.e. edge resharpening.

CROTEAU LAKE (west end)

68. GSA 26 pink, volcanoclastic siltstone (dust tuff); 2.5x, neutral density filter; note bedding and abundance of glass shards.

CROTEAU LAKE (north ridge)

69. GSA 32 green to whitish fine grained siltstone; probably porcellanite; 2.5x, plain light, green filter; note bedding and glass bubble remnants (white).

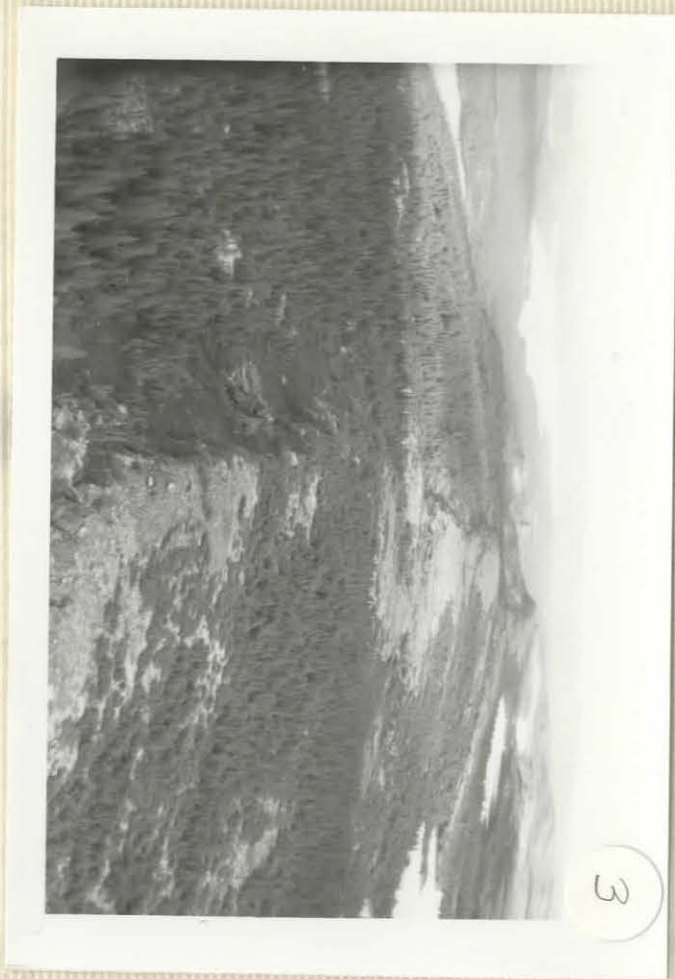
CROTEAU LAKE (south ridge)

70. GSA 33W lobate contact of chert (chalcedony?) vein in host rock (dacite?); 2.5x, plain light; note wispy banding in vein formed by grain size and abundance of opaque oxide.

SNEGAMOOK LAKE

71. GdCh-1 Ramah Chert flake; 1x, neutral density filter, cross polars light; note sub-grains along contact with larger grains.

72. GdCh-1 Ramah Chert flake; 10x, neutral density filter, cross polars light; note gently curving to moderately serrated grain boundaries.





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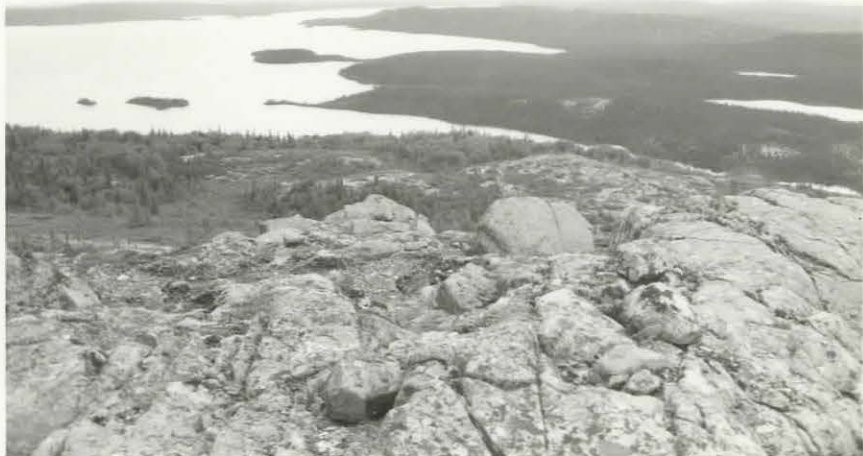


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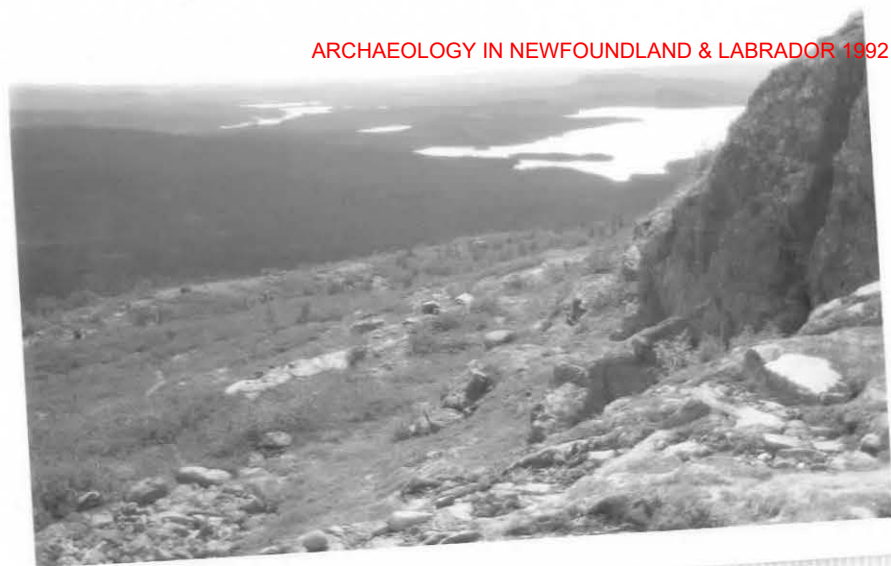


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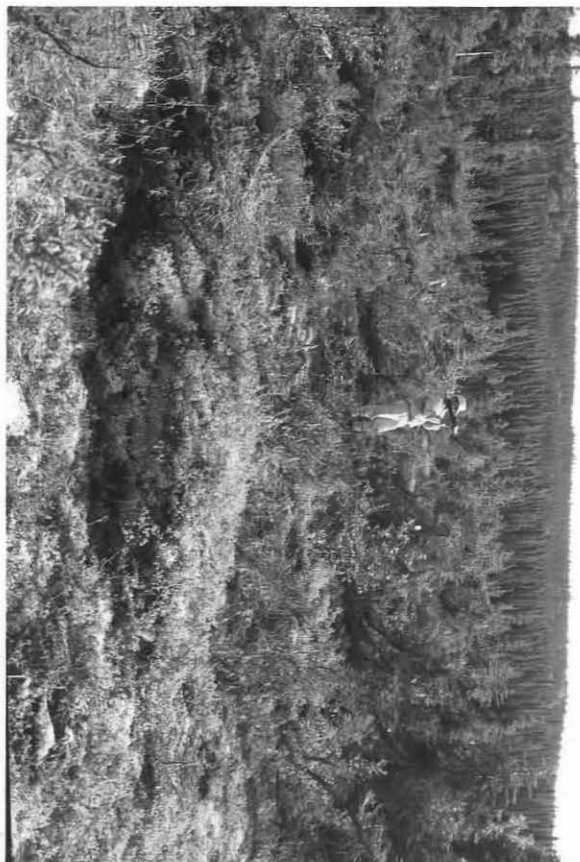


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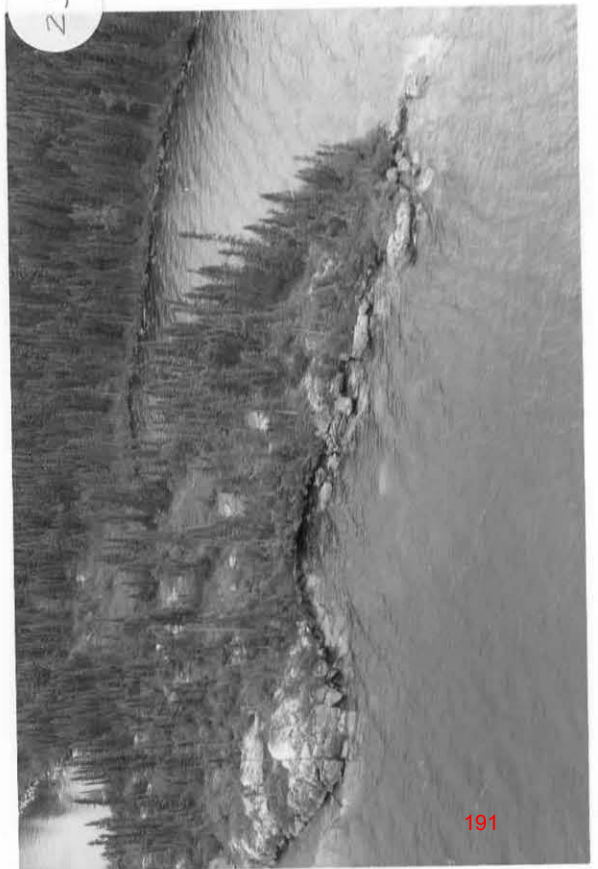


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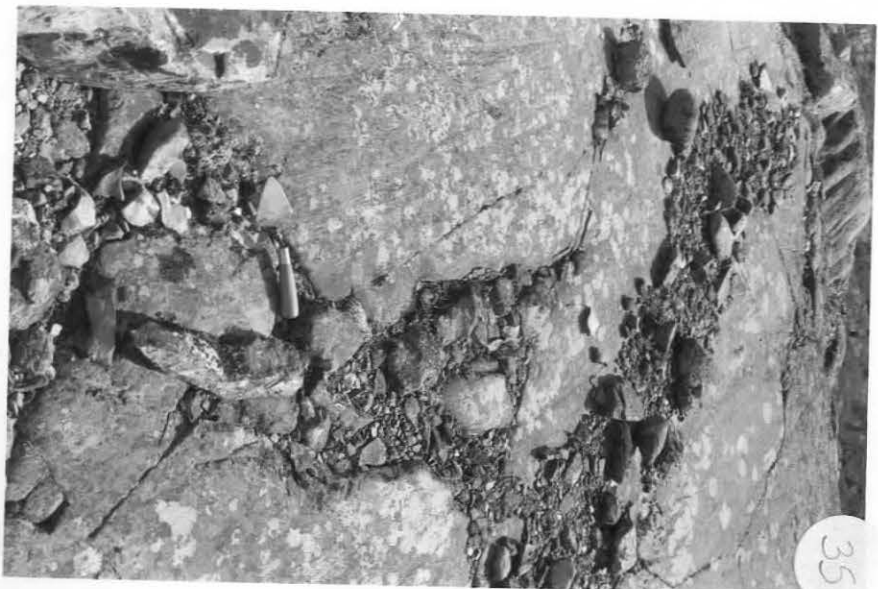


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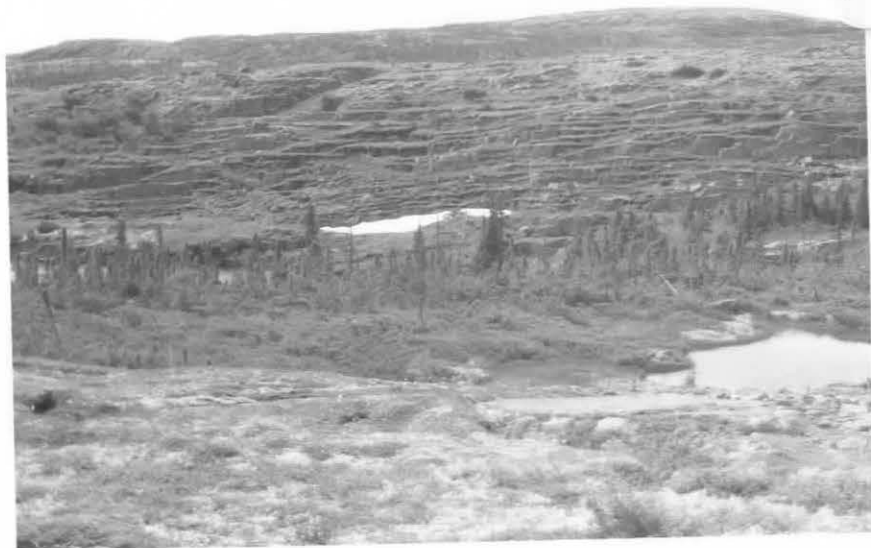
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ARCHAEOLOGY IN NEWFOUNDLAND & LABRADOR 1992



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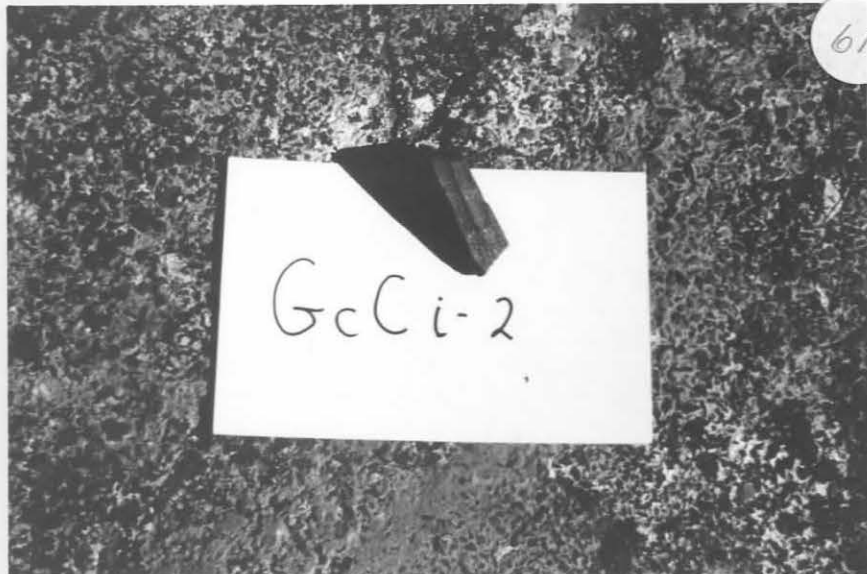


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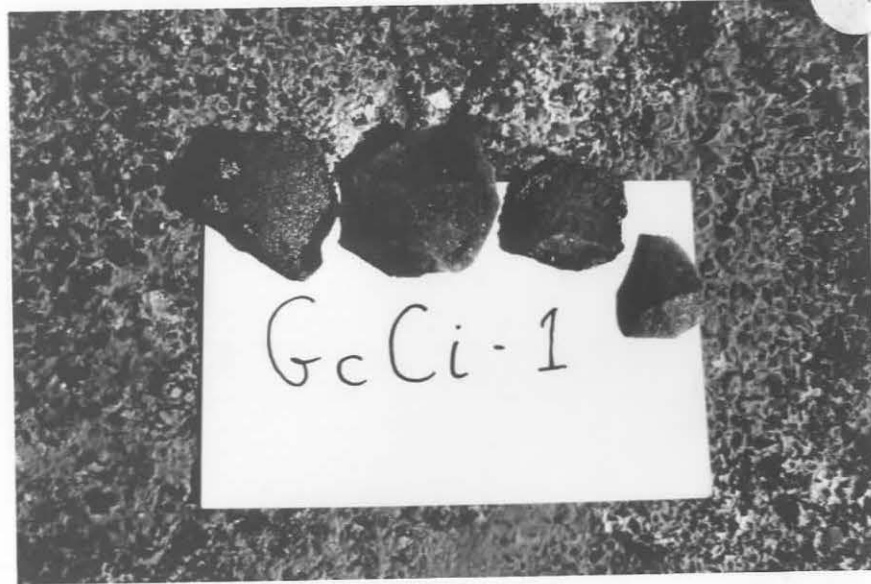
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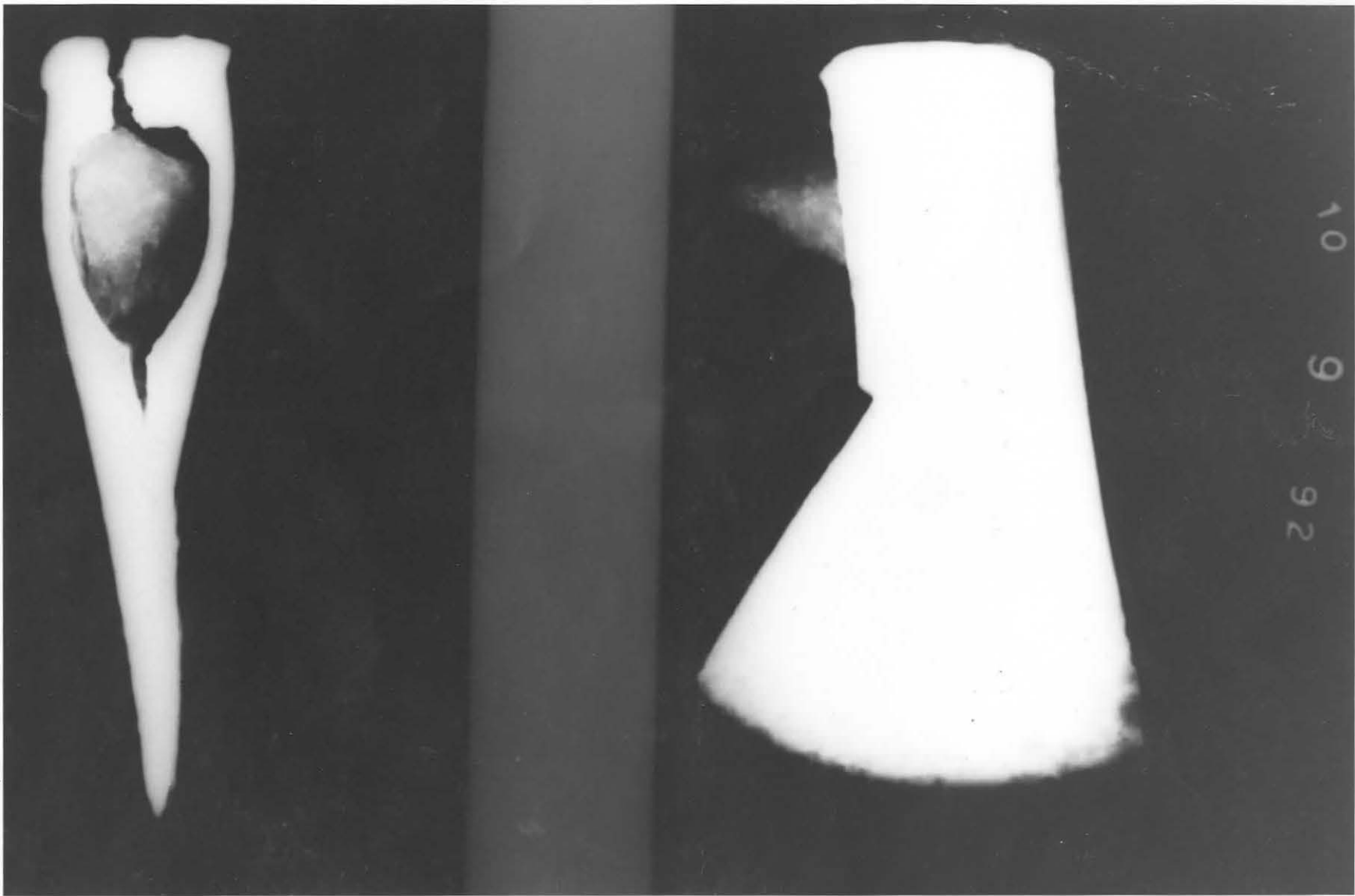


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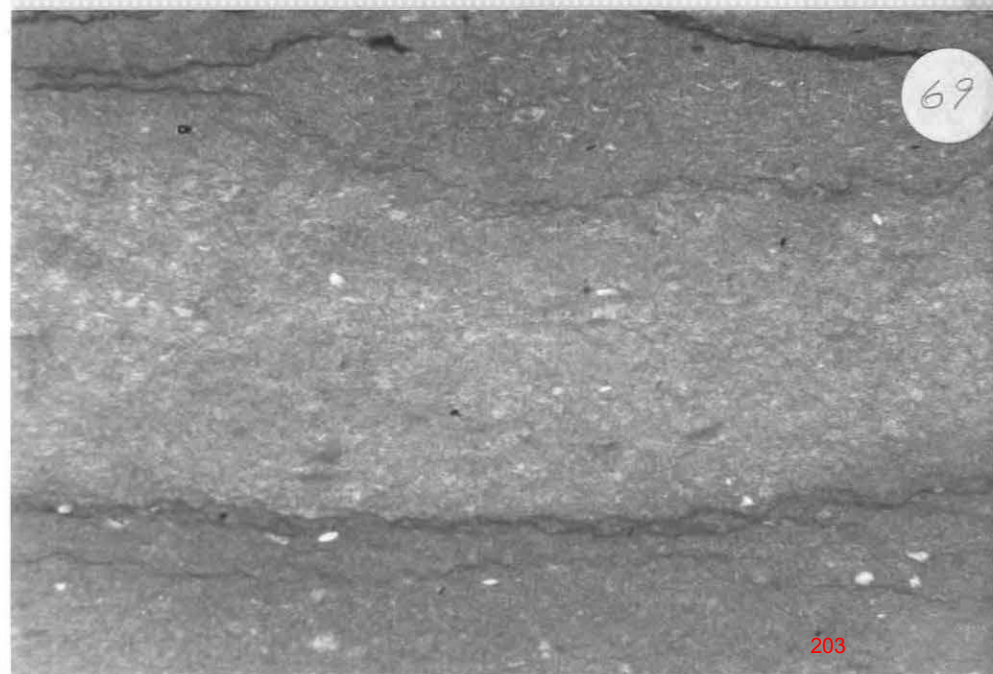
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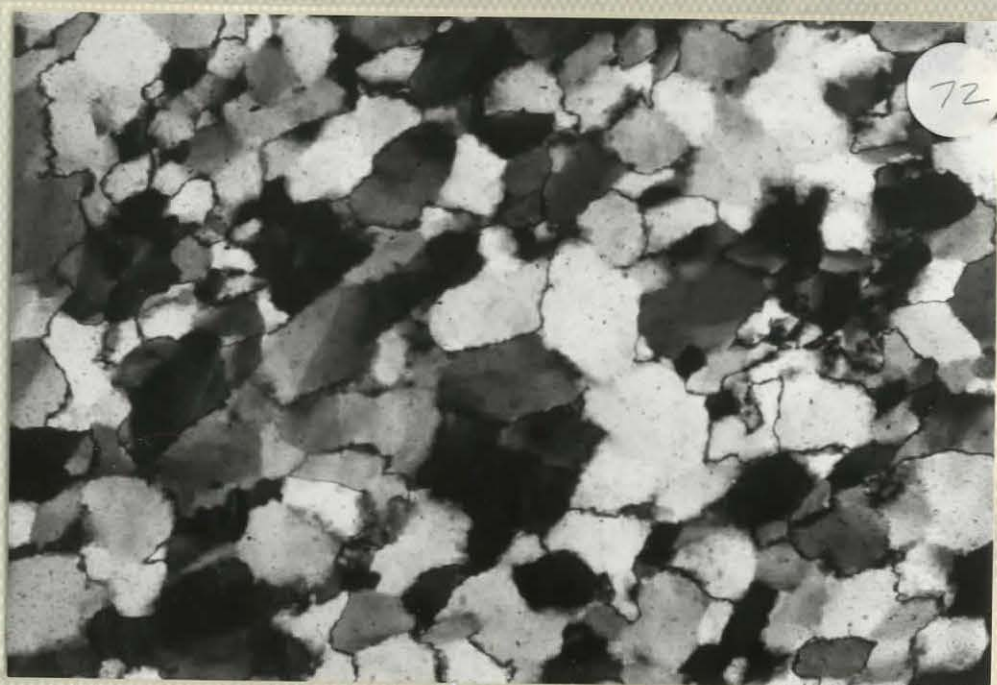
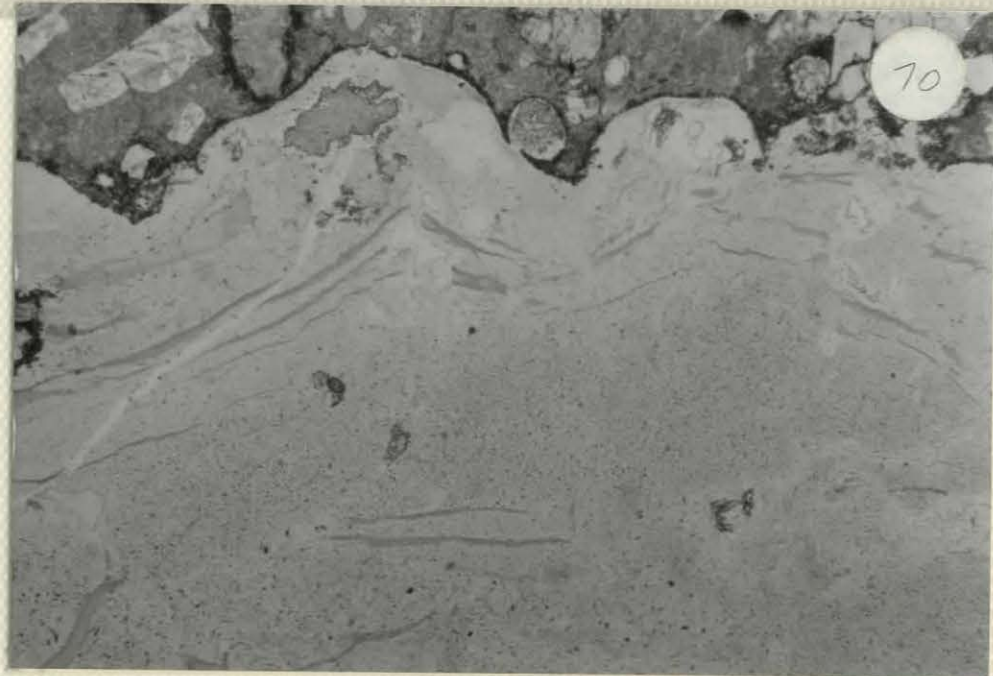




GdCh-3 Hatchet Head (86% of Full Size)

65





ARCHAEOLOGICAL INVESTIGATIONS IN THE EXPLOITS BASIN

Report on the 1992 Field Survey

Frederick A. Schwarz

ACKNOWLEDGEMENTS

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NEWFOUNDLAND PREHISTORY AND INTERIOR ARCHAEOLOGY

The retreat of the Beothuk to their interior refuge in the Exploits Basin and their ultimate extinction in the early nineteenth century has long been an event of critical importance in shaping the beliefs Newfoundlanders hold about themselves and about the environment in which they live. To the extent that it has attracted worldwide attention, the predicament of the Beothuk has long shaped the attitudes of others towards the European settlers of the island and their descendants. More recently, the fact of the extinction has confronted anthropologists, historians and archaeologists, and demanded scholarly analysis, understanding and explanation.

Archaeological contributions to our understanding of the Beothuk extinction have focused strongly (and not surprisingly) on the relationship between Beothuk hunting and foraging strategies and the environmental setting of insular Newfoundland. Excavations at late prehistoric and early historic period coastal sites (Figure 1) such as The Beaches site in Bonavista Bay (Devereux 1969; Carignan 1975; MacLean 1991) and Boyd's Cove in Notre Dame Bay (Pastore 1985; Cumbaa 1984) have revealed evidence for significant use of diverse coastal resources, particularly in the spring and summer, by the early historic Beothuk and their immediate ancestors. Excavations at late Beothuk site in the Exploits Basin refuge area, including Indian Point (Locke n.d.a; Devereux 1970; Stewart 1971; Sproull Thomson 1982), Pope's Point (Locke n.d.a, n.d.b; Devereux 1965) and Wigwam Point (Locke n.d.a, n.d.b; Leblanc 1973; Stewart 1973) have revealed evidence for increasing specialization on year-round caribou hunting (for a contrasting interpretation of these same data, see Rowley-Conwy 1990), an adaptation which is potentially highly productive, but by virtue of its specialization, highly unreliable and unstable. Archaeologists have tended, therefore, to view the Beothuk extinction as the more-or-less inevitable result of the overspecialized subsistence strategy enforced by their confinement in the Exploits Basin refuge area; this confinement presumably reflects a Beothuk retreat in the face of expanding European settlement along the coast of Newfoundland through the historic

period (see Tuck 1976). If extinction was inevitable given the Beothuk retreat to the interior, the focus of attention naturally shifts toward attempting to explain why the Beothuk retreated in the first place rather than interacting more closely with the new settlers, an explanation that requires a consideration of historical as well as archaeological data (see Pastore 1987).

A surprising new archaeological perspective on the Beothuk extinction has emerged from the study of long-term culture-historical patterns over the 5000 years or so of Newfoundland prehistory. As the culture history of the island has been progressively fleshed out, it has become apparent that the demise of the Beothuk is only the most recent of a series of human extinctions in Newfoundland. Newfoundland culture history does not trace a continuous sequence of human occupation and adaptation, but rather, a discontinuous sequence of occupations punctuated by periods of abandonment. Thus, the initial Maritime Archaic occupation of the island (3000-1200 BC), the subsequent Early Palaeo-Eskimo (800-100 BC), Late Palaeo-Eskimo (AD 100-600) and Recent Indian/Beothuk (AD 800?-1829) occupations all end in extinction. Clearly, competition with immigrant settlers cannot have been a factor in the prehistoric extinctions, and it has been suggested that the repeated extinction of prehistoric hunter-gatherers in Newfoundland results from intrinsic characteristics of the Newfoundland environment, namely, the chronic instability of Newfoundland's marine, and especially, terrestrial, ecosystems (Tuck and Pastore 1985).

As with archaeological approaches to the Beothuk extinction, the initial archaeological response is to attempt to learn more about the adaptations of prehistoric hunter-gatherers in Newfoundland. We have been making slow but steady progress toward understanding prehistoric adaptations in coastal regions. Renouf's (1991) excavations at the Palaeo-Eskimo site at Phillip's Garden on the Northern Peninsula provide the most spectacular example, but data on subsistence have been recovered from numerous other sites as well (e.g. Auger 1984; Simpson 1986; others), and perhaps more importantly, we have accumulated a substantial inventory of coastal sites from all periods which, with further research, promise to reveal a great deal more. The most conspicuous gaps in our knowledge relate to the nature of autumn and winter adaptations, and to the nature of

prehistoric adaptations to the interior.

For a variety of reasons, archaeological research in the interior has not kept pace with research on the coast. This may be explained by the perception that interior settlement is not likely to have been significant prehistorically (e.g. Renouf 1985); this, in a sense, is the principal lesson archaeologists have learned from studying the Beothuk extinction. The problem has been compounded by more-or-less justifiable perceptions that archaeological work in the Newfoundland interior is likely more difficult and expensive, and that site visibility is likely low in the forested interior. In this context, the only exception to the pattern of neglect of interior archaeology has been the Exploits Basin. Here, of course, a substantial, if ill-fated, native occupation is known to have occurred. Historical records attest to the extent, and even the precise locations, of Beothuk settlement. In addition, these historic Beothuk sites are substantial and relatively recent, and therefore fairly visible, even in dense vegetation. Excavations at known Beothuk sites have often led to the discovery of prehistoric components (Devereux 1965, 1970; Locke n.d.a. n.d.b; LeBlanc 1973; Thomson 1983): in the case of Indian Point, the prehistoric component is quite substantial. However, the particular circumstances of these discoveries seem not to have encouraged concerted efforts at documenting prehistoric occupations elsewhere in the Exploits Basin, or elsewhere on the island.

Recently, some attempts have been made to rectify this situation. Problem-oriented survey and excavation at sites on GamboPond (Figure 1) in the interior hinterland of Bonavista Bay (Schwarz 1992) as well as surveys at other locations in the hinterlands of Notre Dame Bay (Penney 1988), Trinity Bay (Gilbert and Reynolds 1989), and the northern Peninsula (Thomson 1987) have revealed a surprisingly high frequency of archaeological sites, at least in *near-coastal* interior locations (lakes and rivers within 30km of the sea). The clearest picture comes from the GamboPond research; most GamboPond components pertained to the Recent Indian period, and limited subsistence indicators, in the form of artifact frequencies and microlocational settlement patterns, suggest that these represent autumn and/or winter settlements oriented toward caribou hunting (Schwarz 1992). Results from near-coastal interior surveys elsewhere are at least consistent with the GamboPond data (see

Schwarz 1992; Gilbert and Reynolds 1989). There are two particularly interesting aspects to the emerging picture of the nature of prehistoric settlement in the Newfoundland interior. First, the most significant interior adaptation pertains to the Recent Indian period, and to a lesser extent to the Maritime Archaic period as well. Palaeo-Eskimo interior settlement appears to have been quite limited. This bolsters suggestions made on the basis of coastal settlement patterns that Palaeo-Eskimo, Recent Indian and Maritime Archaic adaptations in Newfoundland may have differed significantly. Palaeo-Eskimo adaptations appear relatively highly specialized on a limited range of marine resources, while prehistoric Indian adaptations appear more generalized, emphasizing a wider range of resources and environmental zones. Although it has rarely been discussed previously, it is apparent that Recent Indian and Maritime Archaic occupations were longer-lived than the Palaeo-Eskimo occupations, and hints of differing adaptations may lead to an explanation for their differing vulnerability to extinction. The second notable aspect of this early interior work is the indication that interior settlement may have been specifically focused on the *near-coastal* interior, rather than deep interior regions such as the Exploits Basin. Emerging evidence for substantial near-coastal interior settlement accords well with the predictions made by Peter Rowley-Conwy, who proposed on the basis of a consideration of environmental considerations alone: that the near-coastal interior is in fact the optimal location for settlement in the winter, offering the greatest possible diversity of marine and terrestrial resources in a season of low and fluctuating resource availability (Rowley-Conwy 1990). With regard to the Beothuk extinction, it appears that it was not a shift to interior settlement as such that led to unstable adaptation, but rather a shift from a stable near-coastal interior adaptation to an unstable deep-interior adaptation.

INTERIOR ARCHAEOLOGY AND THE EXPLOITS BASIN

In this context, the data we have from the Exploits Basin become a little more perplexing and a great deal more important. Once it seemed that the deep interior along the Exploits, where the Beothuk chose to attempt their intensive interior adaptation, was the area most likely to yield a high density of prehistoric remains; now it appears that deep-interior regions like the Exploits are the *least* likely foci for interior settlement. Such regions are unlikely to be intensively occupied unless, as with the Beothuk, external factors compel such settlement. Prehistorically, in the absence of such forces, we would not expect to see significant settlement in deep-interior regions like the Exploits Basin. Yet the Exploits clearly has yielded evidence for prehistoric occupation. Substantial prehistoric Recent Indian components have been identified at Indian Point and Pope's Point, a Palaeo-Eskimo component was recovered from Pope's Point, and a small Maritime Archaic component was noted at Wigwam Brook. Traces of lithic, presumably prehistoric, components have also been identified in the course of surveys along the river. What are we to make of this evidence? Do prehistoric occupations along the Exploits represent brief hunting camps and kill-sites, ephemeral outliers of base camps on near-coastal lakes? Do they represent terminal occupations by prehistoric groups faced, like the Beothuk, with competition from newcomers? Or is the resource potential and stability of the deep interior greater than we think? If this were the case, we would have to rethink current explanations of the Beothuk, as well as prehistoric extinctions. Recent evidence from the near-coastal interior makes it all the more important that we determine the precise levels and nature of prehistoric settlement in the deep interior Exploits Basin.

Archaeological data previously collected from the Exploits Basin do not permit any detailed comparison of levels of settlement between deep interior and near-coastal interior.

Previous archaeological research in the Exploits Basin, while substantial by Newfoundland standards, has been burdened by a number of problems which have made the resulting data difficult to interpret and compare with data from elsewhere on the island. First, it is noteworthy that for the

last thirty years, the most conspicuous figure in the archaeology of the Exploits, Don Locke, is not a professional archaeologist, but rather, an enthusiastic amateur. It is Don Locke who has been responsible for re-locating (and excavating) many of the Beothuk sites on the river. As a result of his investigations, Locke has advanced the hypothesis that Beothuk sites are not merely scattered along the rivercourse, but are in fact concentrated in five discrete sites clusters: Indian Point, Noel Paul's Brook, Red Indian Falls, Badger, and North Angle (see Figure 8); Locke argues that these five clusters effectively control the five known or likely crossing points where the river intercepts the principal north-south caribou migration routes (Locke n.d.b.). Although Don Locke's work in locating these sites and site clusters has been undeniably valuable, his excavation efforts have been somewhat heavy-handed and excessive; he has failed to recognise or collect many important materials, and has often left sites with little remaining for future archaeologists to investigate. Moreover, although Locke has kept records of his activities, and in several instances, has published his conclusions (Locke n.d.a; n.d.b; 1972), these records are not adequate for most research purposes. His collections appear to be biased in favour of well-finished artifacts, his observations on site locations and contents are vague and impressionistic, and it is often difficult to determine precisely where he has surveyed and where he has excavated.

Since the mid 1960s, professional archaeologists have tended to concentrate their efforts on investigating sites already identified by Locke. This may be attributed in part to a belief that he had already located all sites of any significance in the region, and in part to a concern that the sites he has identified are in danger of destruction, both by industrial activities (logging) and by looting. The first investigator to follow up on Locke's leads was Helen Devereux, who undertook excavations at the Pope's Point Site in Badger (Devereux 1965), and at Indian Point, on Red Indian Lake (Devereux 1970). At Indian Point, Devereux recovered both Beothuk structural and artifactual remains, and a significant prehistoric Recent Indian component. Pope's Point yielded Beothuk and Recent Indian material, and also a small Late Palaeo-Eskimo (Dorset) component. In the 1970s, Ray LeBlanc undertook excavations at the nearly pure historic Beothuk site at Wigwam Brook, the centrepiece of

the North Angle site cluster (LeBlanc 1973). In addition to historic Beothuk material, LeBlanc collected 16 ground slate fragments, presumably reflecting a small Maritime Archaic occupation at the site. Both the Indian Point and Wigwam Brook excavations produced sizeable Beothuk faunal assemblages, analysis of which (Stewart 1971; 1973) indicated prolonged seasonal occupation at these sites (see Rowley-Conwy 1990), and a clear emphasis on caribou hunting.

Formal archaeological survey has been somewhat limited. Thomson's (1980) survey of eastern Notre Dame Bay encompassed the Bay of Exploits, and led to the discovery of a large Dorset site at Rattling Brook, near the mouth of the Exploits River, but this survey did not extend any distance into the interior. At the western end of the Exploits Basin, a very cursory survey of Victoria Lake and the Lloyd's River system (Madden 1975) failed to locate any sites, but this result should not be considered definitive. The only formal survey undertaken along the Exploits River proper was a canoe-based survey conducted in 1982 by Callum Thomson (Thomson 1983). This reconnaissance was limited to that portion of the river flowing from Red Indian Lake to Grand Falls; the rivercourse below Grand Falls was not investigated at all. Moreover, even within the survey area, detailed examination was limited to the known Beothuk site clusters identified by Locke.

Perhaps the most significant and surprising aspect of the history of archaeological research on the Exploits is the scarcity of intensive survey work. While the best-known portion of the near-coastal interior, Gambo Pond, has seen 100% foot and boat survey of the lakeshore, surveys of the Exploits have been cursory, or intuitively-guided. For example, Locke's efforts have been heavily-oriented toward locating Beothuk sites identified in historical documents. All of the excavation effort by professional archaeologists has been conducted within the major site clusters identified by Locke, and at sites originally located by him. Moreover, subsequent archaeological survey along the river has been limited to testing and re-visiting sites within these known clusters. Thus, while the amount of research archaeology that has been conducted in the Exploits Basin is quite respectable, this work has been guided by hypotheses derived from Don Locke's work. Adherence to these hypotheses has led to a concentration of both excavation and survey effort on Beothuk sites within known clusters.

Research outside of, and between, Beothuk site clusters has been extremely limited. As a result, a truly comprehensive inventory of archaeological remains in the region has never been compiled, the hypothesis that Beothuk settlement was strongly clustered has never been tested, and the levels and nature of *prehistoric* settlement in the region has never been clear. In short, much of the river has not been surveyed at all; in the absence of a comprehensive survey, the prehistory of the region has remained a mystery, and even our beliefs about the supposedly well-known Beothuk period have been unverifiable.

Thus it was that in the summer of 1992, I undertook to complete a comprehensive foot-based survey of the Exploits River and the mouths of its major tributary streams, from its outflow on Red Indian Lake down to Laurenceton and Phillip's Head on the upper reaches of the Bay of Exploits (see Figure 2). The immediate goal was to augment our present understanding of the major Beothuk site clusters by intensively surveying the intervening stretches of river. The ultimate goals of this research were as follows:

- Completion of a comprehensive inventory of archaeological remains along the Exploits that would reveal heritage resources deserving of further research and interpretation, and aid in the overall planning and management of heritage resources in the region.
- Completion of comprehensive survey that would reveal the extent to which Beothuk settlement was clustered, as previously believed.
- Identification of prehistoric remains, enabling a comparison of the level and nature of prehistoric settlement along the Exploits with the level and nature of Beothuk settlement in the same area, and prehistoric settlement in other regions, particularly near-coastal interior settings.

THE 1992 SURVEY METHODOLOGY

Previous survey on the Exploits River have been boat-based. The most recent of these, and the most extensively-reported, was the survey by Callum Thomson in 1982 (Thomson 1983). This was originally intended to be a comprehensive survey of the river, but the scope of the survey was subsequently reduced. Coverage was limited to that portion of the river above Grand Falls, and the survey was focused primarily on visiting locations of known Beothuk site clusters in order to determine their precise extent, and to determining the extent to which these known sites were being damaged or threatened by natural and anthropogenic disturbance. The survey strategy involved moving rapidly downriver by canoe, stopping only to check locations of high archaeological potential. These latter have been defined as points of land near the mouths of tributary streams and the ends of islands - essentially, settings comparable to those of known Beothuk sites. This strategy was an effective one for visiting known Beothuk site clusters rapidly and efficiently, and for locating new Beothuk sites within these clusters. Data was collected on the preservation status of these sites, and new Beothuk sites were identified in and near the major site clusters. However, as the investigator himself conceded, it was not effective at locating non-Beothuk (prehistoric) remains, or at locating new sites outside the known clusters (Thomson 1983: 172).

Since the recovery of data from locations between the site clusters was a primary goal of the 1992 survey, I opted for an alternative approach: a foot-based survey. Surveying on foot is undeniably slower than boat-based strategies, but is superior for locating sites when the typical locational attributes are unknown. In the case of prehistoric sites, the types of location which might contain archaeological remains were completely unknown; as for Beothuk sites, we do understand locational types likely to yield Beothuk remains (those pinpointed in Thomson's survey), but we don't know what other locational types might also have been favoured by Beothuk hunters.

In this particular case, the chosen survey area was very large (some 370 linear km of riverfrontage and shoreline), and it was immediately apparent that the survey would require a

relatively large number of personnel and a great deal of time to complete. A total field crew of ten, divided into two survey teams of five each, was deemed sufficient to adequately test surveyed areas, while it was estimated that two teams would require approximately twelve weeks to completely survey the selected area. The survey proceeded essentially as follows: each day, the field crew reported at a central location, usually in Grand Falls. Thence, each team moved separately, usually by vehicle, to the staging area selected for that day. These staging areas consisted usually of areas easily accessible to the highway and also to the river. There, vehicles were left and survey of the selected stretch of river was conducted on foot; Where possible each team used two vehicles, leaving one at the starting point and one near the intended ending point for that day's survey. Survey along much of the northern side of the river was easily accomplished in this way, as the Trans-Canada Highway runs parallel to the river for much of its length. For surveying on the southern side of the river, a mixed strategy was employed. Certain stretches are accessible by means of logging roads that cross the river at Grand Falls and the Red Indian Lake Dam. Elsewhere, boats launched from the northern side of the river were used to provide access to the opposite bank, and to islands. On the upper reaches of the Bay of Exploits, roads again give easy access all along the western shore, while the teams were ferried across to the eastern shore by motorboat from Botwood. Thus, while vehicles and boats were used to provide logistical support, transporting survey teams to and from staging areas along the survey region, the survey itself was entirely pedestrian. During the course of the survey, teams slowly walked a designated stretch of riverbank, averaging about 5km per day. Where possible, teams walked abreast, examining a broad band along the riverbank; in practice, this was rarely feasible in the dense vegetation. Except for certain clearings and stands of mature forest, survey coverage rarely extended more than 10-20m back from the edge of the riverbank. Eroding banks and other surface exposures were examined for cultural material, and shoveltests were excavated in certain locations. It was anticipated that shoveltesting would be concentrated in locations likely to yield cultural materials, such as low points of land projecting out into the river, islands, and locations at the mouths of brooks. In addition, test units would be dug at regular intervals between such locations, in the hope of

locating archaeological remains in unexpected or unpredictable situations. In practice, the high levels of disturbance along the riverbanks meant that testpits were dug wherever possible. Location which yielded archaeological remains, or those locally reputed to have yielded remains, were tested more extensively in order to delimit site areas.

The project began in March, 1992, with the selection of a crew of eight field assistants drawn from the local area. For the next eleven weeks, these individuals received training in the use of computers, surveying equipment, compasses and mapwork, cameras, and in archaeological survey and excavation techniques. The crew completed their training by designing, excavating, and creating an archaeological "site" on the grounds of the Mary March Regional Museum in Grand Falls. Supervised excavations at this "site" throughout the summer provided local childrens groups an introduction to the methods and importance of scientific archaeology, and to the excitement of archaeological discovery. Actual field survey commenced on May 18, and ended on August 7. In all, when the season ended, some 310 km (84%) of the intended survey area had been walked and investigated (Figure 3). Four areas were not surveyed as planned. These include a 6km stretch of the southern bank between Great Rattling Brook and Little Rattling Brook below Grand Falls, 22km of riverbank (11 km of each bank) from the mouth of Harpoon Brook east, 9 km of shoreline from Northern Arm to Phillip's Head, and 20 km of shoreline in Norris Arm. Within the surveyed area, some 1450 testpits were excavated in over 150 discrete locations. Fifty-one sites were located; some represent sites already identified by previous investigators, but 34 are new sites, not previously recorded. A description of these sites follows, but first it is necessary to briefly consider the Exploits Basin and its environmental setting.

THE ENVIRONMENTAL SETTING

The Exploits Basin lies within the Dunnage Zone, a broad geological province which occupies much of west-central Newfoundland (see Rogerson 1981). It is a region of moderately low

relief, composed of deformed rock along eastern the margins of the Humber Zone extension of the ancient Appalachian chain. Resistant granite plutons form isolated high hills such as the Topsails to the north of the Exploits Basin and Mount Peyton to the south, but the surface is more typically characterized by gently rolling ridges and valleys, oriented southwest-northeast, parallel to the structural grain. The long and intermediate rivers in Newfoundland tend toward a similar orientation; this is certainly true of the three major river systems (the Humber, Gander, and Exploits) which drain much of the central Newfoundland plateau.

Of these river systems, by far the largest is the Exploits drainage. Like the others, it occupies a wide valley oriented parallel to the structural grain. The main course of the Exploits drainage may be divided into three principal segments: 1) The Lloyd's River/Victoria River, which flow northeast from headwaters near King George IV Lake and Rocky Ridge Pond in the southwest corner of the island. 2) Red Indian Lake, a long narrow lake, the second largest on the island, again oriented SW-NE. 3) The Exploits proper, which flows from Red Indian Lake to the sea at the Bay of Exploits. The Exploits, like the other major rivers on the island, may be of ancient (pre-Pleistocene) origin. That is to say, the post-glacial river may represent a re-occupation of a more ancient river valley (Yoxall 1981). Nevertheless, the Exploits basin is not lacking in landforms of Pleistocene date. Along much of its course, the river flows through clastic deposits, which, interestingly, include a variety of rhyolites and cherts; at its mouth and along the upper reaches of the Bay of Exploits, glacial moraines are conspicuous features of the landscape.

The 1992 archaeological survey was focused entirely on the Exploits proper, and the upper reaches of the bay, and the remaining observations are restricted to this area (see Figure 2).

Along much of its course, the Exploits is shallow and gently graded. The river gradually widens as it approaches the sea, in places forming broad pools dissected by islands (Plate 1). Although the river broadly follows the grain of the geological structure, in places its course passes across distinct geological units (Yoxall 1981). This gives the longitudinal profile of the river a stepped appearance (i.e., shallow, graded segments are punctuated by rocky falls and rapids). Notable falls and

rapids on the Lower Exploits are found at Red Indian Falls, the Badger Chute (Plate 2), and Grand Falls (Plate 3), and Bishop's Falls, and several smaller groups of rapids and falls are also scattered along the rivercourse. Characteristic features of the rivercourse, then, are long segments of placid, shallow water, interspersed with occasional islands. These segments are interrupted by periodic falls and rapids, behind which are found broad pools broken up into multiple channels by island clusters. A final group of noteworthy features are the mouths of major tributary streams. The majority flow into the main rivercourse from the south; southern tributaries include Great Rattling Brook, Little Rattling Brook, Stony Brook, Sandy Brook, Noel Paul's Brook and Harpoon Brook. To the north, small tributary streams (e.g. Aspen Brook, Pynn's Brook) are numerous, but only Rushy Brook above Grand Falls, and Badger Brook and Little Red Indian Brook, which debouch in the town of Badger, are sizeable streams. In addition to the Exploits itself, some smaller rivers flow directly into the Bay of Exploits. These include Rattling Brook near Norris Arm, Peter's River, Northwest Arm Brook, and Charles Brook.

Regional climate in the central interior (see Banfield 1981) is characterized by the most continental conditions to be found in Newfoundland, with relatively low precipitation and extreme temperatures. Summers are relatively warm and sunny, and winters cold and dry. Frosts can be severe, and may begin relatively early.

While geology, topography, and, to some extent, climate, may be considered aspects of the "natural" environment, it is impossible to discuss other environmental characteristics without reference to anthropogenic factors. This is particularly true of plant and animal ecology, but even such elements as local hydrology owe much to human intervention. Some anthropogenic changes in the Exploits Basin are comparable to changes which have occurred across Newfoundland; the introduction and successful spread of moose and snowshoe hare populations, for instance. However, many of the human impacts on the regional environment are unique, in scope, if not in nature. Most human impacts on the landscape here can be attributed, directly, or indirectly, to logging activities. The Exploits Basin from Red Indian Lake to the Bay of Exploits is without doubt the most densely-

populated and highly industrialized portion of the Newfoundland interior. Logging activities have, of course, changed the patterns of arboreal vegetation in the region, but they have also altered the seasonal patterns of flow in its rivers. Construction and use of logging facilities has left its mark on virtually every piece of river frontage; abandoned logging campsites, roads, railways, dikes, logdumps old and new, and wharves line the river. The growth of towns associated with the logging industry - Bishop's Falls, Grand Falls-Windsor, Badger - and the highways that link them have acted to alter the distribution and abundance of animal populations. On the coast, towns like Botwood have their origins in the logging industry as well, though it is perhaps the effects of military activities during the Second World War that are most conspicuous (Plate 4). In terms of both archaeology and ecology, the Exploits Basin is the most severely disturbed landscape in the Newfoundland interior. As archaeologists, we are interested in the modern environment, but also concerned with reconstructing past environments. Knowledge of past environmental conditions aids in the interpretation of archaeological remains, while a comparison of past and present conditions may reveal much about the extent to which changes may obscure or destroy the archaeological record. In the Exploits Basin, precise reconstruction of past environmental conditions is difficult, but we may reasonably propose first that the environment was radically different in the past, and second, that recent human activities have done much to destroy and obscure archaeological resources.

Seasonal discharge on the Exploits, and on many of its tributaries, is regulated by human intervention. On the main rivercourse, dams are found at the Red Indian Lake outflow (Plate 5), at Grand Falls, and at Bishop's Falls. These are closely associated with the activities of the logging industry in the area, and function either to raise waterlevels for seasonal logdrives, or to generate hydroelectric power to run processing facilities. Data on seasonal discharge are available for Sandy Brook, a regulated tributary of the Exploits (see Yoxall 1981). These indicate that spring high discharge following the breakup of ice on inland waterways begins in May, with a summer low discharge lasting from July to September. Winter water flow (December-January) is near the annual mean. Comparison of these data, and those from other regulated streams such as Rattling Brook, with

those from unregulated streams (Yoxall 1981: Figure 5.12) suggests that regulation does not radically alter the timing of discharge highs and lows, but that it does affect their magnitude, ameliorating the spring peak, and levelling out fluctuations in seasonal discharge. Unregulated, these streams might have more fluctuating seasonal flows, including more severe spring floods. We might extrapolate from these data that the natural seasonal flow on the Exploits was more variable in the past. Certainly, cataclysmic floods on the river are documented in the historical record. However, it is important to note that both Sandy Brook and Rattling Brook are regulated by hydroelectric dams. In contrast, the principal regulating factor on the Exploits is the Red Indian Lake Dam, used to control water levels for logdriving. Regulation for this purpose does require and create a strong spring high discharge. It may be, then, that on the Exploits, the principal difference between modern and past discharge patterns is that *severe* spring flooding is more frequent along the river today, but not more extreme, than in the past. Empirical support for this notion is hard to come by, but rivercourse profiles may offer a measure of support. Two types of profile are typical. In places, the river cuts through deep till deposits. Riverbanks rise steeply from the water's edge, reaching a narrow plain 10-20 meters above river level. In most cases, the walls of these banks support shrubs and alders, or no vegetation at all. Elsewhere, low, rocky banks flank the river. These support grasses, wild roses and other shrubs, and gradually rise to higher, forested elevations (Plate 6). The high cut banks suggest ongoing erosion, while the lower banks clearly represent seasonally-flooded zones. If this erosion does not reflect greater severity of floods, then it may result from their greater frequency; banks which are not allowed many years to develop mature vegetation are more vulnerable to the erosional effects of those floods that do occur.

Above the floodzones and erosional faces, the forested banks themselves also display some interesting characteristics. Along the banks, the "treeline" often corresponds to a slightly raised levee backed by a slight depression. On both high banks and low, these depressions are often occupied by long, narrow ponds and minor streams, oriented parallel to the main rivercourse. Today, these channels clearly catch seasonal runoff, but their origin is uncertain; they may represent backwaters

on an ancient floodplain, or recent floodwater catchments, or both; it is unlikely that flooding along the river itself actually reaches some of the channels located at higher elevations, but perhaps this was the case in the past. Today, these areas are favoured locations for beaver, judging by the frequency of their dams and lodges (Plate 7). In fact, beaver activity may be partly responsible for keeping water trapped in these channels through the summer. Fish penned up in shrinking seasonal channels of this sort would make easy prey for prehistoric foragers, though it is unclear whether fish are present in these channels, or would have been in the past, or if so, in what quantities. To my knowledge, these floodplain features have never been noted by ecologists or geographers, much less studied or described; at present, the origins, and the past and present resource potential of the backwater channels, are moot.

The most direct effects of the long history of logging in the region have been felt, of course, by the arboreal vegetation. One of the defining characteristics of the vegetation in central Newfoundland has been the presence of white pine (*Pinus strobus*) and red pine (*Pinus resinosa*) in the forest cover. These species, the only pines indigenous to Newfoundland, are common only in central Newfoundland, with its relatively warm, dry summers. Their distribution and poor growing performance in Newfoundland indicates that they do not thrive there, and have struggled to survive since the end of the mid-Holocene climatic optimum. Nevertheless, there is evidence that pine was a significant, if not dominant, component of the forest cover in the Exploits Basin during the early historic period (Howley 1915: 42), and it was clearly abundant enough to provide the initial impetus for logging in the region. Virtually all of the pine has been removed from the region today, and only a few defiant survivors remain (Plate 8). The disappearance of the pine led to a redirection of logging activities early in the twentieth century, and ever since then, the emphasis of commercial logging has been on the cutting of spruce (*Picea glauca*, *Picea mariana*) and fir (*Abies balsamica*) for pulpwood. Today, these species are found along with birch (*Betula papyrifera*), aspen (*Populus tremuloides*), alder (*Alnus*), and occasional larch (*Larix laricina*). This mix is typical of boreal forest cover elsewhere in Newfoundland, but along much of the Exploits, the proportions are distinctive. Stands

of fir and spruce are less common than might be expected, and where they do occur they are generally quite young. In contrast, in places forest cover is wholly dominated by hardwoods (birch and aspen). Alders predominate in areas that suffer periodic flooding, and in areas recently disturbed by construction activities. This preponderance of hardwoods in some areas gives the valley a distinctive appearance, unlike any other region on the island, resembling more a southern temperate woodland, than a boreal forest. The predominance of birch and aspen in the region was first noted by Lieutenant John Cartwright, during his expedition up the Exploits in August of 1768 (see Howley 1915: 42). Cartwright attributed this to recolonization following a major fire which had occurred some seventy years earlier, and his assessment may be correct. The continued predominance of birch and aspen today may be attributed to three factors: 1) the more continental climate, which might favour a climax growth of hardwoods, 2) the ability of birch, and especially, aspen, to colonize logged, burnt, or disturbed habitats, and 3) preferential cutting, first of pine, then of fir and spruce for pulpwood. Though birch can be employed in papermaking, the process is expensive has not been undertaken in the region. Aspen is totally useless. Thus, birch and aspen that colonize logged areas are unlikely to be subsequently cut, and will be allowed to mature.

To summarize the above discussion, human intervention has acted to largely eliminate the local pine population. If this population is indeed a thermal relict, it is unlikely ever to recover. Human intervention has also ensured the persistence of a hardwood-dominated forest along much of the river. This may represent a natural climax pattern, but more likely it represents a successional stage which, because of human intervention, is unable to develop to climax. Logging has finally ensured that softwood stands rarely reach maturity. It should be noted that vegetation cover does vary somewhat along the river. Below Grand Falls, steep banks predominate; their flanks are colonized by alder and aspen, while the forest on top of the banks is fairly mixed, with high frequencies of birch and aspen, but also spruce and fir. Between Grand Falls and Badger, banks are generally lower, supporting low shrubs below the flood level. Above the treeline, it is here that the dominance of hardwoods is most marked (Plate 1), as it was in 1768. Above Badger, bank profiles are variable, and mixed forest once

again appears. Along some areas of the southern shore, above Red Indian Falls and near the mouth of Noel Paul's Brook, fairly mature coniferous forest has been allowed to develop. Trees are widely spaced, undergrowth is limited, and the woods are a pleasure to survey. Occasional mature pines are also seen.

Radical alteration of the vegetation cover by man is matched or exceeded by his impact on the abundance and distribution of animal species in the region. The introduced moose and snowshoe hare are ubiquitous, and are the principal game species today, as in most parts of Newfoundland. Of indigenous terrestrial mammals, undoubtedly the most important to aboriginal hunter-gatherers would have been the caribou. Caribou are still abundant in the region generally, but their ancient migration patterns appear to have been curtailed. Previously the herds regularly crossed the river moving south in the autumn, and north again in the spring, following "lines of least resistance" which channelled the animals into a limited number of crossing areas (North Angle, Badger Brook, Red Indian Falls and Noel Paul's Brook). Now, like many Newfoundland caribou herds, they have resorted to a largely sedentary existence in a few core areas. Data on the abundance of other indigenous mammals, such as black bear, lynx, and the small fur-bearing carnivores, are scarce, and it is uncertain how modern populations compare with those of the past. The wolf, of course, is now extinct. It was obvious during the survey that there were extraordinary levels of beaver activity along the river, particularly in the backwater channels (Plate 7). The numbers of dams and lodges suggest that beaver populations are very high in the area. The relatively high beaver density must be related to the abundance of hardwoods, particularly aspen, in the region. Whether this situation obtained prehistorically is unknown. In 1768, Cartwright noted, in addition to the density of hardwood forest, an abundance of beaver (like many of his contemporaries, Cartwright was intrigued by this animal, not least by its work ethic; unlike some of his fellows, he was skeptical of then-current beliefs about the beaver's human-like qualities. See Howley 1915: 40). Whether the abundance of beaver in the past was a normal condition rather hinges on whether the hardwood forest present today, and observed by Cartwright, was a normal condition, or a transient successional stage.

Perhaps the animals most affected by human intervention have been the river's fish. Trout and landlocked salmon are present in deep-interior lakes and rivers. As noted, these fish, if present in backwater channels, would have been easy prey for foragers living along the Exploits. Today, anadromous salmon (*Salmo salar*) are also present far up the Exploits drainage. However, this is entirely the result of the recent construction of fishways as part of the ongoing salmon enhancement program on the Exploits (Plate 3). In the past, the major falls would have posed serious obstacles to salmon migration. Salmon migrations do not appear to have extended above the Grand Falls before the present-day; Bishop's Falls was not, perhaps, insurmountable, but salmon abundance may well have been low between Bishop's Falls and Grand Falls. Prehistorically, then, salmon availability was probably low above Bishop's Falls, and nil above the Grand Falls.

To summarize the above, human alteration of local hydrology, and the effects of construction, both associated with the logging industry, have undoubtedly has serious impacts on archaeological resources in the region. Their effects in destroying or obscuring archaeological sites have been amply documented (Thomson 1983). Changes in vegetation may have enhanced the distribution or abundance of immature and secondary growth. Combined with the effects of flooding and logging activities, the generally dense vegetation makes for difficulties in walking the banks, and undoubtedly acts to reduce site visibility. This cannot help but have a material effect on the quality of the survey. It is certain that a proportion of sites have been destroyed, while others remained hidden, despite the intensity of the 1992 survey.

SURVEY RESULTS

As noted, 51 sites (60 components) were recorded in the course of the survey. 34 of these represent sites not previously recorded; 45 of the components are new. The remaining 16 sites (14 components) represent sites identified by earlier investigators. For the purposes of this report, these sites may be grouped as follows:

- sites located on the upper Bay of Exploits and on the Exploits estuary, upriver as far as Bishop's Falls. This includes eight Palaeo-Eskimo sites, ten lithic components of uncertain cultural affiliation, three Maritime Archaic components, and fourteen historic European occupations, including two that date to the eighteenth- and early nineteenth centuries.
- Sites scattered along the middle and upper reaches of the Lower Exploits. These include one historic European stray find, 1 Recent Indian site, eight sites of indeterminate cultural affiliation, and 1 Beothuk site.
- Sites located within the known Beothuk site clusters. Although the principal goal of the survey was to identify non-Beothuk sites, and sites located outside the major Beothuk site clusters, all of the major clusters were visited and several were tested. New sites were not identified within these clusters, but two new components were identified at previously-known sites.

Each group of sites is discussed in more detail below (for site locations, see Figures 4-8).

SITES ON THE BAY OF EXPLOITS AND THE EXPLOITS ESTUARY

Charles Brook - 1

In the late 1980s, Clifford Evans, director of the Mary March Regional Museum in Grand Falls, identified a small Palaeo-Eskimo site near the mouth of Charles Brook. Although this location lay outside the planned survey area, it was deemed advisable to make a detailed record and a small collection so as to formally report the site to the Historic Resources Division. The site occupies a small grassy clearing at the end of a road on a small headland near the mouth of Charles Brook (Plate 9).

The road provides access to several local cottages. Judging by its rutted surface, it appears that cottage owners frequently park and turn their vehicles on this area. In fact, it is in vehicle ruts that artifacts are presently exposed and visible on the surface. Artifacts are exposed in an area of about 6x12m. and are also visible on the beach that rings the road's end; the site occupies a maximum area of about 21x25m. Although scattered flakes and artifacts were visible on the beach, erosion does not appear to be rapid, and the principal threat to the site consists of vehicle traffic moving over it. A possible threat in the future is avocational collecting by local cottage owners, though at present, they seem to be unaware of the site. We did not wish to call attention to the site by shoveltesting, so the nature of the deposits is uncertain, but a collection of artifacts was made in the vehicle ruts. Recovered artifacts include a nephrite burin-like-tool, endblade fragment, 3 small scrapers, 3 microblade fragments, one worked steatite fragment, a large biface, and a macroblade (Plate 13). Many of these were fragmented, presumably a result of crushing by traffic. The site appears to be a small Late Palaeo-Eskimo (Dorset) site, largely intact at the moment, but under threat.

Lower Sandy Point-1 Dn A2

This site occupies a low, level, triangular point of land projecting out into the Bay of Exploits from the base of a prominent glacial moraine (Plates 4, 10, 11). The margins of the point consist of low, eroding bank fronted by a shingle beach. A gravel road curves around the base of the moraine and extends out along the western side of the point. Artifacts were observed eroding from the western bank, and were also visible along the gravel road which runs along the bank. Seven shoveltests were oriented in a line running E-W, and seven in a perpendicular line running N-S, in an effort to delimit the site. Artifacts were recovered from an area of 1100 m², including collections made from the surface of the road and the eroding bank. Artifacts recovered (Plates 14, 15) included a large collection of diagnostic Late Palaeo-Eskimo (Dorset) tools, one large biface fragment of uncertain cultural affiliation, and a variety of historic European materials, including brick fragments, pipestems, bottle glass, and ceramics.

Cartwright's sketch map of the Exploits River clearly indicates Lower Sandy Point as the location of a Salmon-fishing premises in 1768, at which point the Bay of Exploits lay very much on the frontier of English settlement in Newfoundland. This was also the location of the premises of John Peyton, captor in 1819 of Mary March (Howley 1915: 92, 96) It is significant, then, that some of the ceramics recovered appear to pertain to the late eighteenth and early nineteenth centuries. It would appear that some, at least, of this historic European material attests to this early English occupation of the upper reaches of the Bay of Exploits.

LeDrew's Garden Site Dr. A.

Testpitting on a small point of land south of Lower Sandy Point yielded ceramics and a pipebowl fragment of uncertain date, as well as a single flake of undetermined cultural affiliation.

Winterhouse Cove-1

In November of 1991, Roland Butler of Laurenceton was clearing land for agriculture along the eastern shore of the bay when he exposed a group of large slate bifaces *en cache*. Recognizing their potential significance, he reported the find to the Historic Resources Division and ceased bulldozing. At his request, we visited the site and spent 3 days testing the area in order to determine the scope and significance of this discovery. Both survey teams were enlisted to shovel-shine an area of 8x6m around the location of the original discovery, searching for any additional pieces from the original cache that may have been missed, and attempting to identify patterns of soil disturbance and mixture that might indicate the presence of additional caches. No additional materials were recovered. The collection made by Roland Butler includes eight rough gouges and celts. All are of slate, chipped and partially ground, and all clearly pertain to the Maritime Archaic period. Notwithstanding their crudeness, the shallowness of the cache, and the absence of preserved bone, it is entirely possible that this cache represents a human burial. It is equally possible that more such burials exist in the vicinity, and that more may eventually be uncovered. However, if there are further caches, these do not appear

to be closely clustered, at least not around the original find; any search for additional remains would likely be frustrating and time-consuming. However, the area should be periodically monitored.

Winterhouse Cove-3

Near the small brook which flows into Winterhouse Cove, a small collection of flakes was recovered from the surface of a jeep track. This lithic component is of unknown cultural affiliation.

Evans Point-1

Evans Point is a low, narrow, eroding point of land in the community of Northern Arm (Plate 12). The point is fronted by the arm, and backed by tidal flats. Lithic material, including a microblade was observed along the beach on the western (inner) side of the point. Subsequently, extensive testing on the point confirmed the presence of a small Late Palaeo-Eskimo (Dorset) site along this western bank. Testpitting behind the bank led to the recovery of flakes, microblades, and an asymmetric knife (Plate 16a-c). The total site area extends some 40 m along the western bank, and up to 25 m behind the bank. However, organic enrichment was not obvious except in a few testpits along the very edge of the bank, and much of the site may be disturbed; certainly, evidence for disturbance is abundant elsewhere on the point. Intact deposits with lithic materials appear to be limited to a small 50m² area along the western bank. Testpits on the eastern side of the point yielded ceramics and nails suggesting use of the site in the nineteenth and twentieth centuries. This accords well with local accounts that the site was a local focus for schooner-building in the nineteenth century, and sawmilling in the twentieth.

Muddy Hole Point-1

Not far from Evans Point, testpitting at the mouth of Muddy Hole Brook yielded a single microblade (Plate 16d). Extensive subsequent testing failed to reveal additional cultural material.

King's Ridge-1 Dg Au-3

The King's Ridge is a high moraine which overlooks the town of Botwood. The ridge offers excellent views of the upper Bay of Exploits, and might be expected to contain evidence for aboriginal settlement, or at least temporary camps or lookouts. Unfortunately, the top of the ridge has clearly been stripped of vegetation, excavated, bulldozed, built-on, and otherwise extensively disturbed. Examination of the surface yielded two flakes, but it is inconceivable that *in situ* deposits remain.

GillsPoint-1

GillsPoint is a small but prominent headland on the eastern shore of the bay, opposite the town of Peterview. The tip of the point is rocky and wooded, but its flanks consist of grassy meadows fronted by shingle beach. Extensive testing along the northern side of the point (GillsPoint-1), on the tip (Gills Point-2), and along the southern side (Gills Point-3) yielded ample evidence for recent European occupation. In addition, testing at GillsPoint-1 produced a fragment of polished green slate and an irregular chert core (Plate 16f-g). The slate fragment presumably pertains to the Maritime Archaic period, while the core is not diagnostic. Though prehistoric materials were present, the area has clearly been subjected to extensive disturbance.

GillsPoint-3

Gills Point-3 yielded materials closely comparable to Gills Point-1, including a chert core fragment.

Peterview-1

Survey in the town of Peterview revealed an assortment of weathered chert fragments on the beach near the end of a prominent point of land. Most were waterworn, and not obviously chipped. Testpitting on the bank behind the beach revealed more of these fragments. Some were not

waterworn, and could have been deliberately flaked. Interpretation of these remains is difficult. It was quickly apparent that small chert pebbles and cobbles were easily available on the beach, and it may be that all of the fragments recovered were of natural origin. It is also possible that at some time in the past, this beach was being "quarried" for small pieces of high quality workable chert.

Peterview-2

While in Peterview, the survey team was informed by a Mr. Dover of Peterview that many years ago, he had discovered an artifact near the modern Peterview cemetery. When he turned the piece over to the survey team, it turned out to be a ground celt of green slate (Plate 16h). Although it had been occasionally used as a whetstone subsequent to its discovery, it was nevertheless clearly a tool of Maritime Archaic affiliation. Testpitting was not attempted in or near the cemetery.

Wigwam Point-1

Wigwam Point is a long, low, triangular point of land fronted by a sand and shingle beach bar. The point may be considered to mark the mouth of the Exploits estuary. The road through Peterview extends onto the point and ends there. On the hillside overlooking the point lies a small cemetery. Local tradition holds that this location has been a traditional stopping place for Micmac hunters moving between the interior and the coast. Undoubtedly this is true, as Lieutenant Buchan implies that it was a Micmac campsite in 1811. Local informants also assert that stone tools have often been discovered on the point. Extensive testing on level ground on the point itself, and on the slopes below the cemetery confirmed that this is likely true; these testpits yielded several flakes and a minute microblade fragment. The majority of artifacts, though, were of historic European origin, and the deposits themselves appear to have been extensively disturbed. Although prehistoric material is present, and includes one diagnostic Palaeo-Eskimo piece (Plate 16e), it appears that erosion, construction, and looting have taken their toll, and that little of interest remains.

Rattling Brook-1

The existence of a large Palaeo-Eskimo site at the mouth of Rattling Brook has been known for over a decade. (Thomson 1981) Though the site has already been reported to the Historic Resources Division, we revisited the site and conducted 16 shoveltests. It appears that substantial *in situ* deposits remain over an area of at least 450m², and the site must be considered a significant one. A collection made at the site included only tools diagnostic of the Late Palaeo-Eskimo period (Plate 17), and no additional components could be identified.

Upper Sandy Point-1

Local informants report that for years historic European artifacts have been discovered eroding from the riverbank near the present location of the Girl Guide Camp at Sandy Point. 30 testpits within the Girl Guide Camp property yielded a small collection of eighteenth and early nineteenth-century ceramics (including creamware, thin salt-glazed stoneware, and coarse earthenwares; Plate 18), as well as pipestems; testing also established that the site continues along at least 100m of shoreline, and extends at least 40m behind the beach. Two flakes attest to a lithic component of undetermined cultural affiliation. Cartwright indicates a salmon-fishing station here in 1768, and a station was also clearly in use in the area at the time of Buchan's journey up the Exploits in 1811 (Howley 1915: 72).

Silver Cove South-1

Testpitting on the north shore of the Exploits, opposite Upper Sandy Point, yielded two wrought nails, and small glass fragments, of indeterminate date. This may be related to the European site complex at Upper Sandy Point. Certainly, in 1811, Buchan indicates that this complex encompassed both sides of the river (Howley 1915: 72). A small chert fragment may attest to a lithic component of uncertain cultural affiliation.

High Point-1

Downstream from the Sir Robert Bond Bridge, a bedrock outcrop forms a prominent point of land projecting from the north shore, creating a narrow constriction of the Exploits estuary. A tidal eddy at the end of this point provides an ideal salmon-fishing location. Flakes were observed eroding onto the exposed bedrock slope from vegetation atop the point. Extensive testpitting yielded additional flakes, microblades, a quartz crystal fragment, an endblade fragment, and a tip-fluted endblade preform (Plate 19a-d). The Late Palaeo-Eskimo (Dorset) component at this site appears to be highly localized, however, extending over an area of 60m² at most.

Flat Rattle-1

Testing in the vicinity of the Bishop's Falls power station revealed a highly localized lithic component. Artifacts recovered included flakes, a core fragment, and a microblade (Plate 19e). The location of this Palaeo-Eskimo site, just below the falls, would appear to be most appropriate for exploiting salmon.

Recent Historic Sites on the Bay of Exploits

The head of the Bay of Exploits contains ample evidence for the remains of recent (late nineteenth-early twentieth century) European settlement. The eastern side of the Bay, from Burnt Arm to Norris Arm in particular, is dotted with greens and meadows that attest to such settlement. Gill'sPoint-1, described above, is one example, as is LeDrew's Garden. Survey around the head of the bay included testpitting in such meadow locations, and where artifacts were recovered, site designations were assigned. Sites dating to the late nineteenth century or later between Burnt Arm and Norris Arm include the Apple Blossom Site, Burnt Arm-1, Burnt Arm-2, and Gill'sPoint-2,4 and 5. In the vicinity of Winterhouse Cove-1, late historic artifacts were also recovered from Winterhouse Cove-2. The majority of these sites relate to settlements that were relocated to the western side of the

Bay in this century. Comparable material from the western shore is scarcer, largely because modern settlement is concentrated here, between Northern Arm and Peterview, but a late historic component was identified at Peterview-3, near the mouth of Peter's River.

As noted, some of these sites yielded lithic components, and it is possible that late eighteenth and early nineteenth century components lie concealed beneath the grassy meadows on the eastern shore. However, testpitting suggests extensive nineteenth- and twentieth-century disturbance, and it is unlikely that undisturbed early historic or prehistoric deposits of any significance remain.

ISOLATED SITES ON THE MIDDLE AND UPPER EXPLOITS

Twelve sites were identified at a variety of locations outside the major Beothuk site clusters. These include two between Grand Falls and Bishop's Falls, six between Grand Falls and Badger, and four above Badger. New data from previously-known Beothuk sites will be discussed separately.

Bulldozer Cut Site

Above Bishop's Falls, as far as the mouth of Great Rattling Brook, the southern shore of the Exploits River is characterized by generally low banks. Survey along this bank was facilitated by the presence of a road and jeep track running west from the trestle bridge at Bishop's Falls. Some three kilometers east of the mouth of Great Rattling Brook, a single flake scraper (Plate 19g) was recovered from the surface of a bulldozer cut extending from the jeep track down to the water. Testpitting in the area failed to yield additional evidence for cultural material.

Four Mile Rapids-1

The northern bank of the river is generally high, from Bishop's Falls to Grand Falls. Survey in woods along this bank led to the discovery of a single possible housepit feature some 15m above river level 3 km northeast of Grand Falls. Testpitting around this feature yielded a single flake. The

feature itself was left undisturbed. This site may be the site identified by Don Locke (n.d.b) as Four Mile Rapids.

Goodyear's Dam - 1

Survey immediately west of Grand Falls, on the northern shore of the river near the present location of the Goodyear Dam, revealed a small, subrectangular boulder alignment, footing, or foundation, half eroded by the river. Associated with this feature was a large rhyolite flake. The flake may be of natural origin, but the boulder feature clearly is not. It may pertain to recent European activities along the river, but this could not be determined with certainty.

Rushy Brook - 1

Another boulder feature, this a mound associated with a dark organically-enriched deposit, was located along the eastern side of Rushy Brook, a small tributary which flows into the Exploits from the north. One piece of chert was recovered from this feature. The cultural affiliation of this feature remains a mystery.

Rushy Pond - 1

Rushy Pond, the source of Rushy Brook, lies some 1.5 km north of the Exploits. A small brook flows into the eastern side of the pond, and here, among fresh gravels at the mouth of this brook, were discovered a number of chert flakes. As noted, chert is naturally abundant along the Exploits, and it can sometimes be difficult to distinguish man-made lithic debris from natural shatter. However, the collection also includes a small side-notched biface base of glossy black chert (Plate 19f), clearly an artifact, and probably of Recent Indian manufacture. The source deposit for this cultural material could not be determined at this time, but the site clearly warrants further investigation.

Studio Site

Testpitting along the north shore of the river 15 km west of Grand Falls led to the discovery of two flakes in a small clearing on a high bank overlooking the river. No additional cultural material was recovered. It was later determined that this site was located close to the "Old House Site" reported by Don Locke. The Studio Site and the "Old House Site" may in fact represent the same location.

Pynns Brook-1

Pynns Brook is a small, shallow tributary stream. It flows into the Exploits from the north, disemboguing in a narrow side-channel behind a large island. Testpitting near the mouth of the brook, in flood-zone vegetation just behind the water's edge, yielded flakes and a core fragment of fine beige chert (Plate 19h). Though this material came from undifferentiated sandy silt (presumably an alluvial deposit) in an area that is clearly frequently flooded, none of the pieces exhibited any sign of waterwear. It therefore seems unlikely that they originated from a distant source somewhere upstream. These pieces may therefore relate to a deflated component in place at the mouth of Pynns Brook. The cultural affiliation of the site is unknown.

Terrace Site

Less than 2km east of the Badger Chute, a meandering brook flows into the Exploits from the north. The banks of the Exploits are high and steep in this area, but at the mouth of this stream, two narrow terraces rise to give easy access between the river and the top of the bank. Survey along the middle terrace revealed a single flake lying on the surface of a disturbed clearing. Additional testing on this terrace, and also on the lower terrace and the high bank, failed to recover additional cultural material.

South Badger-1

Survey on the southern riverbank directly opposite the town of Badger produced a single

surface find, a flake recovered from a clearing disturbed by a gravel road. Extensive testing along the riverbank in this area failed to yield additional material. Though separated from Badger by the river, this site should perhaps be considered part of the Badger Site Cluster (see below). The cultural affiliation of this single flake is, of course, unknown.

Small Point Site

Testing in a low clearing on the south side of the river, not far from the Badger dump, yielded a small collection of bone and flakes. The cultural affiliation is uncertain, though the presence of bone suggests a Recent Indian date: late prehistoric at the earliest, and/or early historic Beothuk.

Canoe Landing Site

Half a kilometer upstream from the Small Point Site, a single flake was discovered on the active cobble beach. Testing failed to reveal the source of this stray find, and it may derive from a yet-unknown location somewhere upstream.

Pipebowl Site

On the northern shore of the river, a short distance upstream from the Badger dump, three fragments of a single kaolin pipebowl were discovered on the active cobble beach. The source of these pieces could not be located. These obviously pertain to historic European activities along the river.

INVESTIGATIONS AT KNOWN BEOTHUK SITE CLUSTERS

Although the principal goal of the survey was to locate sites that did not pertain to the historic Beothuk period, and/or did not lie within known Beothuk site clusters, these known large, important sites were visited in the course of the survey. These visits were aimed partly at determining the

current status of these sites, and partly at seeking evidence for additional components. The clusters themselves consist of housepits and groups of housepits, concentrated in five more-or-less discrete locations:

- North Angle. This cluster subsumes a number of sites situated around the confluence of Wigwam Brook and the Exploits, where the river broadens to form a wide pool, some 6km above Grand Falls. Sites have been reported on both sides of the river around this pool, and on several islands.
- Badger. Sites have been reported from several locations around the modern town of Badger, at the confluence of Badger Brook, Little Red Indian Brook and the Exploits; these include sites on islands located both downstream and upstream from Badger.
- Red Indian Falls. An important group of site has been reported from a 2km-long stretch of the southern shore of the river, some 3 km upstream from Red Indian Falls.
- Noel Paul's Brook. Another group of sites is found at the mouth of Noel Paul's Brook, extending some 2 km upstream on the southern side of the river. Remains have also been reported from the northern shore of the river, and from Noel Paul's Island, across from the mouth of the brook. The western end of the Red Indian Falls Cluster, and the eastern end of the Noel Paul's Brook Cluster lie only 2 km apart. They are usually regarded as separate site complexes, but this may not be appropriate.
- Indian Point. This cluster lies on the southern shore of the northeast arm of Red Indian Lake. In terms of occupation area, this clearly ranks with the other site clusters, but it differs in being more concentrated (i.e., it is not so much a site cluster as a single very large site with a few small outliers).

North Angle

A major objective of our visits to this site cluster was to relocate the South Exploits Site, which reportedly contained lithic materials (Locke n.d.b). Unfortunately, though the location was easily determined from Locke's notes, the site itself could not be relocated. Another North Angle site with reported lithic materials was the site at Aspen Island. Survey on Aspen Island revealed extensive disturbance, however, two sites were located. Aspen Island-1 lies at the westernmost tip of the island. Calcined bone fragments were observed eroding out of the low bank. These presumably relate to the historic Beothuk occupation of the island. Aspen Island-2 is situated midway along the southwestern side of Aspen Island. Here, an assemblage of bright, unworn flakes was observed resting on the surface of the sandy beach, and several others were discovered in the wall of the low, sandy bank behind the beach. Testing on the beach yielded additional flakes, while testing atop the bank yielded nothing. It is uncertain whether this represents a drowned site, or one that has eroded from the bank, though the former seems more likely. Although a respectable sample of flakes was collected, diagnostic artifacts were lacking, so the cultural affiliation of this component is unknown. Sites have also been reported from nearby Boom Island and Beaver Island, but these islands were surrounded by boomed logs, and could not be reached.

The largest site in the North Angle Cluster is the site of North Angle proper (also known as Wigwam Brook; LeBlanc 1973). This nearly pure historic Beothuk site lies at the mouth of North Angle, formerly the mouth of Wigwam Brook. Don Locke originally reported finding 28 Beothuk housepits at this site in 1967. When Callum Thomson revisited the site in 1983, six remained. In 1992, we were able to identify only one. This may be attributed in large part to the destructive effects of logging activities; through flooding, and in this case, the construction of a major gravel dike along the site. This provides a striking illustration of the rate at which human activities along the river, particularly logging activities, are depleting the region's archaeological resources. Testpitting around the housepit revealed quantities of bone refuse, presumably pertaining to the Beothuk occupation. But

while archaeological materials may remain, the matrix exhibited neither stratification, nor soil development profiles, so this may represent jumbled backdirt, rather than *in situ* midden deposits.

Badger

The centerpiece of the Badger Site Complex is the Pope's Point Site, located on the western side of the mouth of Badger Brook, between a Department of Forestry Compound and the water's edge. Don Locke and Helen Devereux (1965) reported a single housepit, and additional archaeological deposits, lying along this narrow strip of bank. Devereux's excavations yielded Palaeo-Eskimo, prehistoric Recent Indian, and Beothuk materials. Today, the housepit is no longer evident; flakes and artifacts are still visible, eroding out of the bank, and it seems that erosion, looting and other disturbance factors have claimed much of the area investigated previously. In 1992, it quickly became apparent that if significant archaeological resources remained, they must lie within the compound itself, protected from most disturbance factors. On receiving permission, we instituted a program of testing within the compound. The results indicated that *in situ* deposits were indeed present, but that these were interspersed with disturbed areas, possibly the result of landscaping within the compound. Artifacts recovered included flakes, and a large ground slate axe, clearly pertaining to the Maritime Archaic period (Plate 19i). This is the first evidence for a Maritime Archaic occupation at the site (and indeed, the first evidence for Maritime Archaic penetration of the valley above North Angle). Though the site is hardly in pristine condition, it appears that important deposits do exist within the protected compound area.

Less than a kilometer away, at the mouth of Little Red Indian Brook, testpitting revealed another component within the Badger Site Complex. Don Locke had previously reported finding shallow (Micmac?) housepits at this location. These could not be found, but testpitting revealed a localized deposit of flakes, in what might be a hearth feature. Cultural affiliation cannot be determined at this time, but further investigations at Little Red Indian Brook-1 may produce a small, single-component prehistoric component.

Other sites exist within the Badger Site Complex. As noted above, the South Badger Site should be included within this cluster. Unfortunately, we were unable to visit the reported site at Slaughter Island, while the site at the eastern end of Fatal Island appears to have been destroyed.

Red Indian Falls

The Red Indian Falls Site Complex includes five sites distributed along nearly 2 km of the southern shore of the river above Red Indian Falls. Red Indian Falls-4 and Red Indian Falls-3 could not be located, but Red Indian Falls-1, 2, and 5 were visited. These sites are the best preserved of all of the sites known to lie within the major Beothuk site clusters. All 5 of the housepits reported by Don Locke at Red Indian Falls-2 are clearly visible, as are the 3 housepits at Red Indian Falls-1, and three of the four housepits at Red Indian Falls-5. Testpitting around the housepits at Red Indian Falls-5 yielded no artifacts, but large quantities of refuse bone. Mr. Pat Paul of Badger, who maintains a cabin near the Red Indian Falls-5 site, told me that in the past, his relatives had discovered numerous stone tools in the area of his cabin property. This appears to confirm other reports of archaeological finds here, but we were unable to verify this at the time.

Noel Paul's Brook

This site complex includes one site on the northern shore of the Exploits ("Noel Paul North:" Locke n.d.b), one on Noel Paul's Island, and a series of housepits on the southern shore of the river, most lying west of the mouth of Noel Paul's Brook. Noel Paul's Brook North could not be relocated; this is unfortunate, since it reportedly included a lithic component. Noel Paul's Island-1 still includes a visible housepit. Testing in the vicinity yielded a small quantity of calcined bone fragments. On the southern shore, one housepit was located a kilometer west of the mouth of Noel Paul's Brook; testing in the area yielded nothing. Two kilometers further west, an additional isolated housepit was located, and testing yielded bone, freshwater mussel shells, and a large piece of iron (which was left in place). This likely corresponds to the westernmost portion of the Noel Paul's Brook site complex, a site Don

Locke identified as the "Noel Paul Upstream Site."

Indian Point

The principal site in the Indian Point cluster is the site of Indian Point itself. We decided not to extend the survey above the Red Indian Lake dam, but we did visit the site briefly. No new information was collected. The site itself was bulldozed some years ago in a misguided effort to develop the location for visitors. Patchy *in situ* deposits may remain along the margins of the bulldozed area.

SUMMARY OF RESULTS

The number of sites located, or relocated, in the course of the 1992 Exploits Valley survey may be characterized as low. This may be illustrated by comparing the frequency of lithic sites on the Exploits (33, or roughly 1 site/10 linear km) with that from GamboPond (18, or roughly 1 site/3 linear km). This may be attributed in part to poorer site visibility on the Exploits, and to the severe destructive impact of human industrial activities along the river (it is worth noting, though, that GamboPond actually has a longer history of industrial logging than does the Exploits). Given the high level of destruction of archaeological resources along the Exploits, we could hardly expect to find meaningful patterns in the history and prehistory of aboriginal settlement along the river. However, it is noteworthy that not all periods of Newfoundland prehistory are equally poorly represented on the Exploits. There *are* patterns discernable in the history of native settlement along the river, and despite the incomplete archaeological record that has survived, these patterns are likely meaningful. Briefly, these patterns may be summarized as follows.

We may begin with the most recent period, though this does not directly relate to the history of aboriginal land-use. The intensity of recent European settlement is well-documented in the Bay

of Exploits. Evidence for the earliest stages of intensive European settlement (Figure 7) is also present at certain locations on the coast (principally Upper Sandy Point and Lower Sandy Point). During this earliest phase of European settlement in the eighteenth and early nineteenth centuries, the interior was unoccupied by Europeans, and the coast supported localized salmon-fishing and fur-trapping enterprises on the (then) frontier of European settlement in Newfoundland. Archaeological data pertaining to this phase accord well with documentary evidence for the nature and location of early European settlements in the region.

The terminal Beothuk occupation of the interior is contemporary with this early phase of European settlement on the coast. The 1992 survey recovered little new evidence for Beothuk settlement outside the known site clusters at North Angle, Badger, Red Indian Falls, Noel Paul's Brook, and Indian Point (Figure 8). We may tentatively confirm earlier suggestions that Beothuk settlement was strongly clustered. Both the clustering and the specific locations support the notion that these settlements were oriented primarily toward caribou hunting during the migration period(s) in fall and spring, when the animals are aggregated and moving along more-or-less predictable migration routes. North Angle is situated at a known caribou crossing point. The Badger, Red Indian Falls, Noel Paul's Brook and Indian Point site clusters all lie at the principal locations where valleys oriented north-south intersect the main east-west axis of the river. In these locations, caribou could follow gentle grades down into the Exploits valley, and leave the valley along gentle slopes. Data on caribou movements elsewhere in the north (LeResche and Linderman 1975) suggest these would have been the favoured routes for caribou migration in central Newfoundland in the past.

It is interesting that Cartwright's 1768 map of the river shows a high density of standing Beothuk dwellings below Badger, but relatively few on the upper reaches of the river. This contrasts with the archaeological pattern, which indicates virtually no occupation below North Angle, and major sites at Red Indian Falls and Noel Paul's Brook. What are we to make of this? It is important to note that Cartwright's map of Beothuk structures standing and visible in 1768 gives us at best a snapshot of settlement patterns in the year 1768, and perhaps in the preceding few years. The contrast

between historical and archaeological data here may simply reflect the difference between highly variable year-to-year settlement typical of hunter-gatherers, and the broad, long-term patterns of resource-use revealed by archaeology. It is also possible that Cartwright's map is less accurate and less detailed for the upper reaches of the river; certainly, the geographical features become vaguer and less recognisable above Badger Brook. A third possibility is that erosion and modern disturbance of archaeological sites has been more severe in the lower and middle portions of the river, destroying the sites that might confirm Cartwright's observations. However, there is an additional explanation, speculative at present, which might be worth pursuing; namely, that Beothuk subsistence and settlement did change during the late historic period. Some years ago, Don Locke suggested that, on the basis of his investigations, North Angle represented the latest of the Beothuk site clusters, since the North Angle Site proper was the only purely historic component he encountered (Locke n.d.b). Certainly, Indian Point and Badger have yielded significant lithic components to previous investigators, and a substantial lithic component may have present near Red Indian Falls-5 as well. In contrast, the North Angle site, and the whole North Angle Complex, have yielded relatively little. It is possible that by 1768, settlement had indeed shifted from locations above Badger, to locations below. The areas with the greatest frequency of sites noted by Cartwright correlate well with the area he describes as being dominated by hardwoods as a result of fire around the beginning of the century. It is possible that through the eighteenth century, Beothuk hunters were more and more intensively exploiting the resources of this hardwood forest zone. The main exploitable food resource we would associate with this habitat is beaver, a species which has the potential to serve as an ideal backup resource to the potentially unreliable caribou herds, but which is not usually found in high densities in Newfoundland. To summarize, data on Beothuk sites confirm that these sites are highly clustered, and support the idea that these settlements were primarily oriented toward the exploitation of caribou herds. The debate about whether the Beothuk developed a pattern of year-round settlement along the Exploits (Rowley-Conwy 1990) remains unresolved. Comparison of archaeological and historical data raise the possibility of a yet-undocumented Beothuk exploitation of beaver and other resources in the

hardwood forest zone of the middle Exploits.

The Recent Indian period is extremely poorly -represented in the 1992 survey collections. The only definite Recent Indian component occurs at Rushy Pond-1. Previous investigators have reported Recent Indian material from Indian Point (Devereux 1970; Locke n.d.a, n.d.b), Noel Paul's Brook (Thomson 1983), Pope's Point (Devereux 1965; Locke n.d.a, n.d.b), and Aspen Island/South Exploits (Locke n.d.b). It appears that Recent Indian settlement along the Exploits was less intensive than that of their Beothuk descendants, but that it was focused on the same locations. This may be an accurate characterization, but nevertheless it is likely that Recent Indian sites are under-represented in the present sample. In contrast with most other phases, few Recent Indian tools are diagnostic. Only projectile points and triangular bifaces are readily recognized. For that reason, Recent Indian sites are less easy to identify from small survey collections, and more likely to be described as of uncertain cultural affiliation. The 1992 survey identified eighteen lithic components of uncertain date. Three (Aspen Island-2, the South Badger Site, and Little Red Indian Brook-1) lie within Beothuk site clusters. Ten were found on the Bay of Exploits, and near the mouth of the Exploits estuary. Of the remaining five, one lies on the river, below Grand Falls, three are scattered along the northern shore of the river between Grand Falls and Badger, and one is found on the southern bank some 6km upstream from Badger. If we assume that all of these pertain to the Recent Indian period, the pattern (Figure 6) is still one of settlement clustered at caribou crossings in the interior, with the addition of a significant group of sites on the coast. It is, of course, unlikely that all of these undefined lithic components represent Recent Indian sites, but whether or not we include them, we may infer a pattern of Recent Indian interior settlement that is similar to that of the Beothuk, but less intensive. The possibility of an additional coastal component in the Recent Indian settlement pattern is entirely consistent with data from elsewhere in Newfoundland indicating a generalized, dual interior-maritime adaptation for the Recent Indian period on the island.

The 1992 survey collections attest to eight Late Palaeo-Eskimo occupations, all situated on the coast, or along the Exploits estuary below Bishop's Falls (Figure 5). Most of these sites are situated

on the principal salmon rivers of the Bay of Exploits: Charles Brook, Northern Arm Brook, Rattling Brook, and the lower Exploits, below Bishop's Falls. It is interesting that the known foci for eighteenth-century European salmon-fishing enterprises include the same locations. Microlocational evidence strongly suggests that most or all of these sites were oriented toward salmon-fishing. The density of settlement at the head of the bay contrasts with the low density of Palaeo-Eskimo sites above Bishop's Falls, where salmon would have been scarce or absent. No deep interior Palaeo-Eskimo components were located in the 1992 survey. Previous investigators have reported Late Palaeo-Eskimo remains further inland, but these are limited to a small Palaeo-Eskimo component at Pope's Point (Devereux 1965), and a possible stray find on Aspen Island (Locke n.d.b). Palaeo-Eskimo settlement in the deep interior seems to have been ephemeral, with exploitation of the estuary and upper Bay of Exploits focused strongly on salmon-fishing.

Four Maritime Archaic components were identified in the 1992 survey (Figure 4). Three are situated on the coast, with only the new Maritime Archaic component at Pope's Point lying in the deep interior. Even if we acknowledge the small Maritime Archaic component reported by LeBlanc (1973) from Wigwam Point, Maritime Archaic exploitation of the deep interior was clearly very limited.

All of this indicates that the Beothuk occupation along the Exploits was indeed substantial, and clustered along caribou crossing points, and does indeed represent a uniquely high level of deep interior settlement, with a subsistence economy strongly specialized, and perhaps overspecialized, on caribou-hunting. The pattern of late Beothuk settlement suggests the possibility of an important role for beaver hunting in the hardwood zone of the central Exploits; if an unusually rich beaver population was indeed present, and exploited, we might be forced to re-consider our views on the level of Beothuk economic overspecialization. However, settlement pattern data alone are merely suggestive. Excavated data are needed in order to test this hypothesis. In contrast, Recent Indian settlement patterns indicate that while the prehistoric ancestors of the Beothuk did exploit the caribou herds of the deep interior, the levels and perhaps the seasonality of settlement in the deep interior

were far more limited. This confirms the present picture of Recent Indian settlement focused on coastal and near-coastal interior zones, with only transitory use of the deep interior (Schwarz 1992). The same may be true for the Maritime Archaic period. Palaeo-Eskimo settlement is clearly focused on the coast, with limited use of the near-coastal interior (estuarine) zone. All settlement locations suggest a salmon-fishing orientation. This confirms previous hypotheses that Palaeo-Eskimo settlement in both the deep and near-coastal interior zones was limited, and that such interior settlement as there was oriented to salmon-fishing in the near-coastal interior (Schwarz 1992); there continues to be surprisingly little evidence for any substantial Palaeo-Eskimo exploitation of caribou.

For all prehistoric phases, then, the deep interior of the Exploits Basin does not appear to have been a major focus for settlement and subsistence activities. Recent Indian sites in the deep interior may represent temporary hunting camps associated with base-camps in the near-coastal interior, while Maritime Archaic and Palaeo-Eskimo hunting expeditions into the deep interior may have been sporadic indeed. Nevertheless, the questions surrounding the nature of this ephemeral use of the deep interior remain important: do these camps represent intermittent intensive caribou hunting limited to peak years of caribou populations? Do they reflect intermittent beaver-hunting during periods of dense hardwood forest following fires? Do they represent routine but minor hunting expeditions mounted from base camps in the near-coastal interior? The 1992 survey has located sites which may enable us to confront these questions, but only further work will provide the answers.

RECOMMENDATIONS FOR FURTHER WORK

The possible options for further archaeological work in the Exploits Basin are manifold. However, the results of the 1992 survey indicate that two areas of research are particularly important: the nature of European and Palaeo-Eskimo activities at the head of the Bay of Exploits and along the Exploits estuary, and the nature of prehistoric activities in the deep interior. Briefly, and in order of

urgency and significance, the options for further research are listed below:

- Documentation of early European settlement on the Bay of Exploits. The remote early salmon-fishing and fur-trapping establishments on the expanding frontier of European settlement in Newfoundland's northern bays are not well-documented historically. Archaeological investigation of the early European sites at Upper Sandy Point and Lower Sandy Point promise to yield genuinely new information about this aspect of Newfoundland's history. Upper Sandy Point and Lower Sandy Point constitute important archaeological resources for the Exploits region; these sites are under constant threat of damage by natural and anthropogenic forces, and I would suggest that their investigation is a matter of some urgency.

- Excavation at Palaeo-Eskimo sites on the Bay of Exploits and along the Exploits estuary. These sites too constitute an important archaeological resource in the region, and they too are located in a zone of dense modern settlement, which poses continuous threats to their well-being. Palaeo-Eskimo settlement in inner bay regions is poorly-understood archaeologically. The clear association of these sites with rich salmon-fishing locations suggests that inner bay settlement was oriented toward summer salmon-fishing. Excavation at selected Palaeo-Eskimo sites in the bay and estuary promises to reveal new information about the nature of Palaeo-Eskimo inner bay settlement; information presently unavailable elsewhere in Newfoundland. Moreover, study of artifact assemblages and structural remains associated with this distinctive group of Palaeo-Eskimo sites may allow archaeologists to identify Palaeo-Eskimo salmon-fishing settlements elsewhere on the island.

- Investigation of prehistoric adaptations in the deep interior. The 1992 survey located a number of lithic components which might allow us to investigate the nature of prehistoric adaptations in the deep interior; these include components in the Grand Falls area: the known Recent Indian component at Rushy Pond-1, and the probable Recent Indian component at Aspen Island-2. Also potentially significant are the lithic components in the Badger area: the probable Recent Indian component at Little Red Indian Brook-1, and the multi-component site at Pope's Point. It is recommended that further exploratory work be undertaken at these locations in order to determine their actual archaeological potential.

- Investigation of the known Beothuk site clusters. The results of the 1992 survey indicate that excavations at North Angle might yield useable samples of faunal remains, but little else. Only at the site clusters of Red Indian Falls and Noel Paul's Brook do significant Beothuk deposits appear to remain intact. As noted above, important questions about Beothuk adaptations in the Exploits Valley remain unresolved, and these two site complexes appear to offer the only hope of answering these questions. It is recommended that archaeological excavation at these sites receive a lower priority than further work at prehistoric, and historic European, sites. First, the Beothuk occupation is still the best-documented in the region; the principal gaps in our knowledge lie elsewhere. Second, Beothuk archaeological remains must now be considered a limited archaeological resource, which should be managed carefully. It is recommended that further work at Beothuk sites be limited, directed toward specific problems, and deferred until such research questions become clearly-defined. While archaeological research as such may be a lower priority at these sites than elsewhere, other action may be more urgent. It is strongly recommended that the province consider setting aside a sizeable tract of land encompassing the Red Indian

Falls and Noel Paul's Brook site clusters as a provincial park or archaeological preserve and undertake any further measures necessary to ensure the protection and proper management of this well-known and important heritage resource.

- Further archaeological survey in the Exploits Basin. There are three main options, and all offer the potential to augment our understanding of the region's archaeology and heritage resources. First, it is recommended that intensive survey coverage be extended to include the upper reaches of the Exploits drainage: Lloyd's River, and Red Indian Lake. Although Lloyd's River was briefly surveyed in the 1970s (Madden 1975), Red Indian Lake, surprisingly, has never been intensively investigated. The lake is known to have seen significant Beothuk settlement, and though water levels have been raised a great deal in the course of logging activities, the survival of the Indian Point site raises the possibility that additional sites may remain. Second, it is recommended that survey be undertaken on the lakes north of the Exploits River. The Exploits survey serves in part as a test of the hypothesis that prehistoric settlement in the deep interior was relatively light prior to the Beothuk period. Though this test may be considered a success, it is nevertheless not a complete test. Pre-Beothuk settlement appears to have been limited on this greatest of the deep interior rivers on the island, but before drawing firm conclusions about the nature and levels of pre-Beothuk settlement in the deep interior, it would be desirable to test this hypothesis by means of survey on deep interior lakes. Red Indian Lake is a large, obvious candidate for survey, but so too are the intermediate-sized lakes north of the Exploits River: Mary Ann Lake, Crooked Lake, and North and South Twin Lakes, which feed into Badger Brook. Third, it is recommended that survey be continued along the shores of the Bay of Exploits, extending out to the mouth of the bay. This would offer two benefits: first, the ability to compare prehistoric settlement and lifeways along a lengthy

transect reaching from the deep interior to the offshore coastal islands. Second, an opportunity to identify potentially unique archaeological resources. Notre Dame Bay has long been known for its wealth of Beothuk burial sites, though most have been looted and none have been scientifically excavated. Local informants assert that apparently undisturbed cave-burials remain on some of the islands in the bay. Whether or not excavation is ever planned at these sites, it is important that we locate and identify any remaining burial sites if we are to take measures to monitor and protect them from erosion and illicit excavation.

I should conclude by noting some non-archaeological considerations that might play a role in determining the objectives and procedures of cultural resource management in the Exploits Basin.

It has been noted that some of the most important sites located during the 1992 survey are those that represent early European fishing establishments and probable Palaeo-Eskimo salmon-fishing camps near the mouth of the Exploits River. I recommend that given the presence of these archaeological sites, the salmon-fishery in the Bay of Exploits and on the lower Exploits River be considered an important theme for heritage interpretation in the region. This is a theme which has not been interpreted elsewhere on the island, and indeed, sites appropriate for such interpretation have not been identified archaeologically elsewhere. It is worth noting as well that this theme dovetails well with the efforts of the Environment and Resource Management Association in Grand Falls, which has been focused for years on enhancing the salmon potential of the Exploits drainage. Their projects have included not only the construction of salmon ladders at the major falls, but also the interpretation of salmon biology and behaviour at their interpretation centre at the Grand Falls fishway. Interpretation of the history and prehistory of the salmon fishery in the Exploits Basin would add a heritage dimension to the development of salmon-fishing as a tourism asset in the region.

A second attribute of the sites located during the survey which has little impact on their

archaeological significance, but which may be an important factor influencing public interpretation is the relative attractiveness of the site's environmental setting. One area in particular offers an unusually attractive setting. This is the southern bank of the Exploits, from Red Indian Falls to Noel Paul's Brook, and most especially, above the mouth of Noel Paul's Brook. This stretch of the river contains a particularly attractive region of mature coniferous forest, attractive not only at a distance, but pleasant to walk in and through. This is the only area in which Beothuk sites are found in a pleasant setting, not surrounded by dense, immature growth, and by logging debris; it is also, as noted, the area with the best-preserved surviving Beothuk structural remains. While the archaeological remains alone warrant protection, the setting as well makes this portion of the river one deserving of protection from continued logging. The combination of natural and cultural resources makes this an area deserving of special protection, so that long-term measures for the continued protection and interpretation of this area of great scenic beauty and heritage significance may be determined.

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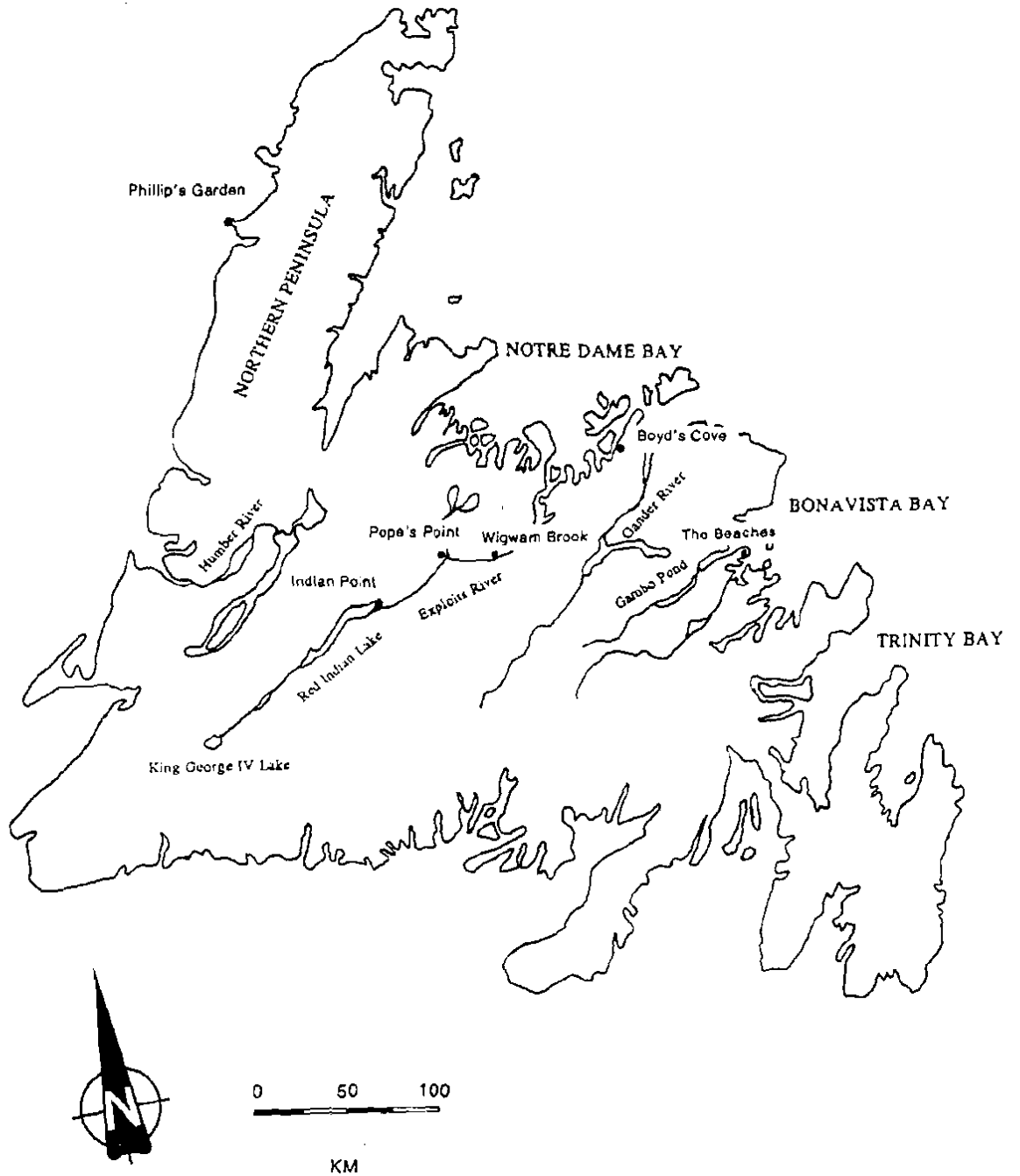


Figure 1. Map of the Island of Newfoundland, indicating locations mentioned in the text.

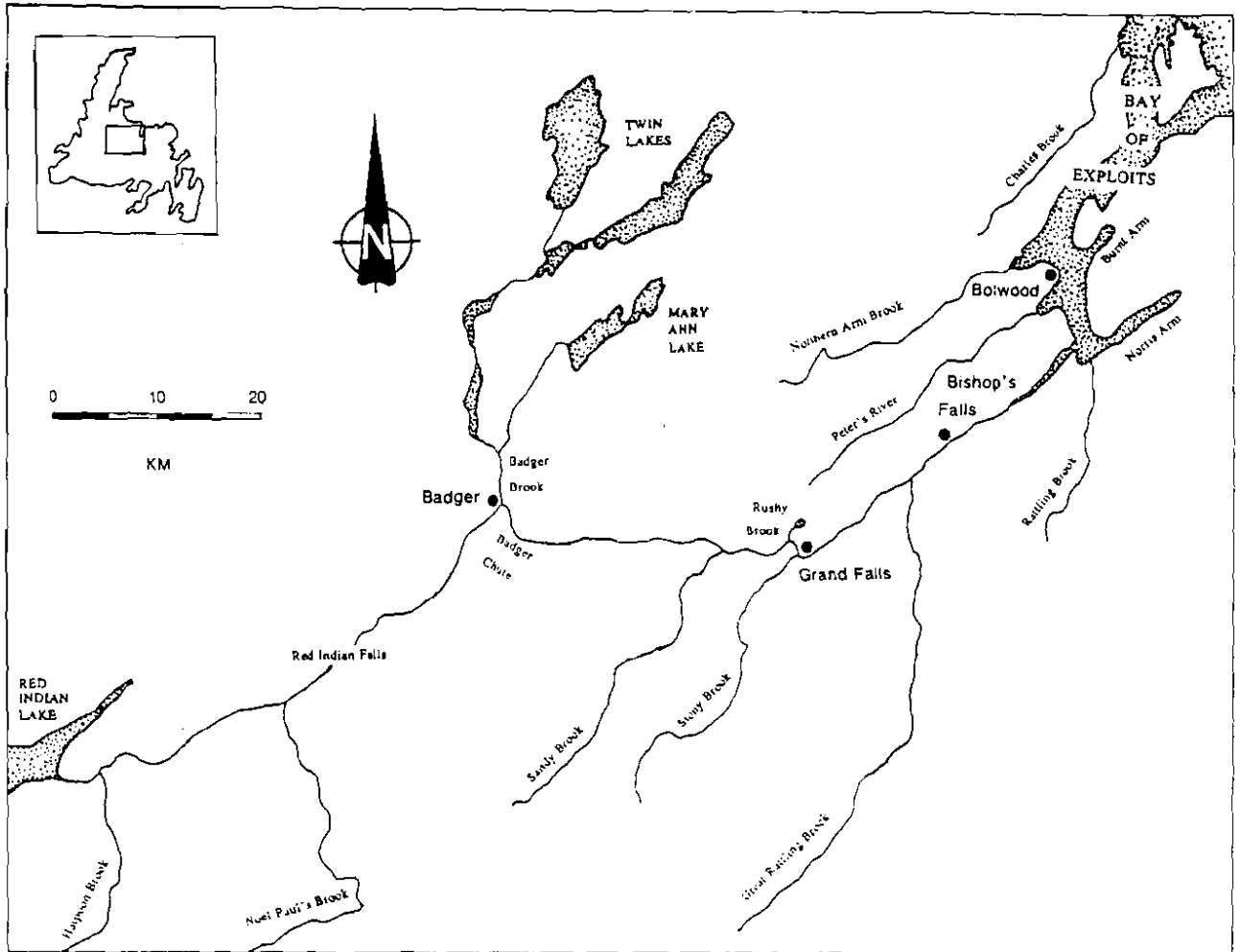


Figure 2. Map of the Exploits Basin Study Area.

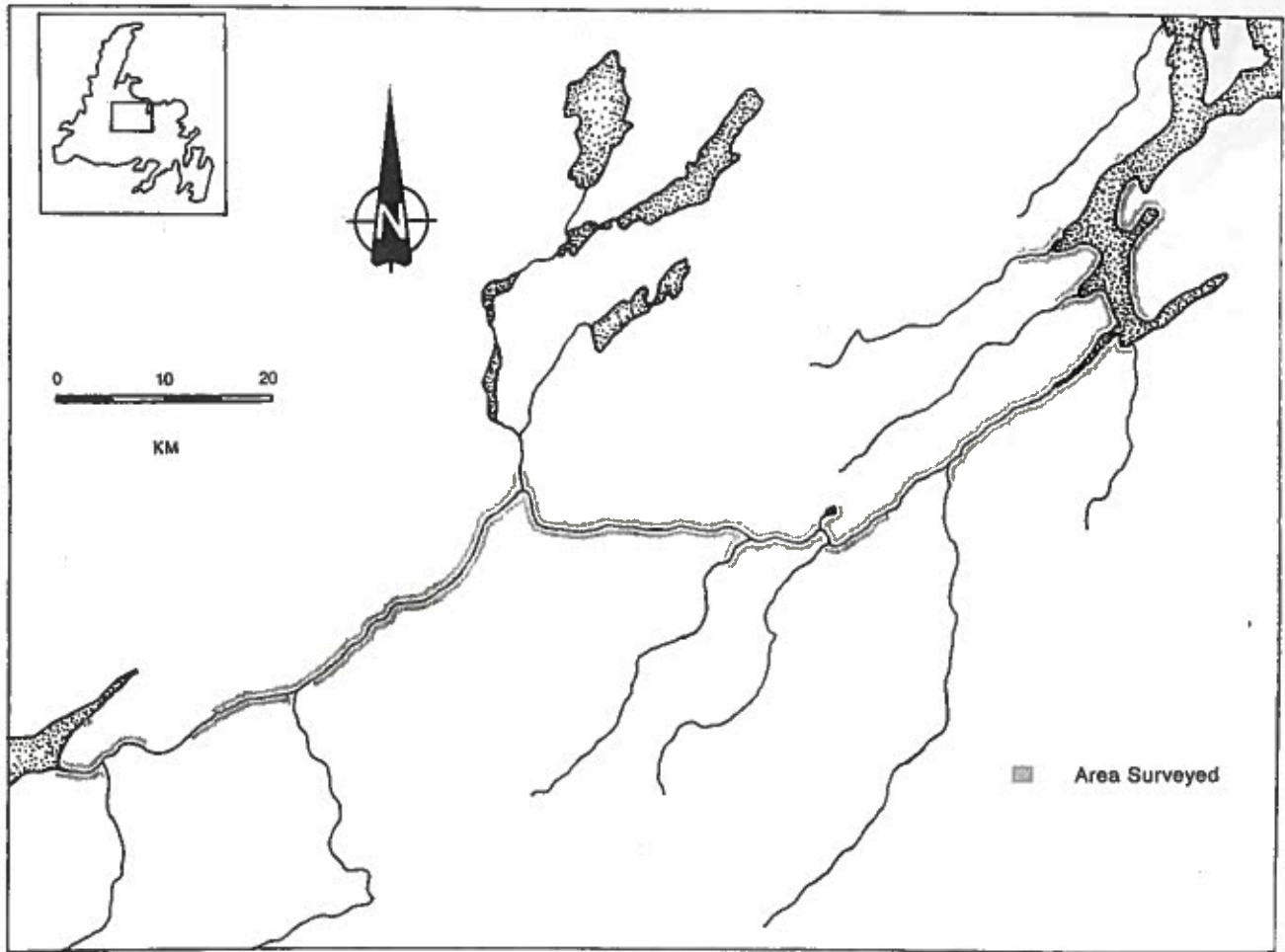


Figure 3. Map of the Exploits Basin Study Area, Indicating the Areas Covered by the 1992 Archaeological Survey.

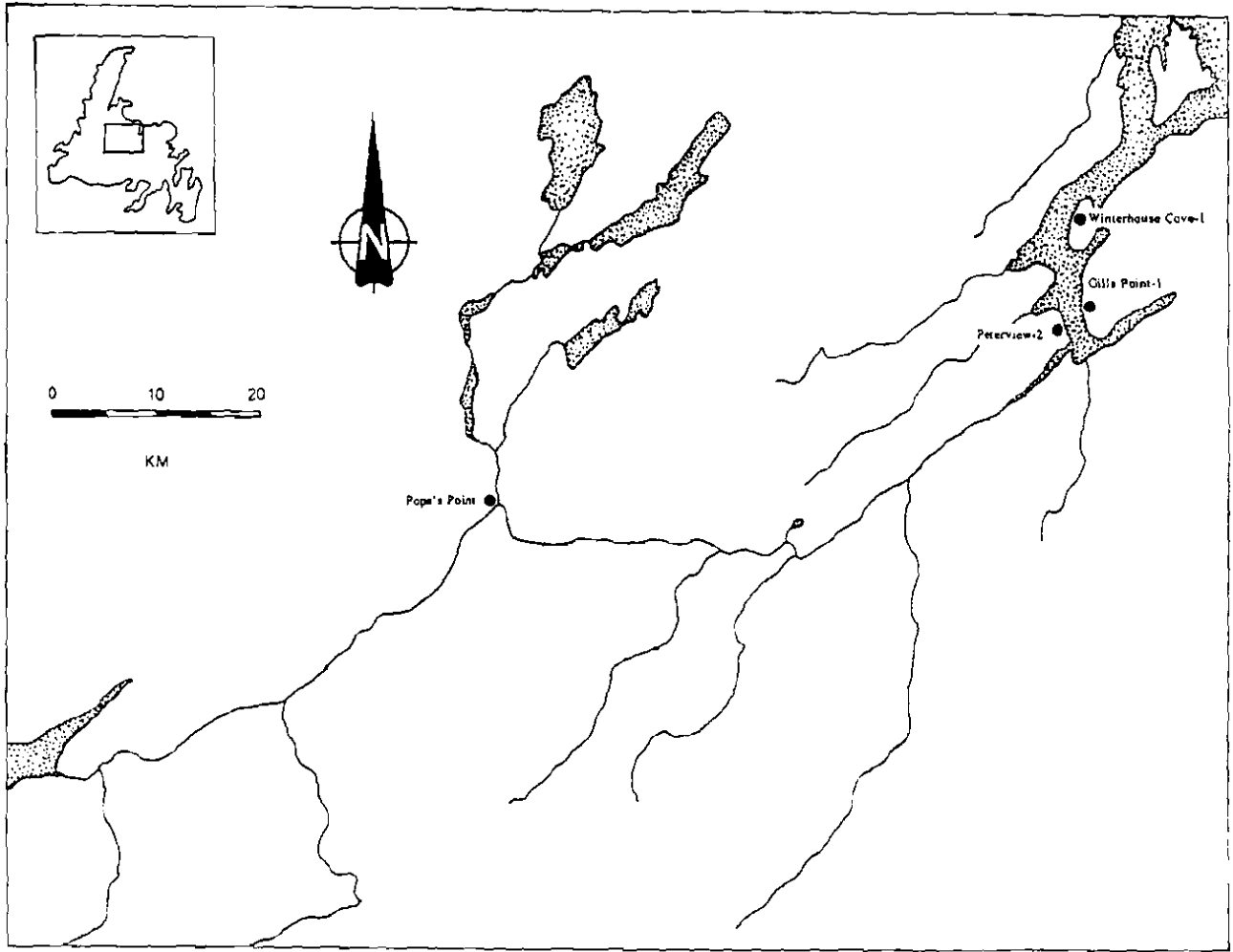


Figure 4. Maritime Archaic Components Located During the 1992 Survey.

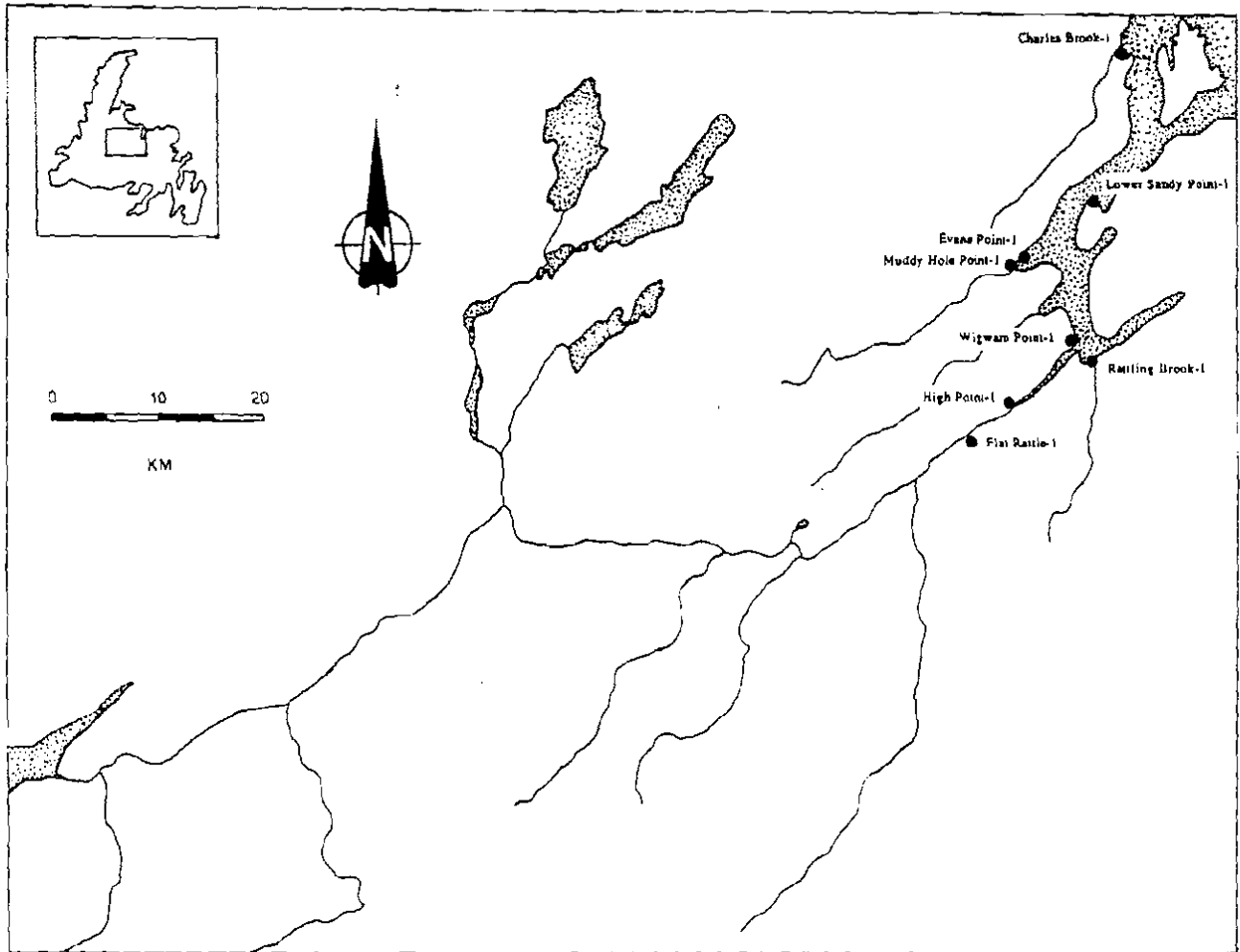


Figure 5. Palaeo-Eskimo Components Located During the 1992 Survey.

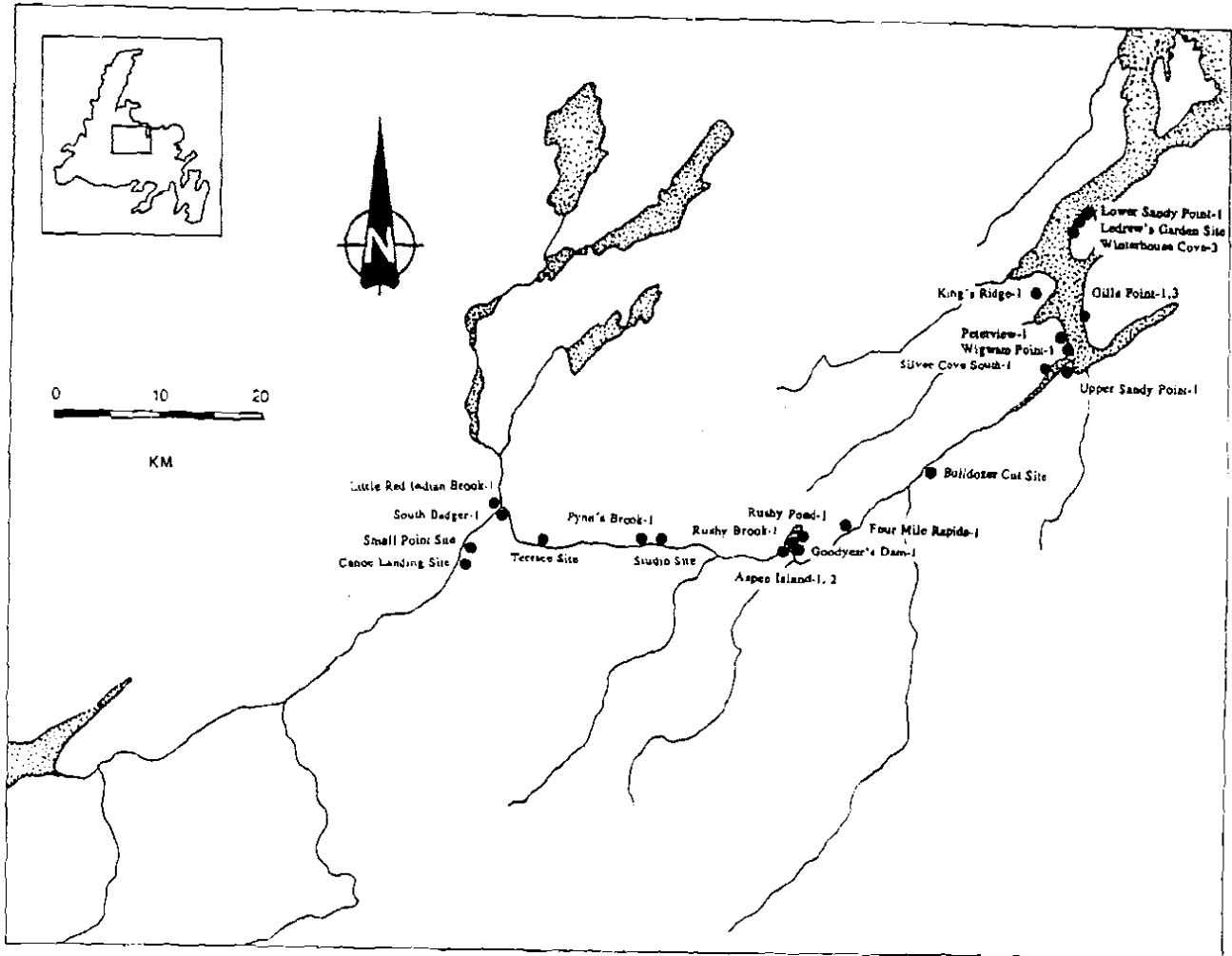


Figure 6. Components of Prehistoric Recent Indian or Undetermined Prehistoric Cultural Affiliation Located During the 1992 Survey.

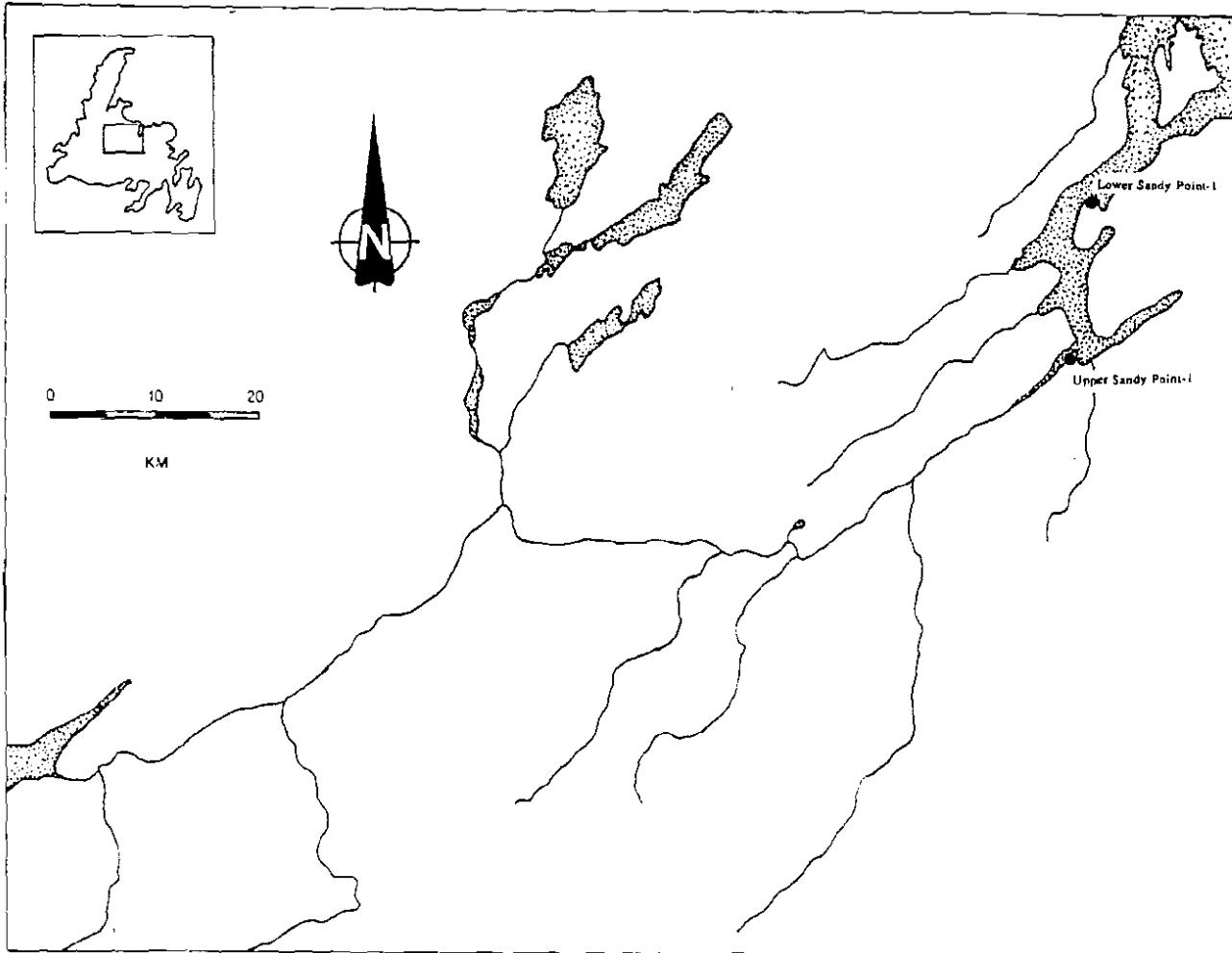


Figure 7. Early Historic European Components Located During the 1992 Survey.

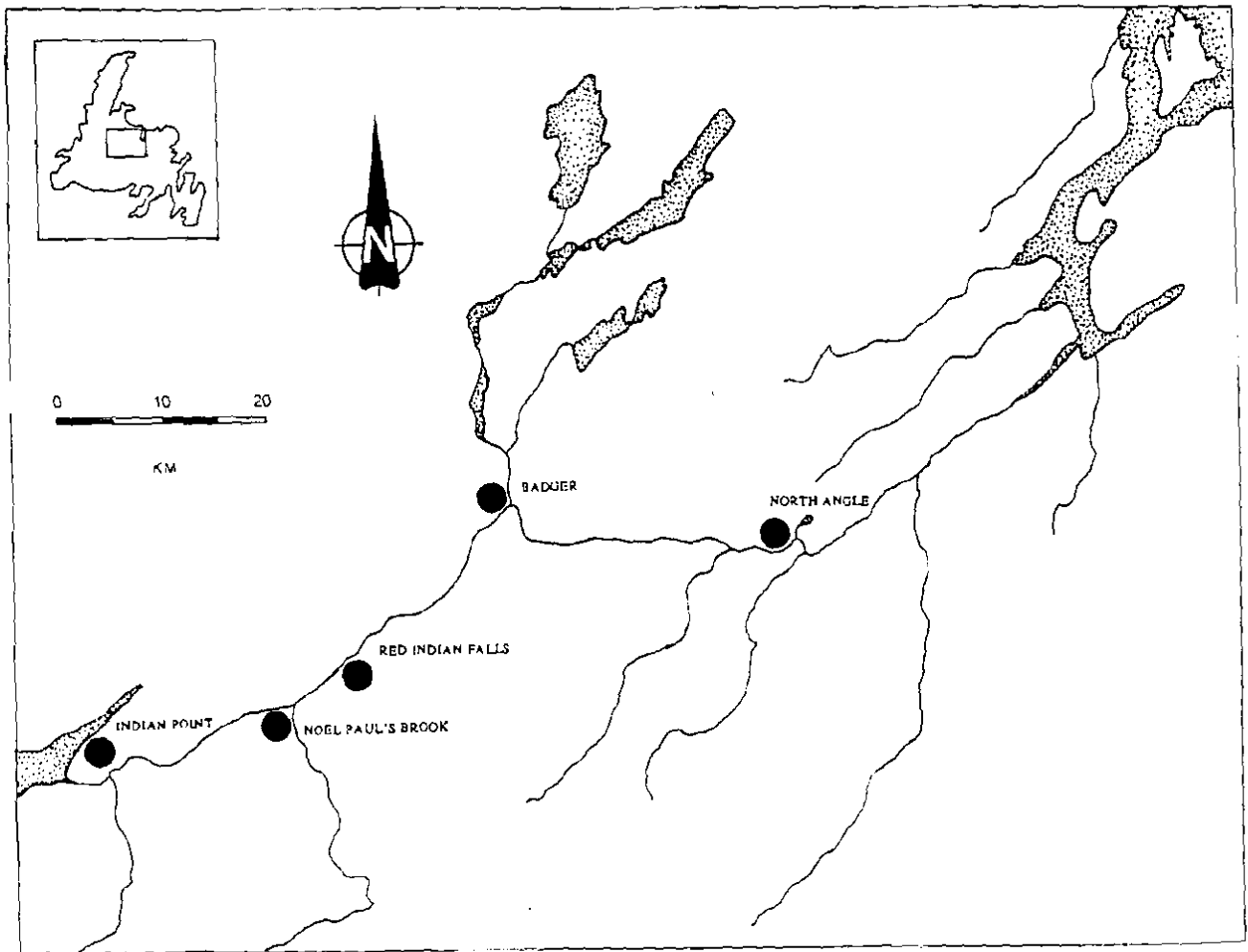


Figure 8. Locations of the Five Known Major Beothuk Site Clusters.



Plate 1. View of the Exploits River above GrandFalls, illustrating the breadth, shallow banks, and islands characteristic of the river in this area. This is the section of the river Cartwright named "Paradise Pool" in 1768.



Plate 2. Crossing the river below the Badger Chute. The forest along the southern bank is clearly recovering from a recent fire.



Plate 3. View of the Grand Falls, with the Grand Falls fishway and interpretation center in the foreground.



Plate 4. View of "Canoe Hill" (Lower Sandy Point) from the Second World War gun emplacement at Phillip's Head.



Plate 5. View of the Red Indian Lake Dam at the head of the Exploits River. One gate has just been opened to release water.



Plate 6. Testpitting within the floodzone.



Plate 7. Beaver dam and lodge on a backwater channel behind the main rivercourse.



Plate 8. Isolated mature pine tree on an island above the mouth of Harpoon Brook.



Plate 9. View of the Palaeo-Eskimo site at Charles Brook-1.



Plate 10. Lower Sandy Point-1.



Plate 11. Testing along the eroding bank at Lower Sandy Point-1.



Plate 12. Evans Point-1.



Plate 13. Palaeo-Eskimo Artifacts Recovered from Charles Brook-1:

- a) Endblade midsection
- b-d) Scrapers
- e) Nephrite burin-like-tool
- f-h) Microblades
- i) Macroblade
- j) Worked steatite fragment
- k) Biface preform



Plate 14. Lithic artifacts recovered from Lower Sandy Point-1:

- a) Endblade
- b) Pointed biface
- c) Notched scraper
- d) Scraper
- e) graver
- f) Waterworn biface
- g-t) Microblades

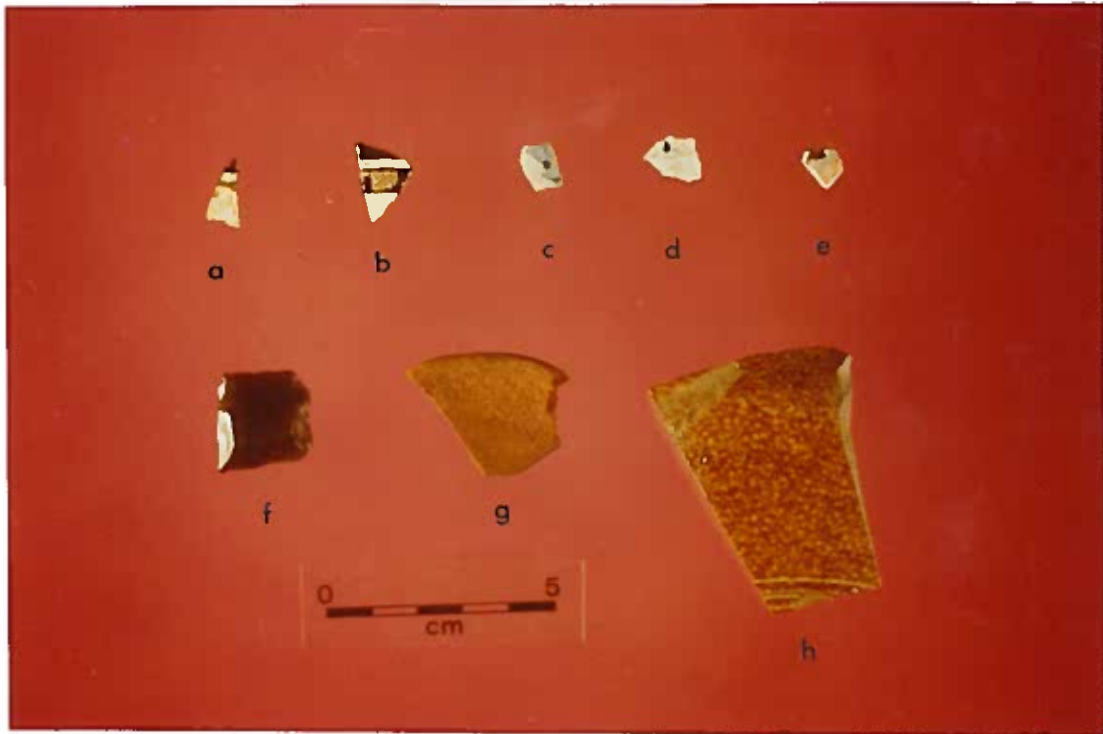


Plate 15. Historic European artifacts recovered from Lower Sandy Point-1:

- a-b) Brown-banded earthenware
- c-d) Blue-on-white hand-painted earthenware
- e) burnt polychrome fragment
- f) gunflint
- g) unglazed coarse redware
- h) stoneware



Plate 16. Lithic artifacts recovered from assorted sites on the Bay of Exploits:

- a-c) Evans Point-1
- d) Muddy Hole Point-1
- e) Wigwam Point-1
- f-g) GillsPoint-1
- h) Peterview-2



Plate 17. Lithic artifacts recovered from the Palaeo-Eskimo site at Rattling Brook-1:

- a) Biface base
- b-p) Microblades

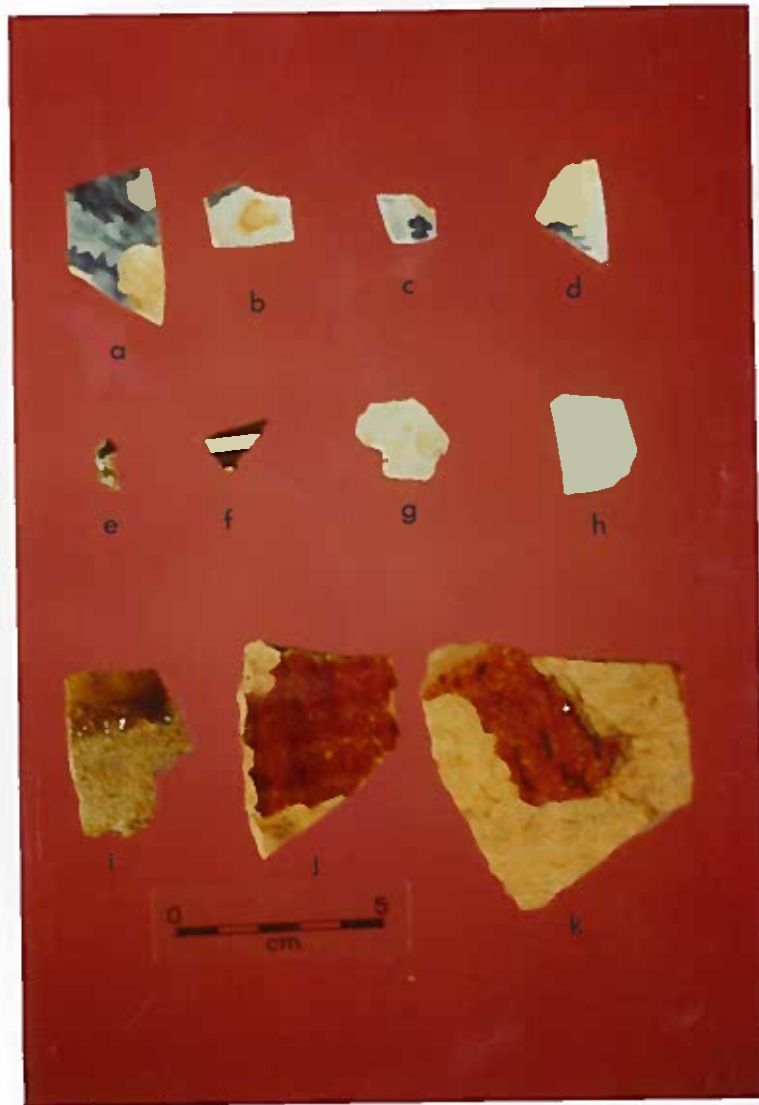


Plate 18. Historic European artifacts recovered from Upper Sandy Point-1:

- a-d) Blue-on-white handpainted porcelain
- e) Burnt kaolin fragment
- f) polychrome
- g) creamware
- h) Thin salt-glazed stoneware
- i) green-glazed coarse earthenware
- j-k) glazed coarse red earthenware



Plate 19. Lithic artifacts recovered from assorted sites along the Exploits River:

- a-d) High Point-1
- e) Flat Rattle-1
- f) Rushy Pond-1
- g) Bulldozer Cut Site
- h) Pynn's Brook-1
- i) Pope-s Point

**AN ARCHIVAL STUDY AND ARCHAEOLOGICAL SURVEY
OF THE QUIDI VIDI PASS BATTERIES
QUIDI VIDI, NEWFOUNDLAND
CjAe-6**

SUBMITTED TO:

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L-515

MARCH 25, 1993


Bevin R. LeDrew, President

EXECUTIVE SUMMARY

During July and August of 1992 an archival study and archaeological survey was conducted by Jacques Whitford Environment for the Historic Resources Division of the Department of Tourism and Culture, Government of Newfoundland and Labrador. This work was undertaken in order to obtain information relative to the British Military facility constructed at Quidi Vidi Pass during the latter part of the eighteenth century. The primary purpose of this research was to thoroughly summarize and distil the historical record of the site and to locate, identify, delineate, describe and analyze relevant archaeological features with a view to future site development.

The results of the archival research indicated that Quidi Vidi Pass was the site of an engagement between the French and British when the latter retook St. John's in September of 1762 and thus terminated the French occupation of the area that lasted for a period of approximately three months. It was noted by contemporary British commentators on this conflict that the absence of defences at this approach to the town was critical to their victory on this occasion. Moreover, it was established that while French troops had constructed a rudimentary battery and breastwork at the mouth of Quidi Vidi Harbour, no such facility was erected at The Pass.

Further findings indicated that during the American Revolution it was anticipated by British Military personnel that American Privateers, with the aid of their allies, the French, would attempt to capture St. John's and to disrupt the fishery along the east coast. As a result, all the roads leading to St. John's from the "out harbours" were fortified in the event that enemy troops landed at one of the coves or bays to the north or south of the town. This scheme, referred to as the outer ring of defences, involved constructing a series of small batteries on the roads from Torbay, Portugal Cove and Petty Harbour. Also constructed as part of this defense system were the Quidi Vidi Pass Batteries.

A series of maps and correspondence by Royal Engineer, Lt. Col. Robert Pringle, indicated that the Quidi Vidi Pass facility was initially constructed in 1780 and consisted of lines of entrenchment for one hundred men and three batteries for four guns. Additional contemporary documentation suggested that the facility was comprised of crudely constructed temporary earthworks that, when the threat of American attack engendered by the American Revolution faded, rapidly fell into disrepair. By 1790 the facility required significant upgrading and it seems that by that time it was likely downgraded to include only one battery for a single six pound cannon. This continued to be the status of these defensive works until at least 1814. Subsequently, concerns were expressed that a military installation be re-established at the site, however, no documentation was found to indicate that this ever took place. The Study Area was used again for military purposes by U.S. Servicemen during the Second World War. At no time during the entire military occupation of Quidi Vidi Pass were any of the defense systems ever used in action.

The archival study was supplemented with a brief field survey implemented to test areas of archaeological potential identified from the preliminary research and during an initial site walk-over. Because the maps by Lt. Col. Pringle constituted the most thorough, comprehensive, and

apparently accurate contemporary record of the construction, it was these archival sources most relied upon to help identify areas of highest potential. The results of the field survey indicated that while substantial evidence of a late eighteenth and early nineteenth century occupation is present in the Study Area, only two features of potential significance were recorded. While it was not definitively established, it may well be that these structural remains are associated with the late eighteenth century military complex. Two additional areas of potential were also identified at the eastern end of Quidi Vidi Lake where, according to Pringle, a line of entrenchment and a battery were constructed in 1780. However, due to time constraints, no sub-surface testing was possible at these locations. Therefore, in order to more accurately define and interpret these four areas, further field investigation is strongly recommended prior to any development at the site. This accomplished, the authenticity of Pringle's maps and related correspondence can be more confidently evaluated, and so, the degree of confidence to be placed in conclusions drawn from them.

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1.0 INTRODUCTION

1.1 HISTORICAL OVERVIEW

At the beginning of the eighteenth century British troops were once again in control of St. John's. Due to the combined defences provided by Fort William, which was completed in 1700, and the South Castle, situated at the mouth of the harbour, French troops stationed at Placentia realized that attempting to take the town by moving military personnel through The Narrows would be virtually suicidal. For this reason, when the French under the command of M. de Subarcase captured St John's in 1705, they did so by first of all taking the "out harbours" of Bay Bulls and Petty Harbour, and from there marching overland to advance on the town from the southwest. Even though the French troops and their allies were able to take control of St. John's in less than three hours, both Fort William and the South Castle did not fall during this campaign (Ransom 1991). Lieutenant Moody and Lieutenant Latham, commanders at the two facilities, put up a remarkable defence which lasted for a total of thirty-three days. Finally, realizing that these two fortifications were too well defended and therefore would likely not capitulate, the French abandoned St. John's and concentrated their efforts on destroying the fishing communities of Ferryland and Harbour Grace (Webber 1975). In these endeavours they were successful.

Only three years later, in December of 1708, a similar overland attack on St. John's under the command of St. Ovide de Brouillon departed from Placentia. Similar to the previous campaign, this second attack in ten years resulted in a complete and virtually uninhibited success for the French. This was apparently due not only to the dilapidated condition of the military facilities at St. John's, but also to the completely demoralized state of the British troops stationed there. During this brief shift in power, the French completely destroyed all the existing fortifications situated around St. John's Harbour before withdrawing to Placentia with three hundred prisoners. At that time, the town immediately reverted back to British rule. Only four years hence in 1713, under the Terms stated in the Treaty of Utrecht, the French gave up to Britain all their rights in Newfoundland and were forced to depart from Placentia (Ransom 1991). Forty-nine years would then pass before French and British troops would once again engage in battle on the Island of Newfoundland.

The outbreak of the Seven Years War (1756-63) marked a renewed effort by the French to disrupt the British fishery along the east coast and to take St. John's. This third attempt of the eighteenth century followed the pattern previously established in 1705 and 1708. On June 24th, 1762, French troops under the command of Colonel Le Comte D'Hausonville landed at Bay Bulls and from there proceeded overland in a northerly direction. Three days later they successfully invaded St. John's with neither side firing hardly a shot. Following this, the French outfitted a number of small fishing vessels and set off to disrupt the British fishery in Conception Bay and Trinity Bay, and to pillage as much food as possible to help support the occupation of St. John's (Jenzen 1985: 15). During the hostilities that ensued, Portugal Cove, Carbonear and Harbour Grace fell with little if any resistance, as did Carbonear Island and the town of Trinity.

Approximately three months later, however, British forces would rally off Petty Harbour in an effort to regain control of St. John's and to re-establish dominance over the lucrative east coast fishery (Webber 1975).

In order to retake the town, the British under the command of Colonel Amherst, landed an advance force on September 13th at the out harbour of Torbay and from there marched south towards St. John's. Upon reaching the north shore of Quidi Vidi Lake, Colonel Amherst proceeded to move his troops east through Quidi Vidi Pass, where a small skirmish with the French occurred, and eventually out to Quidi Vidi Harbour. Securing this stronghold situated only 3 km from St. John's appears to have been a significant objective in Amherst's strategy. He felt, it seems, that if his troops could gain control of this location they could then move additional personnel and artillery in through The Gut, thus avoiding the long arduous march from Torbay. With this accomplished, it would then be possible to advance up Signal Hill and west to St. John's. Even though the French had erected a makeshift battery at the entrance to Quidi Vidi Harbour and had sunk a number of shallops in the mouth of The Gut, Amherst's troops were nonetheless successful in taking this position. They then advanced up Signal Hill, established stations on the high ground and commenced to shell Fort William below. It was only a matter of hours before D'Hausonville, realizing the severity of the situation, capitulated to the British on September 18th, 1762. This event marked the final battle of the Anglo-French War fought in North America (Webber, 1975).

Later in the eighteenth century, during the revolution in the Thirteen Colonies (1775-1783), it was anticipated that American Privateers, with the aid of their new allies, the French, would attempt to gain control of the fishery around the coast of Newfoundland and to take St. John's.¹ Further complicating the situation was the realization that French military personnel had acquired through first hand experience an intimate knowledge of the terrain along the east coast of the Avalon Peninsula, thus making a successful attack on St. John's all the more plausible. It was felt that if an attack was to take place it would almost certainly again involve landing a force at one of the out harbours and marching from there to St. John's. Therefore, in 1780, in preparation for hostilities, an outer ring of defences consisting of a series of small earthen batteries was built on the roads leading to St. John's from Torbay, Portugal Cove and Petty Harbour. These facilities included Gaden's Marsh Battery and Cox's Marsh Battery (on the road from Torbay), Pipers Stock Hill Battery and Torbay Battery (at Torbay proper), 20 Mile Pond Battery (on the road from Portugal Cove), and Hay's Battery (at Petty Harbour Pass), just outside the present community of Shea Heights. Also constructed as part of this defensive strategy were Cuckolds Cove and Quidi Vidi Pass Batteries. Given that Torbay and the route leading from that town to St. John's was so heavily fortified, plus the fact that Quidi Vidi Pass was presumably the most substantial complex in the entire outer ring of defences, it is perhaps reasonable to conclude that

¹ The Newfoundland fishery at that time was considered an excellent target of attack as it was widely regarded throughout the North Atlantic European Community as one of Great Britain's most important assets (Janzen 1984: 2).

British officers felt that if an attack did take place it would likely follow the route and strategy that proved successful for them eighteen years earlier.

1.2 SIGNIFICANCE

To date, archaeological research into the military history of St. John's has concentrated almost exclusively on facilities established at Signal Hill during the nineteenth century (Karklins 1971, Jelks 1973 Ferguson 1985). With the exception of excavations at the South Castle undertaken during October, 1989 (Penny 1989), very little research has been conducted into the eighteenth century military presence of the area. Therefore, excavation of the Quidi Vidi Pass Batteries and environs could undoubtedly shed significant light on the British Military defence strategy implemented in and around St. John's during the mid - late eighteenth century.

The historic significance and location of these military facilities rendered them ideal sites for research and possible development. Archival material suggested that the site was situated on a natural grassy lookout slightly southwest of Coronation Bridge. This strategic location was therefore ideally chosen to defend the passage through which troops would have to pass in order to advance towards Quidi Vidi Harbour from the north. Furthermore, this location offered then, as it does today, a spectacular view of the area to the north of Quidi Vidi Lake and south out to Quidi Vidi Gut. Given that the eastern end of the current Quidi Vidi/Rennie's River Hiking Trail is positioned in close proximity to the remains of the eighteenth century facilities, the potential for interpreting this valuable historic resource to the visiting public was considered significant.

1.3 OBJECTIVES

With the above in mind, in January of 1992, the Historic Resources Division called for proposals to undertake an archival study and archaeological survey of the British Military facilities constructed during the eighteenth century at Quidi Vidi Pass. The primary purpose of this research was to acquire insight into the historical record of the site and to locate, identify, delineate, describe and analyze relevant archaeological features with a view to future site development. This research was funded under, and subject to, the general financial and management procedures provided by the Canada Newfoundland Cooperation Agreement on Tourism and Historic Resources (Appendix I). The project was undertaken by Jacques Whitford Environment of St. John's, Newfoundland under Historic Resources Research Permit: 92-10.

The initial component of the research involved an extensive search of unpublished records, including maps and correspondence, plus a review of all available published sources. This was supplemented by a field survey which concentrated on testing areas identified during the initial archival study and a preliminary site walk-over as having potential for significant archaeological remains. The archival study was undertaken during June and July of 1992 with the archaeological field survey conducted over a three-week period in August of that year.

**AN ARCHIVAL STUDY AND ARCHAEOLOGICAL SURVEY OF
QUIDI VIDI PASS BATTERIES**

**PAGE 1 - 4
24 March 1993**

This report includes a brief description of the Study Area and outlines the methodology employed in the archival and field research. Also presented in detail are the integrated results of both components of the study, followed by conclusions and recommendations for future research at the site.

2.0 STUDY AREA

Quidi Vidi Pass is a long narrow passage that runs roughly north - south between the eastern end of Quidi Vidi Lake and Quidi Vidi Harbour (Figure 2.1). The Pass itself, measuring approximately 50 - 75 m east - west by 200 m north - south, is a glacial valley of Pre-Cambrian age composed of sedimentary bedrock consisting of a sandstone conglomerate, siltstone and shale. The terrain defining the eastern side of The Pass consists of steep-sided cliffs that rise a total of 100 m above sea level, with the west side consisting primarily of a series of elevated terraces that at various locations level onto grassy meadows (Photo 1).

The topography at the northeast end of The Pass has in recent years undergone dramatic alteration due to road construction and related blasting activities. In fact, it was at this location during the Second World War that U.S. Military personnel had a substantial stone crushing facility, using the adjacent hillside as raw material for concrete products and road fill required for the construction of Fort Pepperell. Following World War II the stone crushing machinery was removed from the site and replaced by a series of large fuel tanks. As a result of these activities, the topography of The Pass at that location has been modified significantly.

The Study Area, situated at the northwest end of the small river that flows through The Pass from Quidi Vidi Lake into Quidi Vidi Harbour, is comprised of a series of sloping grassy meadows, punctuated by frequent outcrops of exposed bedrock. Vegetation at the site is limited to Alder (*Alnus sp.*), shrubs and various herbaceous plants. Soil deposits in low lying areas between bedrock outcrops include a glacial till comprised of a heterogeneous mixture of sand, gravel, cobbles and silt. In places a relatively thick layer of top soil, rich in decomposed organic material, was identified. While the soil is in places somewhat rocky, generally the meadows along this section of Quidi Vidi Lake are well suited for growing hearty root crops such as potatoes, carrots and turnips and for grazing domestic farm animals. Up until the 1960s, this is primarily what the meadows were used for (Photo 2).

Alteration to the terrain on this side of the river also took place following conclusion of the Second World War. In this case, U.S. Servicemen installed an underground fuel line that runs from the tanks on the opposite side of the road, through the meadow on the south side of Quidi Vidi Lake and out to St. John's Harbour. This line was used to transport fuel from supply ships to the tanks, and from there on to buildings at Fort Pepperell. As is clear, installing the underground link certainly required substantial blasting and excavation in the immediate vicinity of the eighteenth century military facilities.

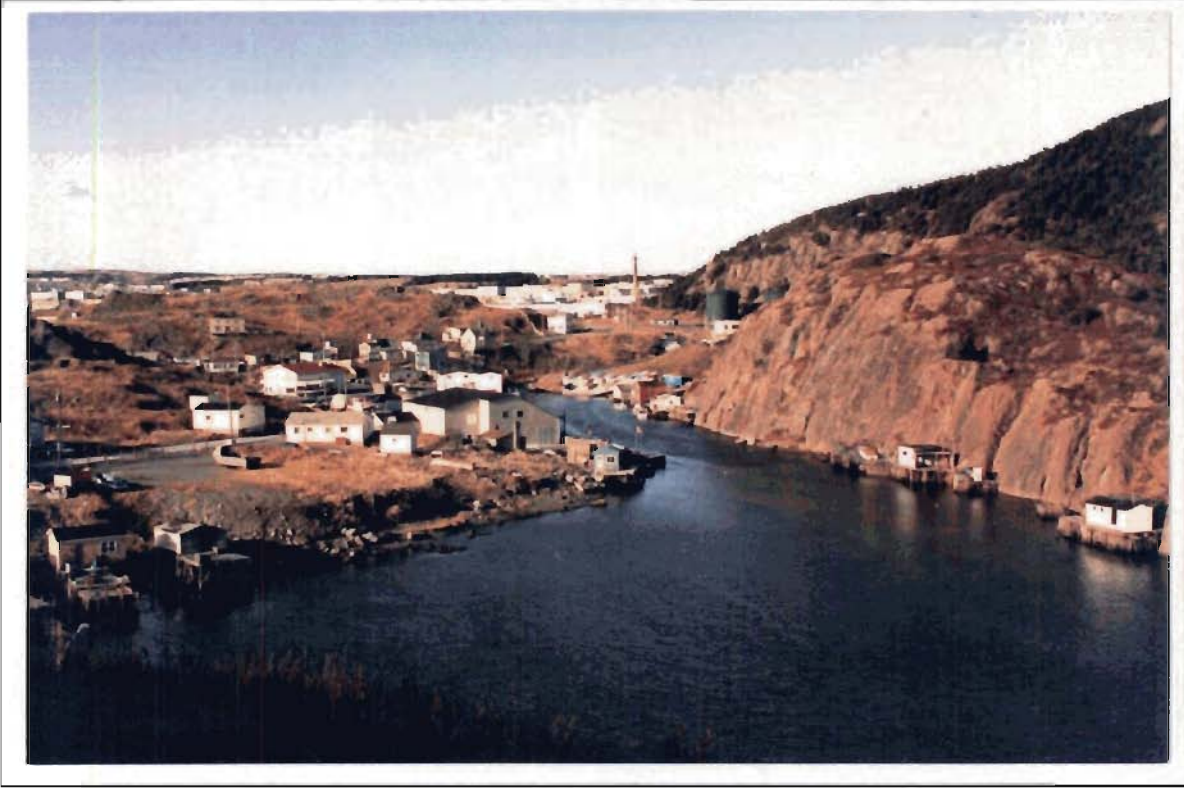


Photo 1: Quidi Vidi Pass Looking North From Quidi Vidi Harbour.

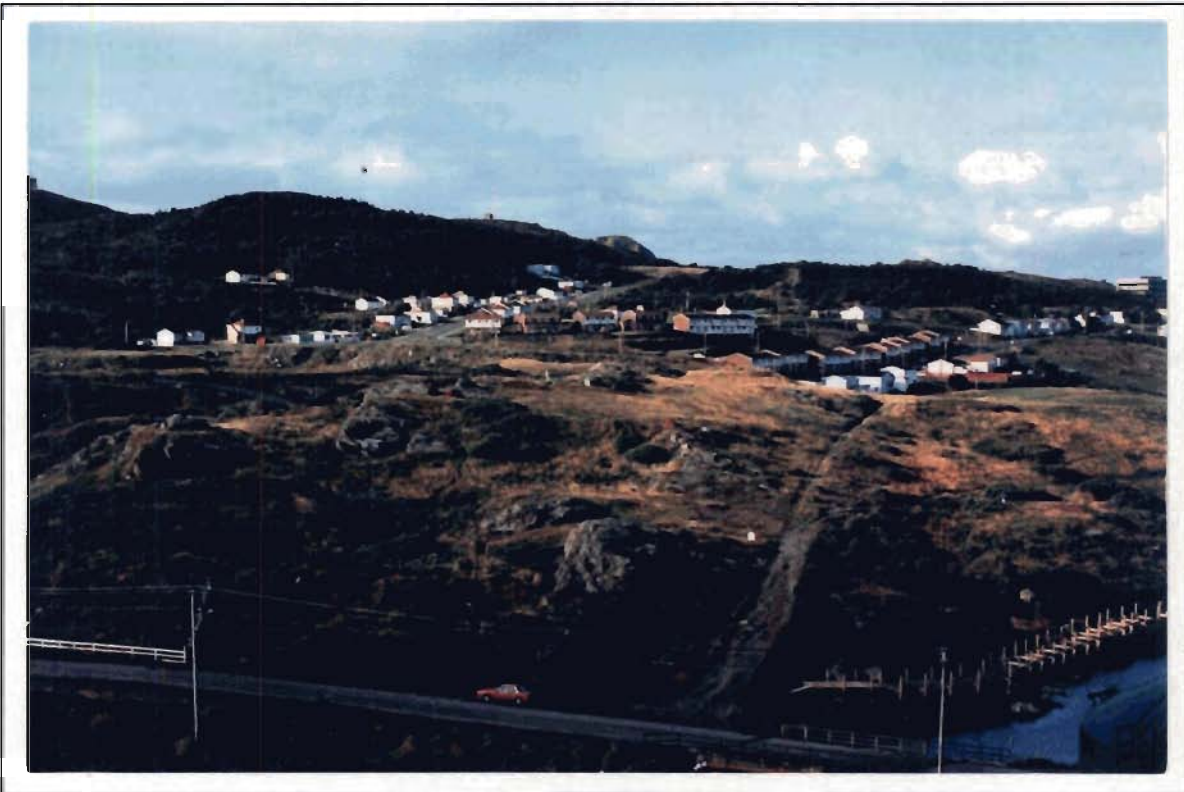


Photo 2: Quidi Vidi Pass Study Area Looking West.

3.0 METHODOLOGY

3.1 ARCHIVAL STUDY

The archival study undertaken prior to the field survey concentrated on establishing exactly when and how the Quidi Vidi Pass Batteries were constructed, and on finding evidence for a continued incorporation of this military facility into the overall defences of St. John's. To accomplish this, a thorough review of all available published and unpublished material (including documentary sources and maps) was conducted.

The primary source of information consulted was the correspondence between Newfoundland Governors and officials with the Colonial Office and other agencies in Britain. This series, CO 194, filed in the Public Record Office at Kew, England, is available on microfilm at the Centre for Newfoundland Studies (CNS), Memorial University of Newfoundland (MUN), and at the Provincial Archives of Newfoundland and Labrador (PANL). There are 43 volumes for the period 1762 to 1824 (Vols. 26-69). All of these were scanned for "Reports on the State of Fortifications in St. John's" and for related correspondence regarding these defences. Because a series of maps identifying the location of the Quidi Vidi Pass facilities up to 1833 was discovered at the PANL, microfilm reels CO 194, Vols. 70-85, were searched in an attempt to locate any correspondence that may have accompanied these drawings.

The Colonial Secretaries Outgoing Correspondence for Newfoundland (CSOC) was also searched. Included are: for the period 1762 to 1796, series GN 2/1/A (PANL); Royal Engineers Record Books, 3-26, 1762-1815, GN 2/1 (PANL); Royal Engineers correspondence, 1774-92 and 1805-42, GB 2/1 (PANL); 1831-57, Royal Engineers ration and pay books, 1831-57, GB 2/2 (PANL); Royal Engineers Reports on Fortifications, 1811-16 and 1827, GB 2/5 (PANL) and; Admiralty, 1776-1847 and 1767-1847, GB1 (PANL). Also reviewed was the Webber Collection housed at the PANL and other relevant material in the Maritime Archive at MUN. Map collections in the Map Room and at the CNS, Memorial University, and at the PANL were reviewed.

Also consulted were various microfilm reels obtained through interlibrary loan from the National Archives of Canada (NAC) in Ottawa. These include the War Office class Ordnance Office Miscellanea, MG 13, W.O.55. In particular the series "Engineers Papers: Canada, Newfoundland and Nova Scotia" (MG 13, W.O.55, Volumes 857-887; Microfilm reels B-2805 to B-2836), covering the years 1780-1840 were searched. Also, "Observations, Reports, etc. on the Defences, Fortifications, etc" (MG 13, W.O.55, Vol. 1557, Microfilm reels B-1280 and B-1280), were searched. A final reel of Microfilm from NAC reviewed was W.O.55, Vol. 2269, reel 3232.

Professional contacts for this facet of the study include Ms. Pat Kennedy, Head of Pre-Confederation Records (NAC), Mr. Pat McIntyre in the Cartographic and Architectural Sector (NAC) and Mr. Timothy Dube', Military Archivist (NAC). Mr. Bernard Pothier at the Military Museum, Ottawa, Mr. David Webber, a historic resources consultant based in Charlottetown,

Prince Edward Island and Mr. James Candow, a historian with the Canadian Parks Service, Halifax, Nova Scotia were also contacted.

An additional component of the archival research involved a thorough review of aerial photographs available for the Study Area in order to determine if features of archaeological significance were detectable. The majority of photographs reviewed are available through the Map Archive at Queen Elizabeth Library (MUN), through the Department of Lands and Forests, St. John's (Government of Newfoundland and Labrador), or through the Department of Mines and Energy, Ottawa. Additional aerial photographs were obtained from the Canadian Parks Service in Halifax through the staff historian, James Candow. This regional office has recently acquired a series of aerial photographs of the St. John's/Fort Pepperell area from the United States Military Archives in Washington. The entire assemblage of photographs reviewed from all sources dates from 1941 to the late 1980s.

A final avenue of investigation undertaken in the course of the archival study involved an examination of a collection of uncatalogued photographs and negatives of the St. John's area taken by civilian and military personnel during the Second World War. At that time, it was a policy of the Newfoundland Justice Department to review all film submitted for developing in the City and to seize all material showing anything vaguely military in nature. Due to the increased American and Canadian military activity in St. John's and the strategic importance of Newfoundland's east coast in general, this policy was considered necessary in order to prohibit valuable defensive related information from getting into enemy hands. During the years 1939-45, approximately eight thousand photographs and negatives were confiscated, and following completion of the War, the collection made its way to the PANL. Because the Study Area is situated in close proximity to the American Military base, Fort Pepperell, and because a significant amount of defense related activities took place in the meadows at the southeastern end of Quidi Vidi Lake, a random sample of the photographic collection, amounting to approximately twenty percent, was scanned in order to gather insight into the degree of topographic alteration that transpired as a direct result of that particular occupation.

3.2 FIELD SURVEY

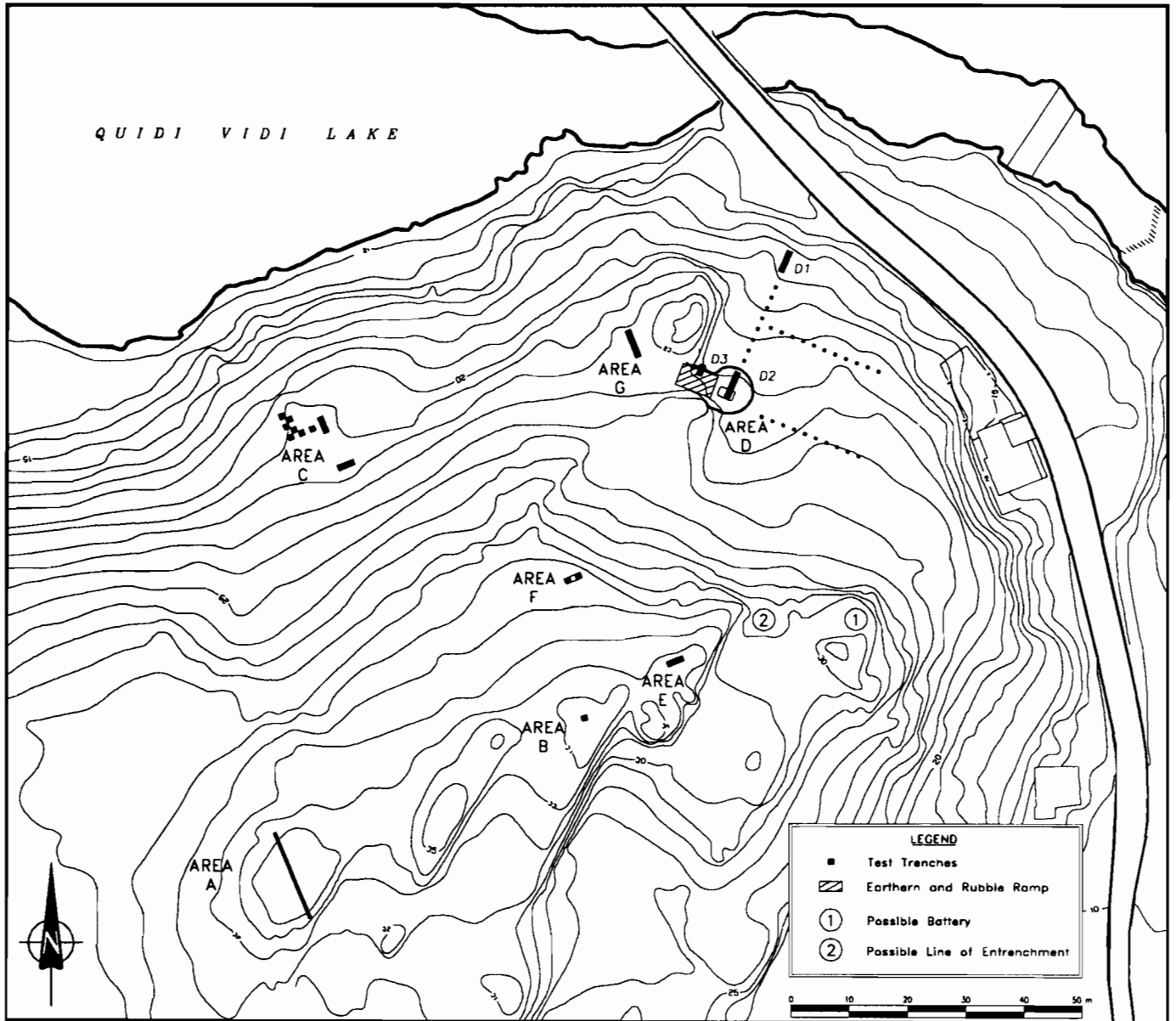
Prior to the field survey a search of the Historic Resources Division Site Record Forms was implemented and interviews with individuals from Quidi Vidi Village were conducted. These tasks were undertaken in order to determine if archaeological material had been located in the general vicinity of the village, and to obtain an understanding of land use and ownership of the meadows along the southeastern end of Quidi Vidi Lake.

During the archival study a series of maps and correspondence relating to the Quidi Vidi Pass Batteries were located, covering the period 1780 - 1833. Analysis of this material (which includes maps drawn at the time of the initial construction) suggested that the facility was originally comprised of a number of individual components spread over a relatively large area.

Also, an initial site walk-over conducted prior to field testing resulted in the identification of four additional surface features of potential significance not depicted on eighteenth or nineteenth century maps of Quidi Vidi nor mentioned in the related correspondence. Given that only a total of fifteen days was available for the field survey, to adequately sample the Study Area in this somewhat limited time-frame, the research concentrated on testing as many areas of potential as possible as determined from the above sources. Should significant remains be thus identified, recommendations for further research could then be offered.

Ultimately, seven areas (Areas A-~~F~~^G) were selected for testing at Quidi Vidi Pass (Figure 3.1).

FIGURE 3.1
QUIDI VIDI PASS TEST AREAS



4.0 RESEARCH RESULTS

4.1 ARCHIVAL STUDY

Records In The Colonial Office Correspondence And Other Unpublished Documents Relevant To The Following Questions:

1. *When Were The Military Facilities At Quidi Vidi Pass Established?*

The Quidi Vidi Pass Batteries are situated on a rocky hillside at the eastern end of Quidi Vidi Lake, slightly southwest of Quidi Vidi River which flows from the lake into Quidi Vidi Harbour. An Historic Sites Plaque positioned in proximity to the site reads:

This hillock formed part of the forward lines of the French troops holding St. John's during the summer of 1762 and was the site of the first engagement during the battle of Signal Hill. On the 13th of September of that year, a British force of two hundred men consisting of companies of light infantry from the Royal Scots and Montgomery's Highlanders and the Grenadier Company of the Royal Scots forded the river and, after a short skirmish, drove the four hundred French regulars and grenadiers from the position.

In 1782, this site was again incorporated into the outer defences of St. John's and was fortified with two batteries of one six pound cannon and two lines of entrenchments for one hundred men. These defences were maintained until 1824 when the ordnance was removed (Government of Newfoundland and Labrador).

Since our findings do not entirely concur with those stated on the plaque, enclosed here is a detailed listing of records in the Colonial Office correspondence and other documents which have been consulted with regard to defences at Quidi Vidi; copies of particularly important documents are appended.

As a strategic location on the periphery of St. John's, this pass was first mentioned in the records of the re-taking of St. John's from the French by the British under Colonel Amherst on September 18th, 1762. According to letters from Amherst to Lord Colville and the Earl of Egremont, both written on September 20th, 1762, his troops engaged the French in battle at Quidi Vidi Pass after landing at Torbay and having marched through wooded country towards Quidi Vidi Harbour.¹

The country opened, marched to left to Kitti Vitti, it was necessary to take possession of this pass [Quidi Vidi] to open a communication for the landing of Artillery....

As soon as our right was close to Kitty Vitty River the enemy fired upon us from a hill on the opposite side. I sent a party up a rock which commanded the passage over; and under cover of their fire, the Light Infantry Company of the Royal and Montgommery's, supported by the Grenadiers of the Royal passed, drove the enemy up the hill, and pursued them on that side towards St. John's when I perceived a body of the enemy coming to their support and immediately ordered over Major Sutherland with the remainder of the 1st Battalion upon which they thought proper to retreat and we had just time before dark to take post...

The next day 14th we opened the channel where the enemy had sunk the shallops, they had a breast work which commanded the entrance and a battery not quite finished.²

Amherst's description shows that while The Pass was the site of the engagement of the troops, there were likely no French defence lines or batteries constructed there: those that were mentioned were both located at the entrance of Quidi Vidi Harbour. The interpretation that Quidi Vidi Pass was not fortified is supported by a map, drawn by Capt. Hugh Debbieg, which illustrates the movements and positions of the British and French troops during the battle (Appendix II)³. Furthermore, in Capt. Hugh Debbieg's report on the state of the fortifications of St. John's, September 20th, 1762, neither Quidi Vidi, nor Quidi Vidi Pass are mentioned.⁴ Taking into consideration the letters and maps describing the French/English engagement, it is concluded that there were no fortifications at Quidi Vidi Pass in 1762.

Following this engagement, the correspondence in the Colonial Office records concerning fortifications makes intermittent mention of Quidi Vidi. These references, however, usually refer to the Harbour of Quidi Vidi and not to Quidi Vidi Pass.

In 1769, having inspected Newfoundland harbours with a view to fortification and defence, Capt. Hugh Debbieg, Chief Engineer, submitted a plan for the fortification of St. John's. This plan called for construction of a new fort (Fort Townsend), and for a tower or redoubt at the entrance to The Narrows (Fort Amherst), and for the destruction of Quidi Vidi Gut to prevent an enemy entering and attacking St. John's (Appendix III).⁵ Estimated expenses for the implementation of this plan were stated as 71,736 pound sterling, including 1,000 pound sterling for demolishing the entrance to Quidi Vidi Harbour and 3,000 pound sterling for the indemnification of the inhabitants of Quidi Vidi for the loss of their possessions and the fishery (Appendix IV).⁶ A long correspondence about this plan, particularly the destruction of the entrance to Quidi Vidi Harbour, suggests that the plan was not generally well received and that some groups made efforts to forestall it. Eventually on August 31st, 1771 a proclamation concerning the security of St. John's announced plans for the destruction of Quidi Vidi, the chosen day being October 10th, 1772. Inhabitants were permitted to remove flakes and their possessions before this date.

Attached to the document is a list of 55 names of owners of property at Quidi Vidi and the money each was to receive, the amounts arrived at by an arbitrator (Appendix V).⁷ However, a document from 1780 indicates that the destruction of the harbour was never attempted. The construction of Fort Townsend went ahead, though it took many years and the pressures of another war to complete it.

The annual reports on "The State of Fortifications in St. John's" for 1776 and 1777 do not mention any facilities at Quidi Vidi.⁸ But the threat of enemy attacks, presumably from American Privateers during the American Revolution (France officially entered the war against Britain in 1778), prompted Lt. Col. Robert Pringle, Engineer and Commander of Fort William, to request the principal merchants and inhabitants of St. John's to send their servants to dig defences in the woods on the roads to Torbay and Bay Bulls. He also stated the need for Batteries for Torbay, Quidi Vidi, Petty Harbour and Bay Bulls, these being the most probable places for enemies to land.⁹ He later wrote a second letter reiterating his concerns. Regarding the security of St. John's and the role that an outer ring of defences would play he stated:

I shall do every thing in my power [to] Cooperate with him, and if the Merchants will be prevailed on to furnish a few days work of their winter servants I doubt not but we should be able to retard their enemys progress, by occupying some favourable Posts on the Roads leading from the out Harbours [to St. John's], for the Guns we have Mounted on the several Batterys here will be sufficient to defend this Harbour from the sea (Appendix VI).¹⁰

Co-operation was at that time, however, not forthcoming.

On December 9th, 1779 Governor Richard Edwards reported to Lord George Germain that the Batteries in St. John's were in a good state of defence and that two batteries were to be established in Quidi Vidi Cove and Cuckolds Cove. He writes:

I think it necessary to erect a small Battery for the defence of Quitty Vitty Cove and another for the defence of Cuckolds Cove in case the same should be attacked. You are hereby required and directed to erect a Battery upon the Eminence commanding the entrances of Quitty Vitty Cove for two Guns 9 persons and another Battery at the Bottom of Cuckolds Cove for 2 Guns 6 persons, and for so doing this shall be your order.¹¹

A Lieutenant with 10 seamen and 4 Mattrosses to attend the Battery at Quidi Vidi and a trusty Petty Officer and 2 Mattroses to attend the Battery at Cuckolds Cove to be supplemented by an Officer and 20 Soldiers from the Garrison.¹²

Part of a report written in St. John's on May 13th, 1780 stated that, ..."Capt. Pringle [was] desired to reconnoitre particularly the passes leading from the out Harbours and report them to Col. Hay that we might act accordingly."¹³

Later, on August 1st, 1780 Governor Edwards reported that:

Forty of the Volunteers also were ordered to be Embodied, taken into Pay, and victualled in Addition to the Garrison, which was approved of by me, as the necessary works at Quitty Viddy, Petty Harbour, Bay of Bulls required an additional number of men to defend them...

Every necessary step has been taken to prevent an Enemys Landing at Quiddy Viddy, or approaching St. John's with Artillery from any of the adjacent places, by properly guarding and Fortifying the different passes and Avenues leading towards it.

Sixteen 18 pound Carronades which I ordered to be taken aboard the Ships of my Squadron before I left England have been landed here ... being adequate to the purposes they are intended for, and very easily moved from one place to another...¹⁴

Governor Edwards also dispatched at that time a set of maps drawn by Lt. Col. Pringle, of Quidi Vidi and Cuckolds Cove, of which Sketch 3 is of particular interest (Appendix VIIa-d). The references to this set of maps read:

No.1 General Plan of Quiddy Viddy Harbour in the Neighbourhood of St. John's Newfoundland, which when in Possession of an Enemy would be convenient to land Guns & Ammunition to attack the Fortifications of St. John's; and also a Plan of the Batteries & Lines lately constructed to defend it...

No.3 F = Lines for a hundred Men & Batteries for four Guns to defend the Passage of the River from the Pond to the Harbour for want of which Col. Amherst got Possession of Quiddy Viddy & Signal Hill when he retook St. Johns in 1762...¹⁵

A second set of nine maps of the military works at St. John's was also produced at that time by Lt. Col. Pringle. While this supplementary collection is essentially the same as the series mentioned above, the second set is slightly more detailed and therefore somewhat superior for interpretive purposes. These maps include, for example, a north arrow, a legible scale, and three triangular symbols on The Pass facilities that are interpreted as openings in the walls of batteries for protruding guns, i.e. embrasures. An additional relevant inclusion in the second set of maps

is a plan of Hay's Battery at Petty Harbour Pass, this being another battery comprising the outer ring of defences for the town of St. John's (Appendix VIIIa-g).¹⁶

On the same day that the above maps were dispatched to Lord Germain, Chief Engineer, Lt. Col. Robert Pringle reported that, "The Battery and Lines at Quiddy Viddy and Cuckolds Cove are finished, the guns mounted and in a state of defence." (Appendix IX)¹⁷ Also, a Record of the Proceedings of a Council of War mentioned that, "Three six pounders were mounted at Quiddy Viddy and the Battery very Forward." Two guns had been carried the previous winter to an important pass on the road leading from Bay of Bulls, and the passes to Petty Harbour and Torbay were secured.¹⁸ Captains Berkeley and Baskerville then informed the Council that:

...at the request of the Chief Engineer they had with him examined the Entrance into the Harbour of Quiddy Viddy that it did not appear to them that any very Material advantage would arise from stoping up the Narrow entrance into the Basin, as an Enemy could make no use of that Harbour till in possession of the High grounds about the Signal Hill and the grove in which case he would find little difficulty in Landing Guns and Ammunition without side the Gut which it is impracticable to prevent... They were therefore of opinion in which they were unanimously found by the other members that the Batteries which are constructing by order of Admiral Edwards are the Best defence to Quiddy Viddy and that three or four Boats kept in the Harbour loaded with stones could in ten Minutes time be sunk in the Entrance or Gut, so as effectually prevent boats getting by which means the inhabitants might be indulged in their Fishery and Property to the amount of near 3,000 pounds prevented being a charge on Government...¹⁹

Later in 1780, Governor Edwards justifies his actions and reiterates to Lord Germain that the fortifications of Quidi Vidi were necessary to prevent an enemy approach from the out harbours. He had therefore... "directed Major Pringle to Fortify such passes and to embody and Discipline as many of the Inhabitants and King's workmen as were willing to take up Arms under the conditions."²⁰

In his communications to Chief Engineer, Lt. Col. Robert Pringle, Edwards wrote that, "A Lieutenant from one [of] the ships with 15 seamen and 8 Mattresses [was] to attend the Battery at Quidi Vidi."²¹ On leaving Newfoundland for the winter he advised Pringle to... "be attentive to Quiddy Viddy, keep a strong Guard there to prevent a surprise, and boats filled with stones ready to sink in the passage."²² Later that year Governor Edwards reported to Lord Germain that... "a Battery is erected at Quiddi Viddi and another at Cuckolds Cove of two guns each and one at Torbay to the Northward."²³ Neither of these final records for 1780 indicate whether the battery was located in the harbour of Quidi Vidi or on The Pass. Nonetheless, as shown on the two sets of maps by Lt. Col. Pringle and supported by attending correspondence regarding fortifications, there appears to be little doubt that a military defensive works was constructed at Quidi Vidi Pass in the year 1780.

2. *How Long Was The Military Facility At Quidi Vidi Pass In Operational Order?*

In the following section, information regarding a battery at Quidi Vidi is summarized in chronological order. It must be kept in mind that Quidi Vidi Pass is rarely mentioned in the general correspondence or in the "Reports on the State of Fortifications of St. John's". Therefore, it is possible that a reader of the documents may assume that any mention of guns or fortifications at Quidi Vidi would necessarily include The Pass. This, however, does not seem to be justified in all cases, although it does appear to have been done intermittently during the 1780s and 90s. This conclusion is supported by the correspondence from Governor Edwards to Lord Germain in 1780 wherein he stated that... "the fortification of Quidi Vidi was necessary to prevent approach from the out harbours." Further evidence is also provided by the cover page of the second series of maps by Lt. Col. Pringle where he included under the general heading, "Plans of Quiddy Viddi Harbour", not only detailed drawings of the facilities at the entrance to The Gut and at Cuckolds Cove, but also those constructed on The Pass as well. After 1800, references in the correspondence to Quidi Vidi appear to include only the defence works situated at the mouth of Quidi Vidi Harbour.

An additional point to bear in mind is that in certain instances during the last two decades of the eighteenth century when batteries at Quidi Vidi and Cuckolds Cove are mentioned, along with other defense works that formed part of the outer ring of defences for the town of St. John's, these references likely include the facilities at The Pass as well. Also, our interpretation of the records is that in the few instances where lines are mentioned in association with Quidi Vidi Battery, these likely include the defence works on The Pass, given that there were no lines of entrenchment established in association with the works situated above The Gut. All nineteenth century documents for Quidi Vidi, unless referring specifically to Quidi Vidi Pass, are interpreted as including only the battery located at the mouth of the harbour.

The following is a presentation of correspondence for the period 1781 to 1832.

1781: "9 men are attending the Battery at Quidi Vidi."²⁴

1782: Battery and Lines of Quiddy Viddy:

"four 6 pounder Guns mounted; four 18 pound Carronades."

"As the Batteries and lines were constructed with Materials on the spot they want an annual repair, but are at present in a good state of defence. Wanted to spike down the platforms and to finish the temporary Magazine and Barrack."²⁵

1783: Quidi Vidi not mentioned.²⁶

1784: Quiddy Viddy:

"The line and Battery of this place being only temporary works thrown up in the year 1780 is not thought necessary to be kept up, and are of course, going to ruin."

"The out Commands at Torbay, Cox's Marsh, and Hays Battery are also in the same situation." (Appendix X)²⁷

1785: "The works at Quiddy Viddy, Torbay, Coxes Marsh and Hay Battery being only temporary works are gone to ruin." (Appendix XI)²⁸

1786: Quidi Vidi not mentioned.²⁹

1787: Quidi Vidi not mentioned.³⁰

1788: Quidi Vidi not mentioned.³¹

1789: Quidi Vidi not mentioned.³²

1790: "I have Sent Estimates home for the repairs of the two Batteries at Quiddy Viddy, One for the defence of the Harbour and the other for the pass, they are at present in a Very Ruinous State, and as they appear to me to be of Great Consequence for the defence of this place I hope your Grace will approve of them, I have made the Estimates very low, as the Commanding Officer of the 4th (?), is so good as to Spare us all the men he can off duty."

"The principal part of these repairs will be the Labour, which will come by one half cheaper than Usual, by Employing Soldiers at (?), and we have Great plenty of earth on the spot."

If your Grace does not approve of those repairs, I should recommend the Ordnance mounted on them to be withdrawn." (Appendix XII)³³

"I should likewise beg to recommend the Batteries at Quiddy Viddy and Cuckolds Cove, to be fenced in to preserve them from being destroyed by the cattle and the Guard Rooms from being Injured by the rude Inhabitants of this place, as likewise to keep the kings ground from Encroachments, the very Batteries themselves at present being Converted into Potato Gardens, by the Fishermen being near them." (Appendix XIII)³⁴

Quiddy Viddy and Cuckolds Cove Batteries:

"Are likewise in a ruinous Condition And will require new Platforms, Breast Work, and Some repairs to the Guard Houses."

"The Outposts at Torbay, Coxes Marsh, Gaden's Marsh and Hay's Battery are almost gone to Ruins, and the Ordnance partly dismantled, and will all require to be repaired to render them of any Utility." (Appendix XIV)³⁵

1791: "I desire that you will proceed with the following works and Repairs in the Island of Newfoundland conformable to your Estimate for the present year, taking care not to exceed the sums allowed for each Service."

"To enclose the Batteries at Quiddy Viddy and Cuckolds Cove: 108 pounds sterling."(Appendix XV)³⁶

Quiddy Viddy and Cuckolds Cove Batteries:

"The Guard Houses repaired, the Fence ordered to be erected round the Barrack Ground, almost prepared for putting up."

"Chain Rock Battery and the outposts of Torbay, Coxes Marsh Gaden's Marsh and Hayes Battery are almost gone to ruins and the Ordnance mostly sunk in the Earth."(Appendix XVI)³⁷

"The outposts of Torbay, Coxes Marsh, Gadens Marsh and Haye's Battery are almost gone to ruin, and the Ordnance mostly dismantled."³⁸

1792: No report found.

1793: No report found.

1794: "Governor Wallace directs the Commissary to issue to the Quiddy Viddy Volunteer Company, consisting of twenty men, the same proportion of rations as the other Volunteer Corps, when on Duty from the date thereof."³⁹

1795: Quiddy Viddy:

"four 18 pound Carronades, three 6 pound guns."⁴⁰

Quiddy Viddy and Cuckolds Cove Batteries:

"In a good state of defence."⁴¹

1796: "Quiddy Viddy Battery at the Entrance of the Gut in good repair."⁴²

1797: "Quiddi Viddy Battery at the Entrance of the Gut in good repair."⁴³

1798: No mention of Quidi Vidi.⁴⁴

1799: No report found.

1800: "Return of Brass and Iron Ordnance... Quiddy Viddy:

Ordnance: 5; Cartridges of Powder for P's: 89, 94;

Round Shot: 165, 100; Gunpowder: 3; for Carronades: 2."

"The Cartridges for Quiddy Viddy and Wallace Battery are deposited at Signal Hill."⁴⁵

1801: No report found.

1802: "Quiddy Viddy Battery is in good repair."⁴⁶

1803: No report found.

1804: No report found.

1805: Quiddy Viddy Battery:

"An open battery above the harbour of Quiddy Viddy; its parapet is in a decayed state. At present it is unprotected and is overlooked by the opposite hills. (P2) Two Brass 6 pounders are mounted upon garrison carriages on this battery. (P3 and P4) There is a house for an Artillery Man here. The stores are in good state. (P5) This battery which is the only one which looks into the harbour and landing place of Quiddy Viddy is in a very inefficient state."

Carronade Battery:

"the right of the three eminences already described has 3 18 Pounder Carronades quite unserviceable, placed upon it, without any work whatever being thrown up. Its situation is most important to defend the approaches to Signal Hill on the right; it also has a

considerable sweep over many parts of the hill in front of it which is bounded by Quiddy Viddy pond. It commands the eminence on which [it] was placed."

Quiddy Viddy Pass Battery:

"where an old unoperable 6 pounder is placed with scarce a trace of a work left. Its object was to defend the passage of the river, which is of essential consequence, as it contracts the attack to 800 (?) yards in front on the left where the ground is very strong from the successive stages of fire it offers. And also causes a considerable detour should the enemy have landed at Torbay." (Appendix XVII)⁴⁷

1806: Quidi Vidi is not mentioned in any correspondence, however, a chart entitled, "Return of the Mounted Ordnance at Saint Johns Newfoundland 15th July 1806", indicates that one six pound cannon was positioned at Quiddy Pass Battery (Appendix XVIII).⁴⁸

1807: A Proclamation:

"Whereas it is necessary that a certain space of ground around (?) the works carrying on at Signal Hill for the defence of this Harbour should be kept clear for the use and security of the Fortifications, which is marked out by Posts, and is now granted to the (?) of the Ordnance - All persons are forbid from attempting to enclose any part of that Land, or to expect permission to erect any Building whatever, either within that Boundary or between Signal Hill and Cuckolds Cove and thence in a straight line to the House of Joseph Grove, from thence along the road at the edge of quiddy Viddy Pond and to the west and from thence in a straight line to Waldergrave Battery, as such buildings would adjust (?) the approach of an Enemy and are therefore to be kept clear, and no building whatever is to be erected in front of quiddy Viddy Pass Battery, nor between that battery and Grove's House."(Appendix XIX)⁴⁹

1808: Quidi Vidi not mentioned.⁵⁰

1809: Quidi Vidi not mentioned.⁵¹

1810: Quiddy Viddy Battery:

"This work has been reinstated and enforced, a Magazine has been built but the Guard house is in such a ruinous state that nothing short of a new building seems adequate and will therefore be submitted in this years Estimate."⁵²

1811: "The various Batteries remain nearly in the same state as reported last year but Frederick and Chain Rock are now dismantling."⁵³

1812: Quidi Vidi Battery:

"A Guard house of temporary Construction may contain 1 non commissioned Officer and 6 Privates, or more on an emergency. It is in repair; use portable powder magazines; the Guard house is in a good state having recently been rebuilt."⁵⁴

1813: "Quiddy Viddy will require to have the platforms re-established, but the Parapet, Guard house, and Magazine are in order."⁵⁵

"Platforms require to be reinstated, a set has lately arrived from England but as the season is very late it may be advisable not to lay them until next year."⁵⁶

1814: Quiddy Viddy Battery:

"for four pieces of Ordnance 2 six pounders are now mounted and 2 32 pounder Carronades were brought here last Autumn in exchange for others that were then mounted of inferior calibre, they were not mounted immediately, as the imperfect appearance of the platforms indicated the necessity of having them renewed, which work it was deemed advisable to postpone till after the winter. This battery commands the entrance of the harbour from whence it takes its name."

"There was formerly a small entrenchment and Battery to oppose an enemy approaching Quiddy Viddy Village from the Land side; the remains of this work can hardly be traced, and only one 6 pounder is posted here which from the state of the Carriage and Platform is totally useless at present."⁵⁷

1815: Quiddy Viddy:

"This work is in repair except the platforms which would have been reinstated but the Maj. General Commanding has it in contemplation to dismount the Ordnance. A Guard house of Temporary Construction may contain 1 non commissioned Officer and 6 Privates, is occupied by one Royal Artillery man and Family."⁵⁸

1816: Quidi Vidi Battery:

"as last reported."⁵⁹

1817: No report found.

1818: Quiddy Viddy:

"2 6 pounders on wooden Garrison Carriages, 2 32 pounders on wooden Garrison Carriages; Ammunition 25 rounds for 6 pounder, 25 rounds for 32 pounder."⁶⁰

1819: Quiddy Viddy Battery:

"as last reported."⁶¹

1820: Quidi Vidi is not mentioned.⁶²

1821: Quidi Vidi is not mentioned.⁶³

1822: Quidi Vidi is not mentioned.⁶⁴

1823: Quiddy Viddy Battery:

"Remains as last reported. A Guard house of temporary construction may contain one Non-Commissioned Officer and six privates. Is occupied by one Royal Artill. man and family; requires repair."⁶⁵

1824: No report found.

1825: No report found.

1826: Quiddy Viddi Battery:

"Has had the repairs Estimated for and is in an efficient state."⁶⁶

1827: Quiddy Viddy Battery:

"There is also a Battery at Quiddy Viddy, a small inlet 1/2 mile from Signal Hill and 1 1/2 miles from St. John's....Quidly Viddy is about 1/2 mile to the northwards of Signal Hill in calm weather small vessels may enter it and land Troops. there are 2 33 pound Carronades and 2 6 pound guns ill adapted to produce good effect at a very short range, the 2 Carronades with Musquetry would be sufficient and they would be easier destroyed or removed when resistance at this point was not any longer considered expedient. There is a small wooden Guardroom occupied by a Gunmen Royal Artillery."⁶⁷

Quiddy Viddi Battery:

"Has recently undergone repairs and is in an efficient state."⁶⁸

"The distribution of the Company of Royal Artillery and 800 men, supposed to be the War Establishment for St. John's, I would propose be as follows:

Royal Artillery Lines: Tower No. 1, Royal Artillery 40 men - remainder detached at the other Towers and Batteries

Line 32

No. 2 - ditto 136

Stone Barracks on Signal Hill, lower part bomb proof, ditto 312.

Tower No. 3 Carronade Hill - 100

4 Wallace - 20

5 Above Quidi Vidi Pond - 60

6 Between Wallaces and Fort William - 100

7 Waldergraves Battery - 40

Total 800". (Appendix XX)⁶⁹

1828: Quiddy Viddy Battery:

"Is in an efficient State."⁷⁰

1829: Quiddi Viddi Battery:

"Is in an efficient State."⁷¹

1830: No report found.

1831: No report found.⁷²

1832 "4. With respect to Plan No. 3, I beg leave to impress the necessity, of a more strict adherence to the Proclamation of Governor Hollaway in 1807: forbidding all new erections within the limits laid down in The Plan, and defined in the Proclamation; & also of the transfer of the Ordnance of the Land about Quiddi Viddy Battery, Quidi Viddy Pass Battery and Cuckhold's Cove, for the reasons described in Column of remarks upon letter E & F - Quiddy Viddy Pass Battery would be established as a Field Battery to protect the right of our Position facing the country, were an enemy to land in any of the numerous Bays to the Northward."

Plan No. 3, Reference F.

"Occupation: Quiddi Viddy Pass Battery."

Tenure:

"dismantled no grant. Battery constructed by Col Pringle prior to 1783 with the sanction of course of the Colonial Government ???? 1783. date of Grant or ? presumed unknown."

Remarks:

"The adjacent ground held by various individuals by permission of Col Pringle; no acknowledgement has hither to been demanded but no time will now be lost in demanding the said acknowledgement from the occupants." (Appendix XXI)⁷³

"These papers, I am commanded to observe, have been attentively considered by the Master General and Board, with reference to a Plan of Defences for Newfoundland which they approved of in the year 1827, and the Master General and Board required you will be to move Lord ? to confirm Governor Holloway's Proclamation of 16th, October, 1807, as shown in ? No. 3, and also to give Orders that the Land therein refereed to, adjacent to Signal Hill, as well as that about Quiddi Viddy Battery, Quiddi Viddy Pass Battery and Cuckhold's Head, as shown by the colour green on the Plan A, No. 3, may be transferred permanently to the ordnance for the purpose of Defence." (Appendix XXII)⁷⁴

4.2 MAP COLLECTIONS

The map collections in the Map Room and the CNS at Memorial University of Newfoundland were thoroughly examined. Also studied were all the eighteenth and nineteenth century military maps for the St. John's area at the Public Archives of Newfoundland and Labrador and at the St. John's City Hall Archives. Included in these collections is the map by Hugh Debbieg on which he marked the movement of the French and British troops during the retaking of St. John's in 1762, plus a series of fourteen maps that show the Study Area between 1765 and 1958.¹ Of this number, only seven show the location of Quidi Vidi Pass Battery. It must be kept in mind, however, that excluding the maps by Lt. Col. Pringle from 1780, only two others (1807 and 1811), highlight the location of a battery at The Pass during the period when archival data suggests that the facility was still in existence, that is up to and including 1814 when there was still one six pound cannon posted there. All later drawings, and possibly the entire post-1780 collection, seem to have been compiled with a primary objective of determining ownership of the ordnance property at the southeastern end of Quidi Vidi Lake. Because of this, it is likely

¹ This map from 1958 is a copy based on an original from 1833.

that the location and design of the facilities on the post-1780 maps may be more stylistic rather than an accurate plan of battery and lines.

Copies of maps of the period in question are as follows:

1. "Plan of St. John's Harbour in Newfoundland". This map drawn in 1728 shows a patchwork of fields and houses in and around the town of St. John's. Also shown in the immediate vicinity of the Study Area at Quidi Vidi Pass is a relatively large meadow that appears to be under cultivation or in fallow (Appendix XXIII)⁷⁵.
2. "Map showing St. John's, the Harbour, Quidi Vidi Lake, and Freshwater Bay, Newfoundland." This map shows Fort William ("Present Fort") and Fort Townsend (unnamed). The scale is c. 1:14460 and the original probably dates from late eighteenth century (Appendix XXIV).⁷⁶
3. "Plan of the Town and Harbour of St. John's in Newfoundland, 1765." (Appendix XXV)⁷⁷
4. "Plan of Harbour of St. John's in Newfoundland", July 27th, 1770. Map by Capt. Hugh Debbieg, Royal Engineer (Appendix XXVI).⁷⁸
5. "Chart of St. John's Harbour in Newfoundland, Surveyed in October 1796, by Frances Owen, Master of His. Majesty's Ship Agincourt, London, Laurie & Whittle, 1799." (Appendix XXVII)⁷⁹
6. Inset from a map of St. John's in 1806 showing the plan of a battery at Quidi Vidi. Note the triangular symbols in the battery wall representing opening for guns (Appendix XXVIII).⁸⁰
7. "Plan of the Town and Harbour of St. John's, Newfoundland." Survey of the Ordnance Lands, September, 1806 (Appendix XXIX).⁸¹
8. "Map of the Town and Harbour, with the Boundaries of the Land granted to the Ordnance by Admirals Duff and Holloway (stained yellow) in the vicinity of St. John's, Newfoundland." This map was likely drawn in 1807; however, this is not certain. Quidy Viddy Pass Battery is located southwest of Coronation Bridge and appears to consist of a single battery with possibly a line of entrenchment extending north away from the structure. Also, it would appear that the battery was positioned on the edge of high ground overlooking the mid-section of Quidi Vidi Pass rather than the approach to it (Appendix XXX).⁸²

9. Plan of military facilities in and around St. John's including Signal Hill, Cuckhold's Head, Quiddy Viddy and Quiddy Viddy Pass. This plan was apparently drawn by military personnel in 1811. Quiddy Viddy Pass Battery is clearly shown in the top right-hand corner of the map and again appears to consist of one battery and possibly a line of entrenchment extending from the north end of the roughly horseshoe-shaped construction. In this case, it appears that the battery was facing more towards Quidi Vidi Harbour rather than the approach to The Pass (Appendix XXXI).⁸³
10. "Town and Harbour of St. John's, Newfoundland From Various M.S.S. in the Hydrographic Office." This plan, drawn in 1816, shows clearly Quidi Vidi Lake and Quidi Vidi Battery at the mouth of the harbour, however, Quidi Vidi Pass Battery is not shown. This omission may in fact indicate that by 1816 the area at the southeast end of Quidi Vidi Lake was no longer considered of strategic importance (Appendix XXXII).⁸⁴
11. "Sketch of the Harbour and Vicinity of St. John's, Newfoundland, showing the situation of the Several Pieces of Land referred to in Plans (?) A,B,C,D,E,F,G. 8 June, 1832." Transmitted with Sir Alexander Bryons (?) to the Board dated August 9th, 1832 (?) Lt.Col. Oldfield's report of June 8th, 1832 (Appendix XXXIII).⁸⁵
12. Part of a drawing showing Queen's Battery, Chain Rock Battery, Frederick Battery, Quiddy Viddy Battery and Quiddy Viddy Pass Battery. This map, drawn by E. Lloyd on December 31st, 1833, has unfortunately been severely damaged and other than the approximate location of the military facilities at The Pass, no additional information is discernable (Appendix XXXIV).⁸⁶
13. Copy of B. Lloyd's 1833 map by B. Ouder (?) dated August 9th, 1958 (Appendix XXXV).⁸⁷

4.3 SUMMARY AND CONCLUSION OF ARCHIVAL STUDY

The following is a summary in point form of the results of the archival study. Each point presented is followed by text supporting the general conclusion and specific reference is made to significant passages or phrases in the document in order to draw attention to particularly important details.

1. There were no fortifications on Quidi Vidi Pass at the time of the engagement between French and British troops in 1762.

The earliest mention of Quidi Vidi Pass in the series of documents reviewed was a collection of letters written by Colonel Amhersts and a large map produced by Royal Engineer, Hugh Debbieg, which illustrates the different stages of the British/French engagement at Quidi Vidi Pass during September of 1762 (Appendix II). The first question that springs to mind when reviewing this

material is did the French holding St. John's during that summer have troops stationed at The Pass during their three month occupation, or does the reference on the Debbieg map, "A Body of the Enemy consisting of three companys of Grenadiers and Two Picquets posted to defend the Pass" (Appendix II, reference D), indicate that the French soldiers had simply taken up positions at that location subsequent to their skirmish with the British on the north side of Quidi Vidi Lake. While it is certain that French troops had in fact..., "erected a Breast-work and a Battery for two pieces of cannon not completed at Kitty Witty and two small breast-works at the Cuckolds Cove, to prevent our Landing" (Appendix II, reference Q), it seems likely that had there been military installations of any description constructed at The Pass, they too would have been mentioned in detail by either Amherst or Debbieg. This conclusion is further supported by the note accompanying the set of maps of Quidi Vidi and Quidi Vidi Pass, submitted by Governor Edwards to Lord Germain in 1780, which states that the lack of lines and batteries on The Pass made it possible for Amherst to take Quidi Vidi and Signal Hill when he retook St. John's in 1762 (Appendices VIIa, VIIIa).

2. Lines and batteries at Quidi Vidi Pass were erected by the order of Governor Edwards in 1780.

Even though no defences had been erected at Quidi Vidi Pass by the French in 1762, its strategic importance was later taken into consideration in plans for the defence of St. John's. Due to the threat of attack during the American Revolution from American Privateers (with the help of their allies the French)², in 1780 batteries and lines were established at The Pass. This work was supervised by Lt. Col. Robert Pringle, Commander and Engineer, upon the request of Governor Richard Edwards. On August 1st, 1780 Edwards submitted a set of maps to Lord George Germain, in Britain, to illustrate the measures he had taken to secure St. John's from attacks from Quidi Vidi and Cuckolds Cove. The reference tables included with the maps are headed with the following descriptions (emphasis added):

General Plan of Quidi Vidi Harbour in the Neighbourhood of St. John's, Newfoundland, which when in the possession of an Enemy would be convenient to land Guns and Ammunition to attack the Fortifications of St. John's, and also a Plan of the Batteries and Lines lately constructed to defend it.

According to the reference to map no. 3, the lines marked with the letter F were:

Lines for a hundred Men & Batteries for four Guns to defend the Passage of the River from the Pond to the Harbour for want of which Col. Amherst got Possession of Quiddy Viddy & Signal Hill when he retook St. Johns in 1762. (Appendices VIIa, VIIIb)

² The Independence of the United States was officially recognized by France in 1778 and they declared war against England in that same year.

Based on additional documentation it appears that the defence lines and batteries at Quidi Vidi Pass were makeshift facilities, having "been thrown up in the year 1780" from materials found on the spot. This method of construction seems to have been employed for all the facilities built at that time as part of the outer ring of defences for the town of St. John's.

According to the maps and correspondence by Lt. Col. Pringle, the military facility at Quidi Vidi Pass was comprised of lines for one hundred men (presumably meaning lines of entrenchment) and batteries for four guns. On his second set of maps the black triangular symbols, possibly representing gun embrasures, are situated at three locations suggesting perhaps that the defensive complex consisted of two batteries of one gun each, on the high ground above The Pass, and a third emplacement for two guns situated further east, close to the river (Appendix VIIIId). As seen from these drawings, the lines were apparently dug adjacent to the gun emplacements (Appendices VIIId, VIIIId).

It is important to remember that nowhere in the documentation was it stated that the military complex at Quidi Vidi Pass was ever manned to its full capacity of one hundred soldiers. Rather, it more likely operated on par with other batteries of the time period, such as the one at Petty Harbour Pass which was apparently occupied by twelve men. Nonetheless, it stands to reason that to properly run a military installation of this nature, or any semi-isolated strategic defensive works for that matter, some sort of temporary accommodation or guardhouse, as well as a magazine would almost certainly have been mandatory. Even if this area was manned only on an intermittent basis (which seems very likely) and soldiers commuted to accommodations in the village or to the barracks at Quidi Vidi Battery at the mouth of the harbour, shelter with rudimentary cooking facilities and dry storage for powder would nonetheless have been required at The Pass.

3. By 1784 or 1785 the facilities at The Pass, being of a temporary nature, had fallen into disrepair. The deterioration possibly corresponded with the cessation of hostilities in the Thirteen Colonies (1783). The batteries may have been repaired in 1796, as suggested by David Webber (1975: 533), however, no evidence to support this was located.

The facilities at The Pass served their purpose for a time but were not kept up and gradually fell into disrepair. In 1784, only four years after their initial construction, the official report on fortifications in St. John's states that, "The line and Battery of this place (Quiddy Viddy) being only temporary works thrown up in the year 1780 is not thought necessary to be kept up, and are of course, going to ruins." The out commands at Torbay, Cox's Marsh, and Hay's Battery were also in the same situation (Appendix X). In the following year (1785) we see that, "The works at Quiddy Viddy (presumably including Quidi Vidi Pass), Torbay, Coxes Marsh and Hay Battery being only temporary works are gone to ruin." (Appendix XI) Because they had been constructed with materials found... "on the spot, they want an annual repair." From the above statements, it would seem that the batteries constructed as part of the outer ring of defences for the town of St. John's were crudely built temporary earthworks consisting of gravel, rocks, sods,

and perhaps locally procured wood. This conclusion was further supported by documentation stating that any repairs to these batteries would not be excessively expensive... "as we have great plenty of earth on the spot." (Appendix XII)

Documentation from 1790 indicated that the facilities at Quidi Vidi and Cuckolds Cove were still in a "Very Ruinous State" and that estimates were calculated for their repair. The correspondence written at that time reads, "I have Sent Home Estimates for the repairs of the two Batteries at Quiddi Vidy, One for the defence of the Harbour and the other for the pass". It was not clear, however, from subsequent documentation whether these repairs were ever implemented.

The above reference is nonetheless of particular interest in that for the first time the military facility at Quidi Vidi Pass is referred to specifically as a **Battery** and not Batteries as described by Pringle only five years earlier. This categorization, as we have seen from the above documentation, was then employed consistently after 1790 up to and including the final correspondence regarding the area written in 1832. What seems most likely, based on the general accuracy and thoroughness of Pringle's work, is that the complex was initially designed and perhaps even constructed according to his specifications (albeit extremely makeshift), but immediately following the cessation of the threat from American Privateers, the works may have been down-graded to only one battery for a single six pound cannon. Alternatively, however, one must acknowledge the possibility that the works never did consist of more than one battery and that Pringle's reports from 1780 were, for whatever reason, not accurate. It is hard to conceive of a reasonable scenario where an officer in his position would jeopardize his career, and possibly his life, by taking the considerable risk evolved in submitting false information. Therefore, the approach taken in this report is that even though Pringle may have stretched the truth somewhat in terms of the quality of the defensive works, his maps and reports were essentially accurate when submitted. Nonetheless, the discrepancy was evident and therefore warranted consideration. It was anticipated that the archaeological field survey would shed light on this apparent inconsistency.

Additional evidence from 1790 further suggested that by that time at least some of the facilities at Quidi Vidi were abandoned or were not manned on a full-time basis. This conclusion is based on the statement that:

I should likewise beg to recommend the Batteries at Quiddy Viddy and Cuckolds Cove, to be fenced in to preserve them from being destroyed by cattle and the Guard Rooms from being Injured by the rude Inhabitants of this place, as likewise to keep the Kings ground from Encroachments, the very Batteries themselves at present being Converted into Potato Gardens, by the Fisherman being near them (Appendix XIII).

While not conclusive that the above statement was referring to Quidi Vidi Pass, it seems likely that it was. This is derived from the fact that by 1780 the terrain along the southeast end of

Quidi Vidi Lake appears to have been employed for grazing animals and for cultivation.³ Clearly shown on the Pringle maps of that year are open pastures and what may be rows of vegetables in areas directly adjacent to the military installations (Appendices VIIId, VIIIId). On the other hand, the terrain adjacent to Quidi Vidi Battery at the mouth of The Gut, being composed predominantly of exposed bedrock, presumably presented little if any potential for agriculture.

Based on the above, it is also concluded that by 1790 the battery at The Pass was abandoned or perhaps occupied only on an intermittent basis. It seems likely that if soldiers were stationed there full-time, destruction to property and encroachment on the land by man and beast would not have been permitted to take place. Fencing the area as suggested by Engineer, John Caddy, would not only protect the property from potential damage but also it would in effect establish ownership of the land.

A further line of evidence to support the suggestion that the meadows at the southeastern end of Quidi Vidi Lake were in the 1780s used extensively for agriculture (as interpreted from the Pringle maps), is the fact that one of the most significant effects of the American Revolution on Newfoundland was that the island's residents were rapidly severed from an abundant food supply previously provided by the Thirteen Colonies. As a result, not only did Newfoundland look to Britain and British North America to fill this gap, but also the scarcity and uncertainties of food encouraged increased attention to the potential of the local soils for vegetable production. The quantity of land improved for farming increased rapidly during the wars years, with the most noticeable rise coming in the regions of St. John's, Carbonear and Harbour Grace (Cell 1976: 196-98). Furthermore, it appears as though the majority of the agricultural advances were attributable to the Military. Governor Campbell (1782-85), for example, reported that "In the Neighbourhood of St. John's some Officers of the Army and others not concerned in the Fishery have enclosed and improved extensive Tracts of Land..." (Cell 1976: 199). Furthermore, it appears as though Lt. Col. Pringle himself was responsible for having cleared for farming extensive sections of ground at locations referred to as Pringle's Bridge and Pringle's Dale (Prowse 1972: 341). Consequently, that the meadows comprised by the Study Area were also used extensively at that time for such purposes is not at all surprising.

Although David Webber (1975), in his chapter on "The Military History of Newfoundland" (Book of Newfoundland, VI: 533) wrote that "Pringle's batteries at Quidi Vidi Pass and Quidi Vidi Gut were repaired in 1796" shortly after a French attack on Bay Bulls, it was not possible to verify this point in the records which have been consulted. It is assumed that Webber, who is a specialist in this field, may have had access to reports in Britain which are not available here in Canada. Such references were not found in the file on Quidi Vidi Pass Battery held by the Historic Sites Division.

³ The meadows comprising the Study Area appear to have been under cultivation much earlier in the eighteenth century as illustrated by a map from 1728 (Appendix XXIII).

4. By 1805 the Quidi Vidi Pass facility was in a ruinous state and only one unoperable six pound cannon remained with scarcely a trace of the original works visible.

The above description given in 1805 suggests that despite its strategic importance the lines and batteries at Quidi Vidi Pass had further disintegrated, almost to the point of being completely nonexistent. A document referring specifically to the facilities at The Pass reads:

....where an old unoperable 6 pounder is placed with scarce a trace of a work left. Its object was to defend the **passage of the river**, which is of essential consequence, as it contracts the attack to 800 (?) yards in front on the left where the ground is very strong from the successive stages of fire it offers. And also causes a considerable detour should the enemy have landed at Torbay. (Appendix XVII)

The above reference written in 1805 suggests that only 25 years subsequent to the initial construction, the facility at The Pass was almost certainly abandoned (or manned only on an intermittent basis) and scarcely a trace of the original construction remained; this perhaps being a further indication of the temporary nature of the works. In 1806 there was apparently still one six-pound cannon posted at the site; however, there was no mention of the state of the gun emplacement or whether soldiers were stationed there (Appendix XVIII). An ordnance map drawn in the same year showing the state of the military defences in and around St. John's, indicates that while there may have been a battery at the mouth of Quidi Vidi Harbour, the state and importance of the facility at The Pass was such as to not warrant inclusion on the plan (Appendix XXIX). In 1807 the issue of maintaining title to the Ordnance property at Quidi Vidi Pass is raised. Whether the battery was operational at that point is not made clear from the documentation (Appendix XIX).

5. In 1814 there was still one old six pound cannon remaining at the site; however, the facility had been permitted to deteriorate further and appears to have been completely abandoned at that time.

A report on the fortifications of St. John's written in 1814 confirms the poor state of the defence works on The Pass. In fact, in this case, the document refers to the facilities specifically in the past tense. It reads, "There was **formerly** a small entrenchment and **Battery** to oppose an enemy approaching Quidy Viddy Village from the Land side; the remains of this work can hardly be traced, and only one 6 pounder is posted here which from the state of the Carriage and Platform is totally useless at present." This reference is the last mention to a gun being in position at the site and suggests that even though the battery was likely unmanned, the area was still considered ordnance property by the military.

6. Efforts were made to re-establish a battery at Quidi Vidi Pass; however, evidence that this was implemented was not found.

We were unable to locate any documentation referring directly to military facilities at Quidi Vidi Pass for the period 1814 - 1826. In 1827, however, it is clear that while there were no soldiers stationed at the site, there was an effort to re-establish a battery at that location. In fact, it was recommended that a tower be constructed above Quidi Vidi Pond to be manned by as many as 60 men. It does not appear that the plan was taken seriously and no documentation was located to indicate that it was ever implemented.

In 1832 there was another renewed interest in re-establishing a defence works at Quidi Vidi Pass. It was recommended that, "Quiddi Viddy Pass would be established as a Field Battery to protect the right of our Position facing the country, were an enemy to land in any of the numerous Bays to the Northward." (Appendix XXI) That there was some debate at that time as to ownership of the property is further attested to by the statement that the land around Quidi Vidi Pass Battery should be transferred permanently to the ordnance for the purpose of defence.

The above correspondence and an accompanying map (Appendix XXII) are the final references to Quidi Vidi Pass Battery located, having searched the records up to and including 1840.

The Historic Sites plaque positioned at The Pass states that the... "defences were maintained until 1824 when the ordnance was removed." Though this statement suggests that the facility remained part of the defence scheme for St. John's until 1824, the records for the Study Area do not substantiate this claim. Rather, they indicate that the battery had been allowed to deteriorate many years earlier, perhaps immediately following the American Revolution. The battery located at Quidi Vidi Harbour, however, was maintained at least until 1827 (and very likely much later), at which time two... "33 pound Carronades and 2 long iron 6 pounders were mounted en barbette, the platform of wood being in good order."⁸⁸

In conclusion, what the archival research indicated is that in 1780 a military facility consisting of batteries for four guns and lines of entrenchment for one hundred soldiers was established at Quidi Vidi Pass. This defensive works was almost certainly very rudimentary in construction and by 1785 was in a severe state of disrepair. By 1790 the facility was apparently no longer of strategic importance and consequently was possibly downgraded to one battery for a single six pound gun. This arrangement continued to be the capacity of the works until at least 1814. Whether the facility was manned up until that time is not clear from the documents; however, it appears as though it was not. Beginning in 1790 concern with establishing military ownership of the property with a view to defending the site from the pressure of civilian encroachment was expressed. Such concerns were reiterated time and time again by military personal until at least 1832, suggesting perhaps that the meadows situated at the southeastern end of Quidi Vidi Lake were during the eighteenth and nineteenth century in great demand, possibly for farming. During the present century other military activities took place at Quidi Vidi Pass (in association with the Second World War), resulting in further alteration to the land comprised by the Study Area. Also, since the Second World War, these meadows and hills have been farmed intermittently by residents of Quidi Vidi Village. As a result of this land use history, coupled with the extremely

rudimentary nature of the installations under study, the likelihood of finding significant intact remains associated with the 1780 facility was not exceedingly promising.

4.4 FIELD SURVEY

During the field survey seven locations (Areas A-G) were tested for the presence of archaeological materials (Figure 3.1). The areas selected for excavation were identified during the archival research as locations where remains of the eighteenth century facility should be situated and during an initial site walk-over when surface features of potential significance were noted.

As the maps by Pringle from 1780 appeared to be the most reliable source of information regarding the location of the defensive works, these were the chief archival documents used to help trace the remains. Even though references to "The State of the Fortifications for St. John's" written in 1790 suggested that the Quidi Vidi Pass defensive system by that time may have been downgraded to a single battery, possibly for one six pound cannon, it was nonetheless decided to conduct minimal testing at a percentage of the pertinent locations highlighted by Pringle in order to establish what in fact was originally built and where. To accomplish this, information from his maps was first transcribed onto a modern photograph, thus creating an interpretive aerial overview of the Study Area (Photo 3). Then, employing the photograph as a guide, as many areas as possible where lines or batteries should have been situated were tested in the limited time available. It is important to bear in mind that the 1780 maps are plan views of the eastern end of Quidi Vidi Lake, while the photograph is essentially an oblique. As a result, transcribing information from one to the other does not necessarily produce a completely accurate representation. The orientation and distances between the components of the facility on the photograph differs from those depicted on the maps. Nonetheless, the exercise was undertaken primarily as a "finding aid" and therefore should be seen as such.

The following is a summary of the excavations and conclusions drawn from this work.

4.4.1 Area A

Area A is located 34.5 m above sea level approximately 150 m southwest of Coronation Bridge (Figure 3.1). This area was selected for testing because at this location there is a large rectangular earthen mound, the exterior dimensions of which measure 15 - 20 m east - west by 10 m north - south. The feature in general is quite prominent consisting of a series of well defined earthen walls, the most substantial of which measures 2 m across by 1 m high. The vague outline of a collapsed internal partition suggests that the structure may have consisted of at least two rooms. The northwest wall of the feature slopes sharply from the summit of the meadow towards Quidi Vidi Lake (Photos 4 & 5).

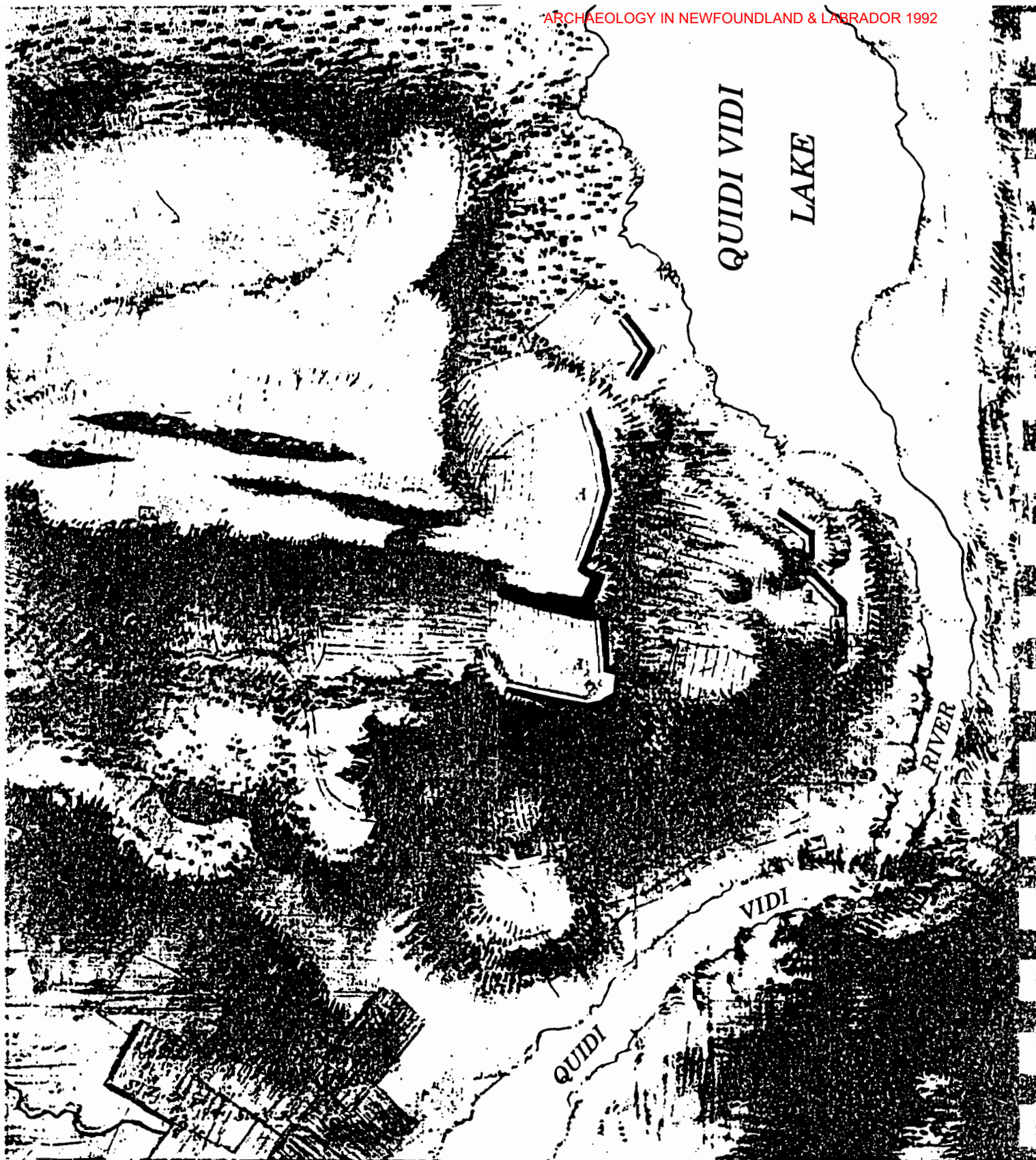


PHOTO 3 (opposite page):
Study Area Showing Test Areas And
Interpretive Plan Of Eighteenth Century Military Complex



LEGEND

— LINES OF ENTRENCHMENT

⋯ BATTERIES



Photo 4: Area A Looking West.



Photo 5: Area A Looking West.

While the design and location of Area A was indicative of a military rather than a domestic dwelling, the site is not in an area where historic maps suggest components of the 1780 complex should be. In general, these remains are too far west to defend with only six pound cannon... "The passage of the river from the pond to the harbour", as stated in the reference table accompanying the Pringle maps. It seems likely that a battery equipped with such small ordnance would have to have been situated much further east, overlooking the section of river where the enemy would have had to cross in order to advance out to Quidi Vidi Harbour. Furthermore, if a gun crew was stationed at this location in 1780, they could hardly have seen the passage of the river, let alone defend it (Photo 3).

Additional indications suggesting that Area A is likely not associated with the 1780 facility are that these remains are not only situated a substantial distance back from the edge of a prominent embankment, under which the enemy could have walked virtually unhindered by mounted ordnance, but also because the overall massiveness and structural integrity of Area A is not indicative of a temporary earthworks... "thrown up in the year 1780", as suggested by the documents. Furthermore, this prominent feature does not fit the description written in 1814 that stated that the remains of a battery at Quidi Vidi Pass could, at that time... "hardly be traced" (Photo 5). A final rather significant observation regarding Area A is that the main axis of this earthen mound is oriented northwest towards St John's, hardly the appropriate alignment to avert an enemy approaching from the northeast (Figure 3.1).

Based on the observations outlined above, it was reasonable to conclude that Area A did not date to the eighteenth century, nor was it a component of the 1780 defensive works constructed at Quidi Vidi Pass. However, because the remains had been previously identified as such, it was felt that further inquiry was warranted.

Prior to excavation, a number of current and past residents of Quidi Vidi Village were interviewed regarding information relevant to Area A. As a result of these interviews, it became clear that the feature is likely the remains of an anti-aircraft gun emplacement constructed by U.S. Military personnel during the Second World War. First hand observations by informants indicate that the foundation apparently accommodated at least one gun and an attached guard house. It was reported that the gun was a relatively large calibre and was generally covered with a camouflage net. Typically, there would have been one gun crew consisting of perhaps 8-10 men stationed at the site (W. Pittman: personal communication).

Supplementary interviews suggest that the gun was mounted on the foundation only during construction of Fort Pepperell (1941-43). When the base was completed, the ordnance was removed and the 24 ft x 24 ft guardhouse sold to a Mr. Amminson. This individual apparently removed the building from the hill and positioned it approximately 20 m to the south. He and his family then used the structure for a number of years during the summer months as a cottage. Subsequently, the cottage and property were sold to a Mrs. Gullbronston who later sold it to a Mr. Dawe, a local St. John's merchant. In 1951 the cottage and property were acquired by Mr.

Pittman who renovated and made several additions to the original structure. He and his family lived in the upgraded dwelling until 1989 when they sold the property to the City who removed the structure from the site. This story, in similar detail, was related to the author by other Quidi Vidi residents (A. Braig, E. Snelgrove, P. Squires, I. Pynn: personal communication).

An additional line of inquiry conducted in order to clarify the age and function of Area A was a thorough review of all aerial photographs available for the St. John's/Quidi Vidi Lake region. The earliest photograph located is a reproduction of an original taken by the U.S. Military in 1941. This photograph, marked "Top Secret", was recently acquired by the Canadian Parks Service in Halifax. Unfortunately, the shot was taken at such a high altitude that details of small surface features were not distinguishable. A slightly later photograph from 1948, however, does show an earthen foundation with no superstructure and what may be a building (possibly a cottage or house) situated to the south (Appendix XXXVI).⁸⁹ While not entirely conclusive, the 1948 photograph does support details given by informants. Regrettably, no aerial shots covering the period 1942 to 1947 were located.

Even though the above data appeared conclusive (regarding the age and function of the feature), a decision was made to conduct minimal test excavations at Area A. Consequently, a 50 cm wide test trench was excavated through the remains in the central location. The trench started at the southern extremity, which corresponded with the end of a bedrock outcrop, and advanced across and beyond the floor of the building to include the north wall. In total, seventeen 50 cm x 1 m test units were excavated (Figure 3.1).

Information obtained from the test excavations indicates that Area A was constructed by mounding stone rubble and gravel to form the raised rectangular earthen walls. These features were constructed around the periphery of an exposed bedrock outcrop which appears to have been levelled by blasting. Presumably, this was done in order to create a level area on the elevated outcrop and to acquire supplementary raw material for fabrication of the walls. In places, drill holes where charges would have been placed were detectable in the underlying fractured cliff. Also, remains of drill tubes were found in the walls and in the lowest level of floor fill.

An analysis of the exposed profile indicates that after the walls of the structure had been constructed, a layer of gravel and crushed stone was placed over the internal surface to create a smooth useable floor (Photo 6). Subsequent to this, sods were likely placed around the exterior of the walls in order to camouflage the structure from the air.

Although few artifacts irrefutably American Military (e.g shell cartridges) were recorded, evidence indicates that the earthen construction is almost certainly twentieth century in origin. Frequently during the test excavations rusty four and six inch wire nails were recorded in the substratum, a percentage of which were located on the underlying fragmented bedrock. Also, recorded in the south wall 60 cm below the surface, was the remains of a wood beam. This artifact appears to be a deteriorated length of 2 x 4. Present on the surface of the wood is a



Photo 6: Area A Test Trench 1 Showing East Profile.



**Photo 7: Area A Test Trench 1 Showing South Wall.
Note Wooden Beam With Wire Nail.**

khaki green, military type oil paint. Also, protruding from the wood was an intact four inch wire nail (Photo 7).

Based on the findings detailed above there appears little doubt that Area A, as stated by informants, is the remains of a Second World War U.S. anti-aircraft gun emplacement. As a result, no further testing was conducted at this location.

4.4.2 Area B

A second earthen mound located 55 m east of Area A was also identified during an initial site walk-over. Even though substantially smaller than Area A, this second feature is similar in overall design and methods of construction (Photos 8 & 9). Area B was identified by a Quidi Vidi resident as being associated with and contemporary to the U.S. anti-aircraft gun emplacement situated to the west (A. Braig: personal communication). The informant, who had been a Canadian soldier during the last war, clearly recalled when both Area A and Area B were in use. His information suggests that the most easterly earthen feature (Area B) was a low sided, semi-subterranean hut, equipped with a steel top. Apparently this structure was used to store ammunition for the anti-aircraft gun.

Even though the general location and size of this feature strongly supported the informant's claim, a decision was made to conduct minimal testing at the site. A 1 m x 1 m test square was excavated at Area B (Figure 3.1).

Results of these excavations revealed that, similar to Area A, this structure was also built on a high outcrop of bedrock, but it did not appear that the underlying cliff had been blasted to create a level working platform. The walls of Area B were fabricated of gravel and rubble and a 25 - 30 cm layer of crushed stone was laid over the bedrock foundation. Presumably this stone was employed not only to create a level internal floor area but also to permit proper drainage in the event that the interior of the building became damp or wet. Artifactual material retrieved from the test unit consists of modern bottle glass and numerous wire nails. Based on these findings, combined with the general construction of the feature, and the information acquired from informants, it is concluded that Area B is likely the remains of a ammunition storage hut constructed during the Second World War by U.S. Military personnel. As a result, no further excavation was conducted at this location.

4.4.3 Area C

Area C is located 90 m west of Coronation Bridge, 10 m above the south shore of Quidi Vidi Lake. The area selected for study is situated at the edge of a prominent embankment and consists of a small grassy knoll that rises approximately 1.5 m above the surrounding meadow (Photo 10, 11). As shown by the topographic map of the area, the terrain immediately to the



Photo 8: Area B Looking East.



Photo 9: Area B Looking East.



Photo 10: Area C Looking Northwest.



Photo 11: Area C Looking North.

north and east of the feature drops away sharply towards the south shore of the lake (Figure 3.1). Consequently, from this location a completely unobstructed view of the approach to Quidi Vidi Pass is attainable.

Area C was selected for testing for a number of reasons. Foremost among these is that the elevated feature is situated almost precisely in the location where the 1780 Pringle maps indicate a component of the defensive complex was established (Appendices VIIId & VIIIId, Photo 3). Further, during an initial reconnaissance of the area a significant quantity of late eighteenth and early nineteenth century ceramic and glass sherds, plus a small amount of clay smoking pipe fragments was identified on the surface and in the thin sod growth that covers the feature. Finally, the location and geography of the feature (a thinly covered rocky outcrop dropping off quickly to the lake) seemed unsuitable for any likely domestic or civilian activity that might have been carried out in the area. All this combined to indicate that a thorough investigation of the feature was warranted.

The stratigraphy exposed during the test excavations of Area C established that the southern side of the elevated mound is covered with a thin sod lens (Layer 1), followed by a dense concentration of rock, gravel and clay which in places extended from the base of Layer 1 to the underlying bedrock. In some test squares the rock was so concentrated that only a small quantity of gravel and clay was contained in the matrix (Photos 12, 13). Excavation revealed that the majority of cultural remains from Area C were contained within Layer 2 and that a percentage of this material was situated at the base of the composition directly on the overlying bedrock. From this it was concluded that the concentration of rubble comprising the south side of the knoll was not a natural formation and that it had been mounded-up at that location, presumably when the bedrock was exposed or covered with only a thin sod lens (Figure 4.1).

A relatively large artifact assemblage, comprised of over 1000 specimens representing at least 500 individual objects, was retrieved during the excavation of Area C. Included in this are fragments of coarse earthenware, stoneware, creamware, pearlware, other refined earthenwares, clay smoking pipes, bottle glass, iron nails, two fractured whetstones, pieces of an iron pot or cook-stove and what has tentatively been identified as an iron projectile point. Also recorded were numerous red brick fragments, nodules of coal, fragments of roofing slate, a substantial amount of burnt animal fat, mammal bones (possibly pig and cow) and freshwater clam shells. It appears that virtually all of the ceramic and glass artifacts are British and that the types of vessels represented relate almost exclusively to serving and consumption, rather than with food preparation. Other than the one nodule of flint, which would have likely been employed for the production of gun flints (but not necessarily by soldiers), nothing definitively military was recorded at Area C.

An analysis of the assemblage revealed that there are a significant number of finds that most definitely date to the late eighteenth or early nineteenth century period. These include; fragments of a South Somerset coarse earthenware (or "Donyatt") pot (Plate 1: A-B), yellow creamware



Photo 12: Area C East Profile.



Photo 13: Area C South Profile.

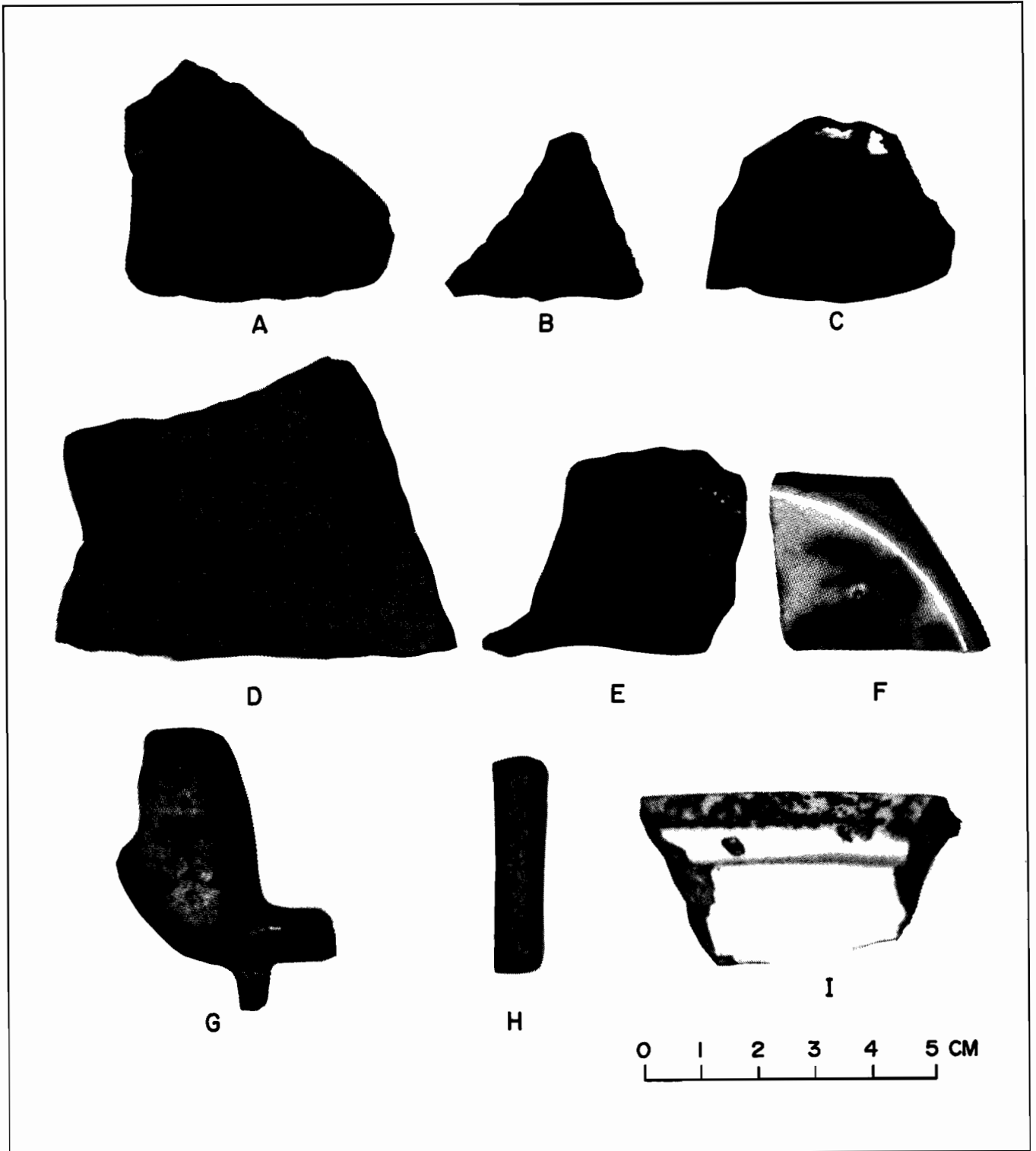


PLATE 1: QUIDI VIDY PASS SURVEY AREA C ARTIFACTS

- A-C Coarse Earthenware**
- D-E Stoneware**
- F Pearlware Plate**
- G-H Clay Smoking Pipe Fragments**
- I Pearlware Serving Dish**

(c. 1760 - 1780), shell-edged creamware in green (1780 - 1840), classic pearlware (1785 - 1830), angular-ringed pearlware (1795 - 1815), sponge-spattered refined earthenwares (1770 - 1830), London Brown coarse stoneware jars and bottles (c. 1650 - c. 1900, Plate 1: D-E), a delicate clear colourless glass flask (c. 1780 - 1810), and beer and wine bottles of c. 1760 - 1820. Other materials from Area C attest to a later occupation of c. 1840 - 1860, or slightly later. Included in this assemblage are flow blue refined earthenwares (1840 - c. 1860), transfer-printed refined earthenwares in colours other than blue or black, and therefore probably dating to after 1825, painted refined earthenwares (probably after 1870), a spurred clay tobacco pipe (1820 - 1860, Plate 1: G-H), and moulded bottles, probably dating to after 1820 (Pope: Appendix XXXVII, 11). The possible iron projectile point mentioned above (Plate 2) unfortunately has not been accurately dated nor has its precise function been established to date. Because the artifact possesses such a short tang relative to its overall length, it was concluded initially that perhaps it was not a functional piece as such and that it may have served some sort of symbolic purpose, such as would be the case with a military "spontoon", for example.⁴ This, however, was not confirmed from the source material consulted (Moore 1967, Neumann 1973). Consequently, all that can be stated at present is that the artifact appears to be a crudely made (and perhaps unfinished) iron projectile point of an unknown age and function. It is expected that further research will help clarify the unanswered questions.

The most plausible explanation for the recovery of the above outlined artifactual material is that there are at least two occupations or components represented at Area C. The earliest of these could date from c. 1780 - 1800, or perhaps even as late as 1815, while the second period dates to between c. 1840 and 1860, or sometime shortly thereafter (Pope: Appendix XXXVII, 11). While the early date range (1780 to approximately 1800) covers very nicely the period for which archival data indicates that the Quidi Vidi Pass defensive works were operational, the latter phase post-dates the facility by at least forty years.

Initially it was considered that the rubble material mounded against the bedrock outcrop may have been jetsam from land clearing. However, the significant quantity and range of cultural materials, combined with the fact that there were extremely small stones and clay contained in the matrix, suggested otherwise (Photos 12, 13). It seems unlikely that a pile of rubble removed from a meadow would contain an artifact assemblage of such proportions and diversity and that farmers would have removed and discarded valuable clay from the adjacent area. Generally, it appeared that the rubble was simply thrown against the inner side of the bedrock with no apparent pattern of construction. The compactness of the matrix and the presence of clay and gravel intimately intermingled with the artifacts and larger rocks does not seem indicative of normal land clearing where unwanted stones are usually just picked and tossed, but more of an operation where ground was shovelled from one place to another, consistent perhaps with "throwing up" rough earthworks as described by a Royal Engineer in 1784 (Appendix X).

⁴ A six to eight-foot long wooden shaft with a small spearhead fastened to one end used to distinguish rank, as a means of signalling troops and sometimes as a fighting weapon.

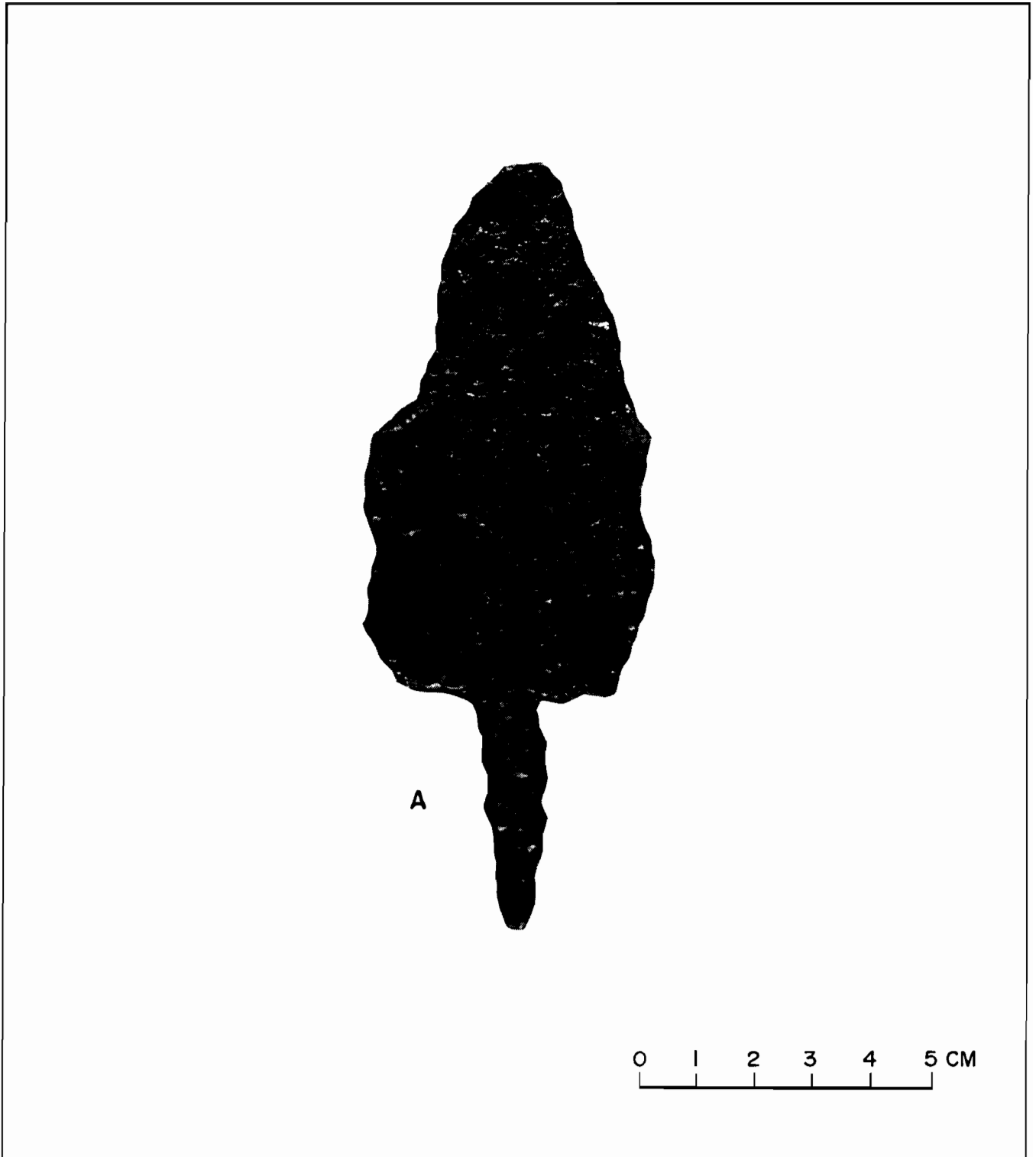


PLATE 2: QUIDI VIDI PASS SURVEY AREA C ARTIFACT

A Possible Projectile Point

A second possibility to account for the elevated rubble heap is that the remains represent a midden deposit from an associated structure that was situated in the immediate vicinity, but based on the types of artifacts recorded at the site, this also seems unlikely. While discarded animal bones and burnt fat are usually found in such a deposit, the fact that there were numerous ceramic sherds, smoking pipe fragments, glass bottles, and more significantly perhaps, a large quantity of iron nails and roofing slate, indicates that the site was not a domestic dump. Therefore, based on the above, it is concluded that the elevated feature is the remains of a structure that had been occupied by persons that actually lived at the site. Furthermore, even though no artifacts definitively military were recorded, given that the feature is situated in such close proximity to the edge of a substantial embankment and on top of an elevated bedrock outcrop overlooking the approach to Quidi Vidi Pass, it seems more likely that the site was occupied for military rather than civilian purposes.

Further investigation in the immediate vicinity of the elevated rubble and gravel knoll revealed what appears to be the base of a stone and rubble wall. This feature, oriented north - south, measures approximately 7 m long and intersects the bedrock outcrop at the southeast end (Photo 11). Results of test excavations confirmed that it is indeed a wall, with an average width of 1.5 m and is associated with an artifact assemblage dating to the late eighteenth - early nineteenth century period (Plate 1: I). Consequently, it is tentatively concluded that the remains of this wall and the elevated rubble and bedrock mound are contemporary.

The following is a suggested summary/interpretation of the above data based on the limited testing conducted. Prior to 1780 there was the exposed elevated bedrock outcrop on the south shore of the lake. Rubble and earthen fill was piled on the south side of the rock (presumably to increase the height of the natural barrier) and an adjoining wall was constructed towards the southeast end at an angle of forty-five degrees to the bedrock, thus creating a roughly V shaped formation. While not certain, it is likely that a wooden structure of some description was built at the site as suggested by the quantity of nails and roofing slate. One troubling factor must be acknowledged here, however; the stratigraphy revealed during the test excavations appeared disturbed in some cases, making reliable date attribution for the feature questionable. If the matrix was piled up as it appears to have been, the only way that the feature could date to that of the earlier range of artifacts is if the rubble was tossed up at that time and subsequently disturbed. What may have occasioned this activity is difficult to speculate.

Based on the results of test excavations at Area C it is concluded that the elevated feature may well be the remains of a component of the 1780 facility. Taking into account the provenance of the test area we see that it is situated in the location where the 1780 maps by Lt. Col. Pringle indicate a component of the facility was established. In fact, when comparing the location of Area C with Pringle's most northerly line of entrenchment, it immediately becomes apparent that not only are the two equidistant from the beginning of the river, but also both are positioned almost identically in relation to shoreline features (Appendices VII, VIII, Figure 3.1). Even though the area appears to have undergone a certain amount of disturbance, results of the

archaeological investigation suggest that a sufficient percentage of a structure may be extant to reveal more accurately how it was built. Therefore, further field testing is recommended to answer this question, to more definitively establish the period of construction and use, and to determine what role it may have played in the overall defense system.

4.4.4 Area D

Area D is a large open grassy meadow situated 30 m south of Coronation Bridge that is bordered on the east side by the road leading from Quidi Vidi Lake to Quidi Vidi Village. The overall dimensions of the meadow are approximately 40 m north - south by 50 m east - west (Figure 3.1). This area was selected for testing due to the fact that the Pringle maps of 1780 suggest that components of the Quidi Vidi Pass facility were constructed at this location (Appendices VIIId, VIIIId). If the interpretation of these maps is correct, the eastern most portion of the defense system would have originally consisted of a battery, possibly for two guns, and lines of entrenchment for perhaps forty soldiers. Also, the maps indicate that the battery and lines were constructed on the edge of an embankment, directly adjacent to a large bedrock outcrop (Photo 3). Given what transpired at this site when the British re-captured St. John's from the French in 1762, selecting this location for a gun emplacement seems completely warranted from a military standpoint. Not only would a battery in this location have been partially hidden and afforded additional protection by the geology of the area, but also it would have been directly above the section of river where enemy troops would have had to cross in order to advance out to Quidi Vidi Harbour.

In total, three areas were tested at Area D: test trenches D1, D2 and D3. Because finds from these locations suggested a substantial late eighteenth - early nineteenth century occupation, a series of transects consisting of 50 cm x 50 cm test pits, spaced at 2 m intervals, were excavated in the meadow to the east of the test areas (Figure 3.1). The following is a summary of our findings.

4.4.4.1 Test Trench D1

Test trench D1 was located 10 m southwest of Quidi Vidi Road at the edge of a prominent embankment and consisted of four 1 m x 1 m adjoining squares (Figure 3.1). From this elevated vantage point one has a completely unobstructed view of not only the southeastern end of Quidi Vidi Lake and Quidi Vidi River, but the approach to The Pass as well. Even though no obvious surface features suggestive of the 1780 facility were visible at this location, excavation was implemented in order to determine if evidence of an earthworks or a defensive trench was detectable in the substratum.

The stratigraphy revealed during the excavation of test trench D1 was not in any way complex and consisted of a relatively thick sod lenses (that was divided into an upper and lower zone: Layers 1 and 2), an underlying brown clay with gravel (Layer 3), and finally, a sterile sand,

gravel and clay (Figure 4.2). A total of 734 artifacts, including glass, ceramics, smoking pipe fragments and nails were recorded during the excavation of the four test squares, an astonishingly high amount for such a small area. By far the large majority of this assemblage is comprised of late eighteenth century creamware, representing approximately fifteen individual vessels.

Layers 1 and 2 contained primarily cultural debris from the present century, with Layer 3 revealing significant evidence of a late eighteenth and nineteenth century occupation. However, while the above was essentially the pattern of deposition, in a single test square alone one hundred and eighty ceramic sherds from the same late eighteenth century English creamware vessel were recorded throughout Layers 1 to 3. Based on this and other similar findings, it was concluded that the area has undergone significant disturbance, possibly due to farming that we know from the documents was taking place in these meadows from at least as early as 1780, and possibly before.

Even though significant evidence of a late eighteenth to early nineteenth century occupation was evident from the excavation of test trench D1, no remains of either an earthworks or a defensive entrenchment were revealed. Furthermore, other than one gun-flint spall, nothing definitively military was identified from the entire artifact assemblage. As a result, no additional testing was conducted at this location.

4.4.4.2 Test Trench D2

Test trench D2 was situated nineteen metres southwest of D1 at the foot of a inclining grassy embankment (Figure 3.1, Photo 3). At this location there is a roughly circular earthen mound, the outside dimensions of which measure a maximum of 7 m in diameter (Photo 14). This feature was located during an initial site walk-over conducted prior to the field survey and was subsequently identified on the aerial photograph of Quidi Vidi Lake taken in 1948 (Appendix XXXVI). Even though this construction was not identified on any of the eighteenth or nineteenth century maps of the area reviewed during the archival study, structural characteristics suggested that it may be of some antiquity and that field testing was warranted.

After the circular mound and adjacent area were thoroughly cleared of a thick growth of shrubs and grass, it was established that the structure was built against an exposed bedrock outcrop and, on the east side, appeared to be integrated into what was tentatively identified as an earthen and rubble ramp (Photo 15). A cursory inspection of this second feature strongly suggested that it was not a natural formation. It appeared that the ramp was built to permit access from the upper terrace (Area G) to the lower meadow. In total, five 1 m x 1 m test squares were excavated at D2 that bisected the remains in the central location. The stratigraphy encountered during this research and the material culture recorded from the various layers shed significant light on the age and perhaps the function of the structure (Figure 4.2).

FIGURE 4.2
 QUIDI VIDI PASS SURVEY AREA D PROFILES

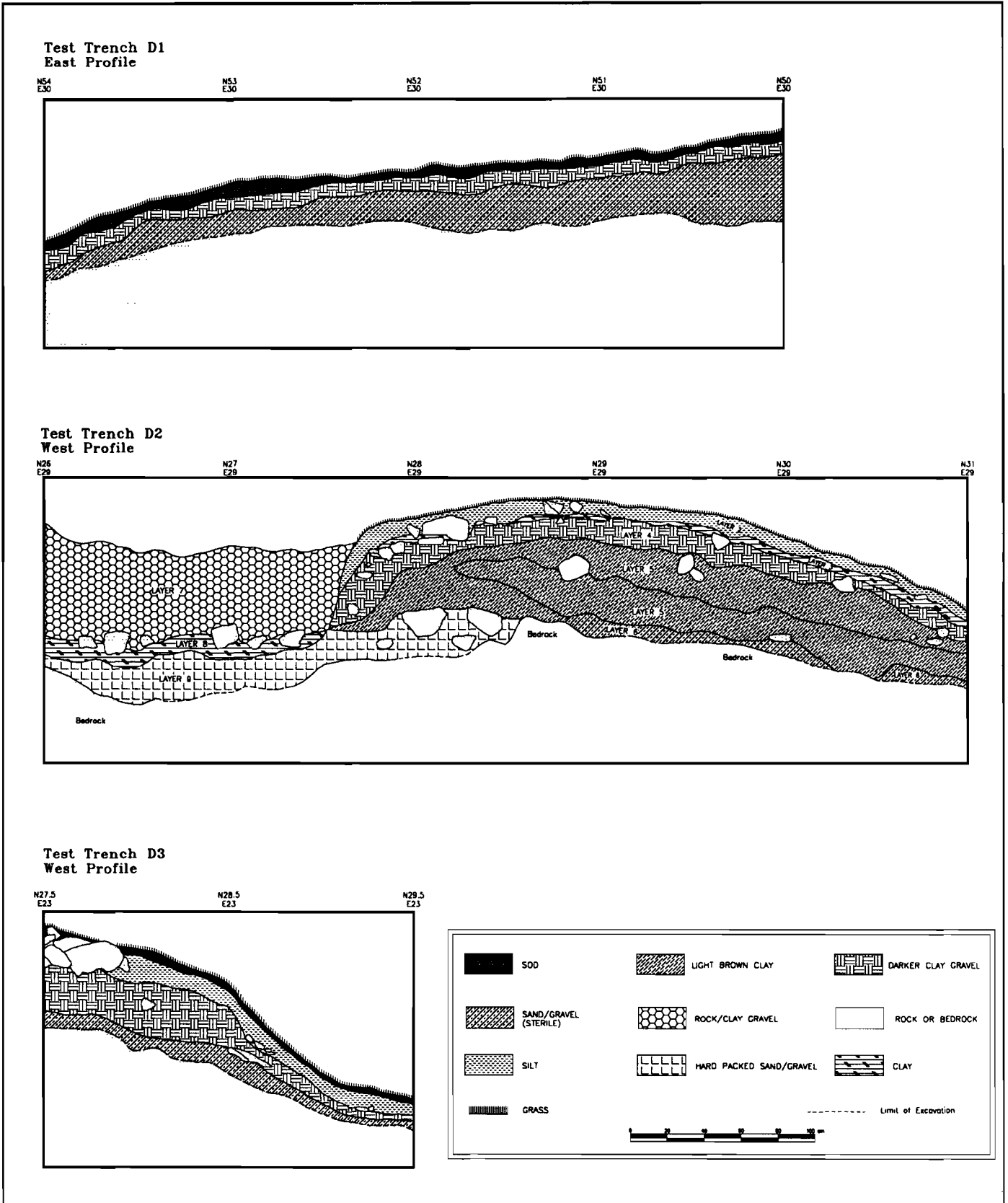




Photo 14: Test Trenches D2 And D3 Looking Northwest.



Photo 15: Test Trenches D2 And D3 Looking South.

Layer 1 of test trench D2 was a 3 - 4 cm thick sod (lens) which was followed by a matrix of fine-grained black silt, the darkness of the layer suggesting a composition rich in decomposed organic material. This substance (Layer 2) measured up to 10 cm thick and contained a number of relatively large rocks towards the southern end of the unit. Both the sod and the dark silt contained a large amount of recent cultural material, including fragments of modern alcohol and beer bottles, wire nails, plastic containers and deteriorated tin cans.

Directly below Layer 2, in the squares that make up the wall of the structure, a thin lens of reddish brown clay was identified (Layer 3). Excavation of this matrix revealed a small quantity of pearlware (Plate 3: A), one sherd of coarse earthenware with internal glaze, fragmented clay pipe stems (Plate 3: B), dark green bottle glass and deteriorated square iron nails. An analysis of this assemblage suggests an early nineteenth century time-period; however, the sherd of coarse earthenware likely dates to the last half of the previous century.

Layer 4 was essentially the same composition as Layer 3, but at this elevation the matrix contained a small amount of gravel. It is perhaps significant that no cultural material was recorded during the excavation of this layer.

Layer 5 was comprised of a reddish brown clay that appeared to be the material from which the majority of the structure's wall was built. While this thick layer contained flakes of charcoal and ash, other than one small lead shot, no cultural material of any description was identified.

Layer 6 was a culturally sterile compact clay located at the base of the wall. This layer was overlying the bedrock in places.

Layer 7 was assigned to a loosely compacted concentration of rubble and gravel that was excavated from the roughly rectangular depression noted in the centre of the circular earthen mound (Photos 14, 15). This deposit measured up to 60 cm thick and contained exclusively modern cultural refuse consisting of fractured beer bottles, wire nails and various plastic containers. Much of this material appeared to have been burnt. A 1973 Canadian coin located towards the bottom of the concentration establishes that Layer 7 was deposited within the last twenty years.

Layer 8, located below Layer 7 at the base of the depression, was a composition of brown clay that contained only a small amount of cultural material. The few artifacts that were recorded were extremely interesting as they suggest a relatively early time period. Included in the assemblage is a rim sherd of a grey English refined stoneware "bead and reel" edged plate (c. 1750 to c. 1780), fragments of creamware and pearlware and one relatively large sherd of what appears to be a Chinese export porcelain dish, elegantly painted in underglaze blue. This artifact likely dates to the second half of the eighteenth century (Plate 3: C-E). Based on these findings it is concluded that the assemblage from Layer 8 indicates a late eighteenth - early nineteenth century occupation.

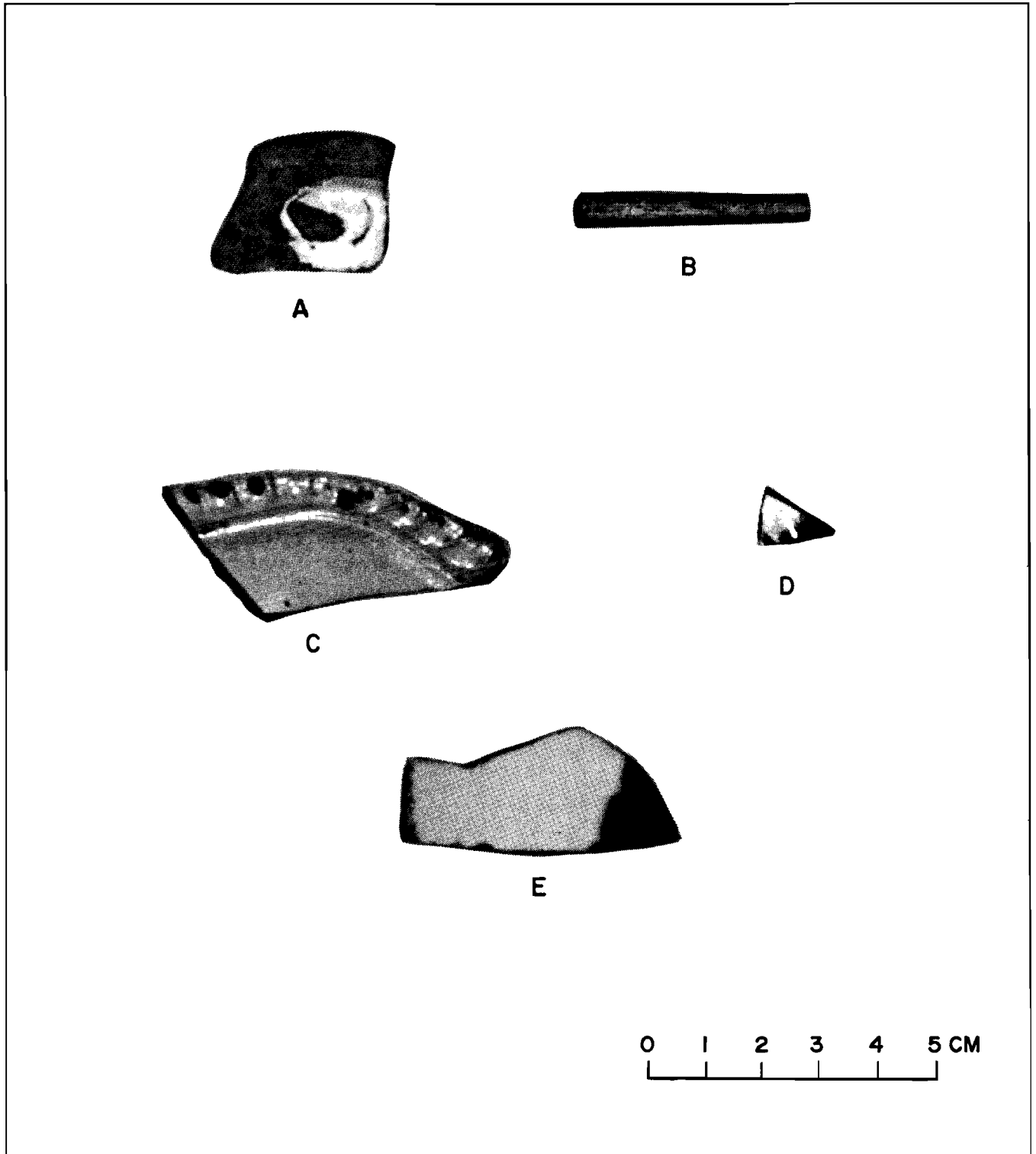


PLATE 3: QUIDI VIDY PASS SURVEY AREA D ARTIFACTS

- A Pearlware Dish**
- B Clay Smoking Pipe Stem**
- C "Bead and Reel" Edged Stoneware Plate**
- D Pearlware**
- E Chinese Porcelain Dish**

Directly underlying Layer 8 and resting on bedrock was a densely compacted matrix of sand and gravel, which measured up to 25 cm thick. The texture and consistency of this material suggests that it may have been intentionally placed at this location in order to establish a level floor area for the structure (W. Gilbert: personal communication). Unfortunately, in the limited area tested, only one artifact was recorded from this layer; this being an extremely corroded wrought iron nail. Obviously, dating this object is problematic.

Based on the analysis of the section drawing of test trench D2 and the artifacts recorded, it appears that the circular earthen feature was constructed according to the procedures outlined below. It must be stressed that the excavation conducted at this area was of a limited nature and that the date proposed for construction and use of the feature is based on a relatively small artifact assemblage. As a result, until further field research is undertaken, the following conclusions are considered tentative.

1. The hard packed sand and gravel (Layer 9) at the base of the depression was laid down, perhaps to create a level working surface over the convoluted bedrock.

Even though no datable artifactual material was recorded from this layer, based on its vertical position in relation to the material identified above, it appears that the sand and gravel was likely put in place during the late eighteenth or early nineteenth century.

2. The earthen fill (Layers 5 & 4) was then mounded around the floor area above a sterile sub-soil (Layer 6) in order to create the wall of the structure. The result of this process was the creation of a 70 - 80 cm deep depression on the inside of the earthen wall. Once accomplished, construction of the feature was essentially complete.

It is significant that no artifactual material, other than one small lead shot, was recorded from the wall of the structure (Layers 4 and 5). Assuming that the fill comprising the circular mound was obtained from the immediate area, it is reasonable to conclude that the construction of this earthworks must have been one of the earliest activities undertaken in the meadow and that it pre-dates any substantial occupation of the immediate area. As indicated by the quantity and type of material culture recorded during the excavation of D1, and supported by documentation reviewed during the archival study, it is concluded that there was extensive use of these meadows from at least as early as 1780. Also, virtually every area tested during the Quidi Vidi Pass survey revealed significant evidence of occupation of these meadows by 1800 and, in most instances, even earlier. In fact, a clay smoking pipe fragment recorded from one of the test pits suggests that this area may well have been in use during the latter part of the previous century. Therefore, it would seem that if the circular earthen structure was constructed sometime after 1780, for example, there would almost certainly have to be cultural material in the wall-fill to reflect this occupation. Given that Layers 4 and 5 were virtually sterile, it is concluded that this is further evidence to support an early date.

3. Lenses of clay (Layers 3 and 8) containing artifactual material accumulated on the earthen wall and on the sand/gravel floor, presumably immediately following completion of the structure.

With the exception of the stoneware and porcelain from Level 8, and the sherd of coarse earthenware from Level 3, all other artifacts from these layers appear to date to the early nineteenth century. Given the vertical location and the relatively short time frame indicated by this assemblage, it is concluded that the material was in situ and deposited during the time when the structure was in use.

4. Subsequent to occupation of the site a black silt (Level 2) was deposited on the mound and a thick sod growth gradually developed over the wall of the structure (Levels 1).

Artifacts from Layer 2 suggest that this matrix may have been a nineteenth or, more likely, a twentieth century development. Based on materials recorded from Layer 1, it is safe to conclude that this uppermost sod composition is a relatively recent growth.

5. Finally, a deposit of rubble containing a large quantity of recent domestic refuse was dumped into the depression sometime within the last twenty years

Based on the relatively "tight" time frame represented by the artifact assemblage from D2, it is tentatively concluded that the circular earthen feature was constructed after 1750 and before 1830. Furthermore, because some of the earliest cultural material was recorded above the presumed floor of the structure, and because the wall fill was virtually devoid of artifactual remains, it is felt that the construction date was probably towards the early end of the spectrum. Also, it seems likely that the feature was established fairly rapidly and was in use for only a short duration. Therefore, it may well be that this earthworks dates to the period when documentation suggests that the Quidi Vidi Pass military installation was in existence, that is from 1780 to approximately 1800. However, only limited testing was conducted at this structure and until further field research is completed, the conclusions presented must be seen as similarly tentative.

At this point in the research it is possible only to suggest what the function of the circular earthen mound situated at the base of the ramp may have been. Certainly, the first impression one gets when inspecting the feature is that it is the remains of an abandoned root-cellar. The dimensions of an apparent depression, roughly in the central location where a superstructure would have been built, are more or less typical for a building of this type (1.5 m x 2.5 m). However, the depth of the underground area where the perishable goods would have been stored could not have exceeded 60 - 80 cm; hardly deep enough to store valuable food, given that on cold days frost would almost certainly have extended to that depth. Also, if there was a wooden structure built on the earthen foundation that eventually deteriorated, one would have expected to record a relatively large quantity of iron nails in the immediate area and at the base of the depression, and as we have seen, this which was not the case. Another cause for doubt would

be the fact that there are any number of areas in the vicinity more suited for the construction of a root cellar, both in terms of freedom from frost and convenience of access.

A second suggestion, and perhaps the only other reasonable one to explain the origin and function of the structure, is based on the general location and overall design of the remains. Given that the circular earthen mound is situated in a low-lying natural hollow adjacent to and hidden by two large bedrock outcrops, it may well be that this area was selected for a building site because of its natural defensive position. While the location of the site does not necessarily indicate an earthen battery, it could conceivably be the remains of storage hut, or perhaps a semi-subterranean powder magazine. As we have seen from the archival study, the issue of finishing such a structure at Quidi Vidi was raised by the Royal Engineers in 1782, although it was not entirely clear from that report whether the building was located at The Pass or at the mouth of the harbour. Nonetheless, if Pringle's maps are accurate and there were four guns mounted at The Pass in 1780, a facility such as this would almost certainly have included a well protected storage area close to, but sufficiently distant from the gun emplacement where the thrust of an enemy assault would undoubtedly have concentrated. The circular earthen mound in this regard is ideally situated. A further indication that the remains may be military in origin is that the design of the earthen foundation corresponds precisely with what one might expect to find at the site, that is a structure built primarily with earth and rubble. Furthermore, if the feature is in fact the remains of a temporary magazine, it is likely that the superstructure would have been built of cut-stone, or perhaps brick. Therefore, while primarily conjecture at this juncture, it is conceivable that a building of modified stone was constructed on the earthen foundation and that following abandonment of the defensive works, the relatively valuable material was scavenged and recycled.

While the above findings and hypotheses are interesting, no archaeological evidence was located during the excavation of test trench D2 to positively confirm a military origin. All that can be stated at this point in the research is that the remains appear to date to the appropriate period and are more or less consistent with construction techniques mentioned frequently in the primary archival sources. Based on these results, it is concluded that in order to more precisely interpret the remains and to establish their relationship (if any) to the eighteenth century military facility, additional field testing is essential.

4.4.4.3 Test Trench D3

Test trench D3 was situated 6 m west of D2 and was comprised of two 1 m x 1 m squares (Figure 3.1). Excavation was conducted at this location to establish if the feature tentatively identified as an earthen and rubble ramp was a natural formation with which the northwestern extremity of the circular earthen mound was integrated, or if it was a discrete purpose built structure (Photos 14, 15). This ramp-like feature measures approximately 3 m wide east - west and is adjoining the same bedrock cliff as the western end of the circular mound. Even though this feature was not identified on any of the maps reviewed during the archival study or

mentioned in the documents, its uniqueness and apparent relationship with the adjacent structure indicated that testing was warranted.

Excavation of the two test squares revealed a relatively uncomplicated stratigraphic profile (Figure 4.2). The uppermost portion of the unit was covered with a sod layer that revealed an assemblage of artifacts dating exclusively to the recent past. Directly below this was a concentration of dark silty clay containing a number of large rocks towards the south end of the trench. This layer also revealed a quantity of recent cultural material, all apparently dating to within the last twenty or thirty years. The consistency of this layer and the artifacts contained in it suggest that the deposit was contemporary with Layer 7 (the rock and recent domestic refuse) and possibly Layer 2 of test trench D2 (Figure 4.2).

Directly below Layer 2 of D3 was a substantial deposit of loosely compacted reddish brown clay that was relatively thick in the south end of the unit and thinner towards the north. It was apparent that this matrix was placed at this location as it was too loosely compacted to represent a natural formation. Unfortunately, no artifacts were recorded from this layer, thus making it difficult to determine when it was deposited. Nonetheless, Layer 3 was significant in that it was very similar in texture and consistency to Layers 4 and 5 of test trench D2. It is not possible at this time to propose an explanation for the presence of clay at this location and its exact relationship to the circular mound. Layer 3, immediately below Layer 2, was resting directly on a compact sterile sand and gravel and it was established from the compactness of this material that it likely constitutes a natural development.

Based on the excavations of test trench D3 it is concluded that the ramp-like construction located between the upper terrace (Area G) and the circular earthen mound is not a natural formation but the result of cultural activity (Photos 14, 15). It appears that the formation of the feature was the result of at least two distinct events. The earliest of these is indicated by the presence of the reddish brown clay (Layer 3), which appears to be contemporary with the circular earthen mound, while the second event probably occurred at the same time that the depression in the centre of that structure was filled. As indicated by the cultural material recorded from Layer 7 of D2 and Layer 2 of D3, this most recent event transpired sometime within the last twenty years. Consequently, it is concluded that the earthen and rubble fill comprising the ramp-like feature was deposited adjacent to and on top of the older structure in order to create a small road or access route from the upper terrace to the lower meadow. This was undoubtedly undertaken to permit wheeled vehicles, such as pick-up trucks, to move more easily between the two areas. Given that Area D was used primarily for small scale farming in the recent past, locating a structure such as this is not at all surprising.

4.4.4.4 Area D Test Pits

Given that the excavation of test trenches D1 and D2 indicated a substantial late eighteenth and early nineteenth century occupation, a decision was made to undertake a program of test pitting

in the meadow adjacent to these areas. This was implemented not only to establish how distant from these areas cultural deposits extend, but also to verify if remains of the 1780 military facility are present in this most easterly meadow. In total, twenty nine 50 cm x 50 cm test pits were excavated, covering the area between D1 and D2, and to the east of these areas towards the northern end of Quidi Vidi Village (Figure 3.1).

The stratigraphy encountered in the test pits between test trenches D1 and D2 generally consisted of an upper sod layer measuring 3-5 cm in thickness, followed by a substantial deposit of brown silty clay. This second layer measured an average of 50 cm deep in test pits close to D2, but became progressively thinner towards D1 where it measured an average of 25 cm. Directly below the silty clay comprising Layer 2 was bedrock. In virtually all test squares excavated in this transect, the uppermost sod layer contained abundant evidence of recent activity, such as beer and soft-drink bottles, wire nails and tin cans. Directly below this layer in the silty clay, evidence of an eighteenth and nineteenth century presence was noted. Generally, the earlier period was confirmed by sherds of coarse earthenware, early creamware, some fragments of porcelain and pearlware, with the later period being represented by various transfer-printed refined earthenwares and smoking pipe fragments. Attention to the vertical positions of the various wares indicates that the area directly adjacent to D2 is relatively undisturbed, while the test pits excavated further north towards D1 revealed an assemblage with no apparent chronological ordering. It is concluded from this that the northeastern-most half of the area between D1 and D2 has experienced disturbance. While not certain, it is reasonable to suggest that this disturbance was caused by farming which resulted in a mixing of the soils and the cultural material contained within.

Two additional transects consisting of 50 cm x 50 cm test pits were excavated in Area D to the east of D1 and D2 (Figure 3.1). The results of this research indicate that the section of meadow to the east of the initial transect has also in the past been used extensively for farming. While a substantial assemblage of eighteenth, nineteenth and twentieth century cultural material was identified, the vertical associations and the fragmented nature of the assemblage indicates a disturbed context. Only one semi-subterranean feature was identified during the excavation of this series of test pits; this being a stone property line with a north - south orientation that bisects the meadow in roughly the central area (Figure 3.1, Photo 3). Dating this structure is somewhat problematic, although informant interviews suggest that it almost certainly dates to at least the last century, or perhaps earlier (W. Pittman, A Braig: personal communication). Following completion of the third transect which revealed somewhat negative results, no further testing was conducted at Area D.

4.4.5 Area E

Area E is located on an upper grassy terrace 18 m northeast of Area B (Figure 3.1). Even though no obvious surface features indicative of a military earthworks were observed at this location, testing was conducted due to the fact that the Pringle maps from 1780 suggest that a battery,

possibly for one gun, was situated at this position overlooking The Pass (Photo 3). In total, three adjoining 1 m x 1 m test squares were excavated to a maximum depth of 85 cm below the surface. Only a small sample of artifactual material was recorded during the excavation of Area E. While sherds of creamware were identified, which likely date to before 1830, there were also wares from the late nineteenth and twentieth century; the more recent materials likely deposited during the Second World War.

The artifacts comprising the assemblage from Area E were recorded from a context that displayed no chronological coherence and it appeared from the exposed profile of the substratum that the area has undergone substantial disturbance during recent times. Evidence of this was obtained from the excavation of test square N10 E46, where approximately 50 cm below the surface, the remains of wooden boards with modern wood screws was recorded. This material was excavated from a layer of fine-grained beach sand and gravel that had obviously been deposited at this location in the very recent past (Photo 16). In summary, the entire area tested displayed substantial evidence of recent disturbance (Photo 17).

While by no means conclusive, it is reasonable to suggest that the alteration to the terrain in Area E was caused by Military activities during the Second World War. According to an informant from Quidi Vidi Village, U. S. soldiers installed a communications tower in the immediate area that was held in place with a number of stabilizing cables. The ends of these cables were apparently sunk into the ground and, in some cases, driven directly into the bedrock (W. Pittman: personal communication). It was concluded from this that the ground disturbance detected at Area E was a direct result of these activities and that additional testing would likely reveal little of archaeological value. If there had been a temporary defensive works positioned at Area E during the last part of the eighteenth century, it may well have been completely obliterated by the construction activities during the Second World War. As a result, no further excavation was conducted at this location.

4.4.6 Area F

Area F is located at the northern edge of a grassy embankment overlooking Quidi Vidi Pass, 18 m northwest of Area E (Figure 3.1). This area was selected for testing because it was along the edge of this embankment in the upper meadow, or on the **high ground** as it was called by Lt. Col. Pringle, that the most substantial line of entrenchment for the Quidi Vidi Pass facility was apparently established (Photo 3). If the interpretation of the documents is correct, it would appear that these entrenchments were temporary works consisting of no more than an embankment of clay and gravel in front of an excavated trench, the material comprising the embankment being developed in the course of removing the earth. The stratigraphy encountered during the excavation of two 1 m x 1 m squares at Area F indicate that significant disturbance or churning of the substratum has taken place in this section of the upper meadow. In fact, in the most easterly square situated at the edge of the embankment, the loosely compacted nature of the deposition and the apparent lack of consistency in terms of layers, suggests that the



Photo 16: Area E N10 E46 South Profile.



Photo 17: Area E N10 E45 South Profile.

substratum has been altered to a depth of at least 50 cm below the surface. Nonetheless, it was possible to delineate four primary soil categories.

Level 1, assigned to the uppermost sod growth and to a light brown silty/clay matrix at the base of this material, measured up to 9 cm thick and contained a small sample of recent materials including bottle caps and wire nails. Also contained in this layer were smoking pipe fragments, square iron nails and sherds of refined earthenware.

Level 2 of this same square consisted of a brown clay with rocks and measured up to 20 cm thick. This composition included a small quantity of what appeared to be burnt mammal fat, sherds of refined earthenware and stoneware, square iron nails and clay smoking pipe fragments (Plate 4).

Layer 3 consisted of an orange coloured clay with gravel and rock that contained fragments of charcoal and lenses of ash. This layer measured 20 cm thick and contained smoking pipe fragments and a sherds of English stoneware. Directly below this layer at a depth of 48 cm below the surface, a sterile brown clay was encountered.

Area F revealed only a small amount of ceramic materials, however, the assemblage yields a surprising amount of dating information. Contained in the collection for example are sherds of a grey English refined stoneware saucer of c. 1730 - 1780, true early creamware, dating between 1760 and 1800, a refined earthenware shell-edge plate c. 1780 - 1840 and pearlware, painted in blue and probably dating from 1770 - 1815. Also recorded were various refined earthenwares dating to the period 1800 to 1830 and clay smoking fragments, one of which appears to be an eighteenth century example (Pope, Appendix XXXVII). In looking at the sample as a whole we see that the presence of the English stoneware suggests an occupation by at least 1780, while edge-banded pearlware and other styles popular c. 1780 or 1790 - c. 1830, suggests an occupation up to that time. Even though this sample has been considerably damaged, possibly from cultivation of the area, it was nonetheless relatively well stratified and indicates an occupation of the area by 1780 and ongoing until at least 1815.

As seen from the above, the soil profiles revealed during the excavation of Area F indicate that substantial disturbance and mixing of the soil has taken place along the edge of the embankment where the most substantial line of entrenchment is reputed to have been constructed. It was established that this disturbance has affected the substratum to a depth of at least 50 cm below the surface (Photos 18, 19). Also, it is interesting that at the base of the loosely compacted soil (Layer 3), cultural material dating to the late eighteenth century was recorded. While it can not be stated categorically due to the limited excavation undertaken, the fact that the soil was evidently altered to such a depth with cultural material nonetheless relatively ordered in terms of its vertical positions, may well be an indication that this area is in fact where a line of entrenchment was established. With disturbance extending so deep below the surface, it seems

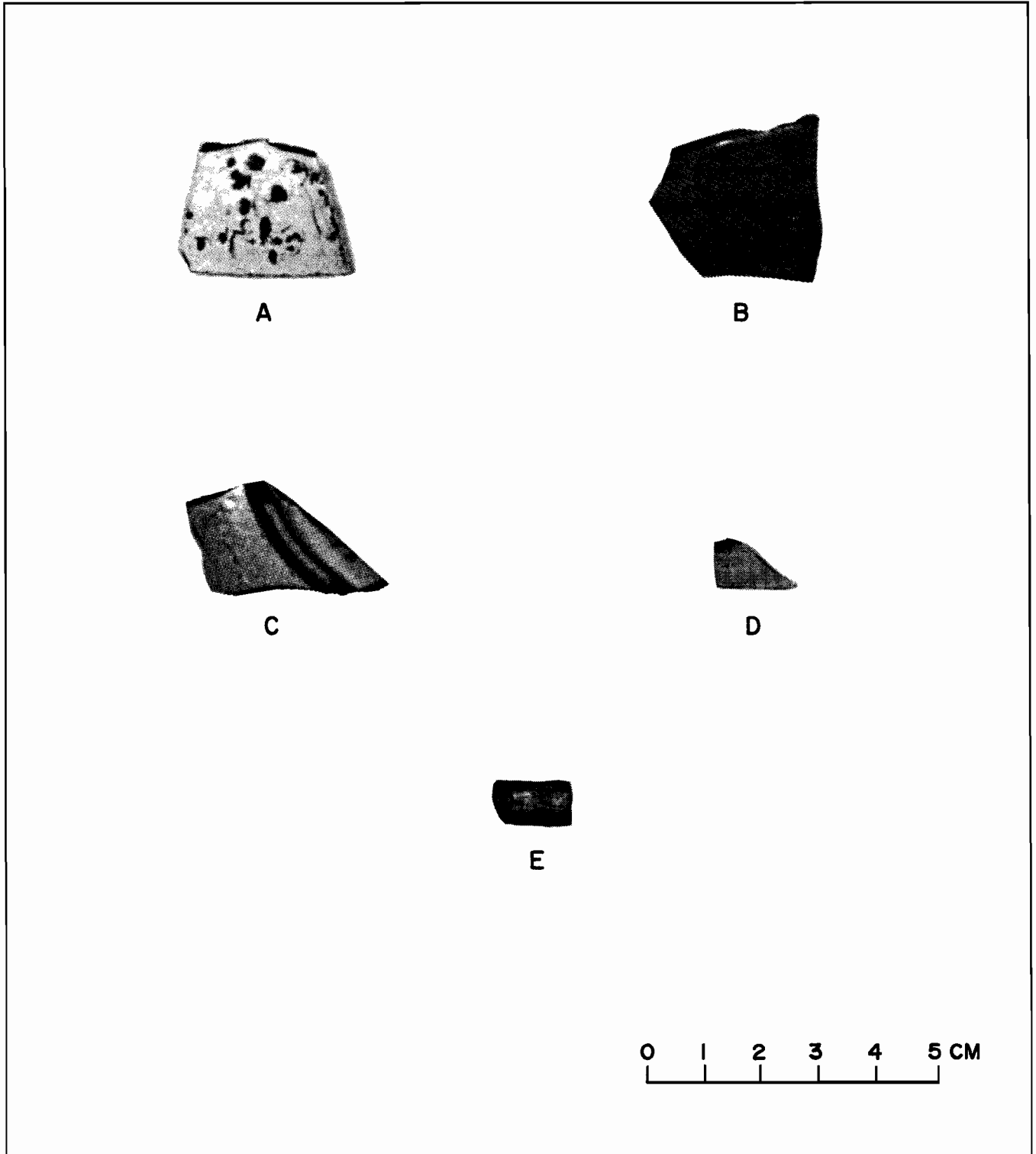


PLATE 4: QUIDI VIDY PASS SURVEY AREA F ARTIFACTS

- A True Early Creamware Bowl**
- B Stoneware Cup**
- C Stoneware Footed Saucer**
- D Pearlware**
- E Clay Smoking Pipe Stem with Rouletted Triangles**



Photo 18: Area F South Profile.



Photo 19: Area F South Profile.

unlikely that conventional farming would be the explanation. However tentative this suggestion may be, at this point further excavation is the only means to arrive at a more definitive answer.

4.4.7 Area G

Area G is located 10 m northwest of D3 on a level grassy terrace overlooking Quidi Vidi Lake and the approach to Quidi Vidi Pass (Photo 3). Excavation was conducted at this location to determine the nature and extent of cultural material in the meadow adjacent to Area D and to establish the age and function of an apparent earthen mound located at the edge of a prominent embankment (Photo 20). In total, five adjoining 1 m x 1 m squares were excavated (Figure 3.1).

As in virtually all areas tested during the Quidi Vidi Pass field survey, this location revealed substantial evidence of a late eighteenth and early nineteenth century occupation and, in the upper sod level, cultural debris dating through to the present day. In general, the artifacts recorded from the two most southerly excavation units of Area G were chronologically stratified and appeared to be from an undisturbed context (Figure 4.3). However, an investigation of the earthen mound (constructed from a loosely compacted mixture of clay and gravel) situated at the edge of the embankment revealed an assemblage of ceramic and glass covering the period 1800, or slightly earlier, to approximately 1950. Furthermore, it was noted that these materials exhibited no apparent chronological ordering and in certain areas cultural debris from this century was identified towards the base of the feature at lower elevations than older ceramic wares. Based on these findings, it is concluded that the earthen mound is the result of recent cultural activity that very likely took place shortly following the Second World War. Also, it appears likely that the earthen feature was constructed with fill taken from the immediate area and that it is related to dynamite blasting that took place when the fuel line from Quidi Vidi to St. John's Harbour was positioned. Due to the nature and extent of this disturbance, it was felt that no gain would come from conducting further research at this location⁵.

⁵ The area to the north of Area G, where according to Pringle an additional line of entrenchment would have been established, was not investigated during the present field survey (Photo 3). Given that substantial blasting and levelling of the ground surface took place at that location when the fuel line from Quidi Vidi Lake to St. John's Harbour was installed by the U.S. Military, it was concluded that any evidence of this feature would almost certainly have been obliterated.

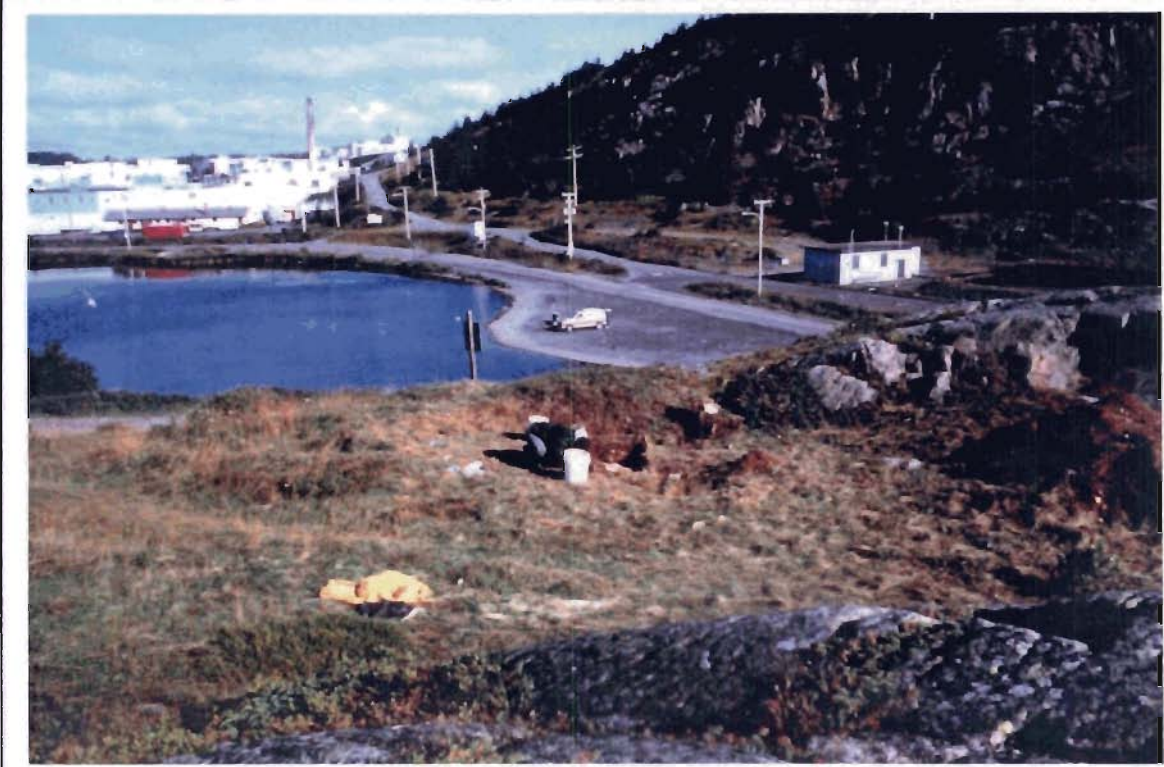
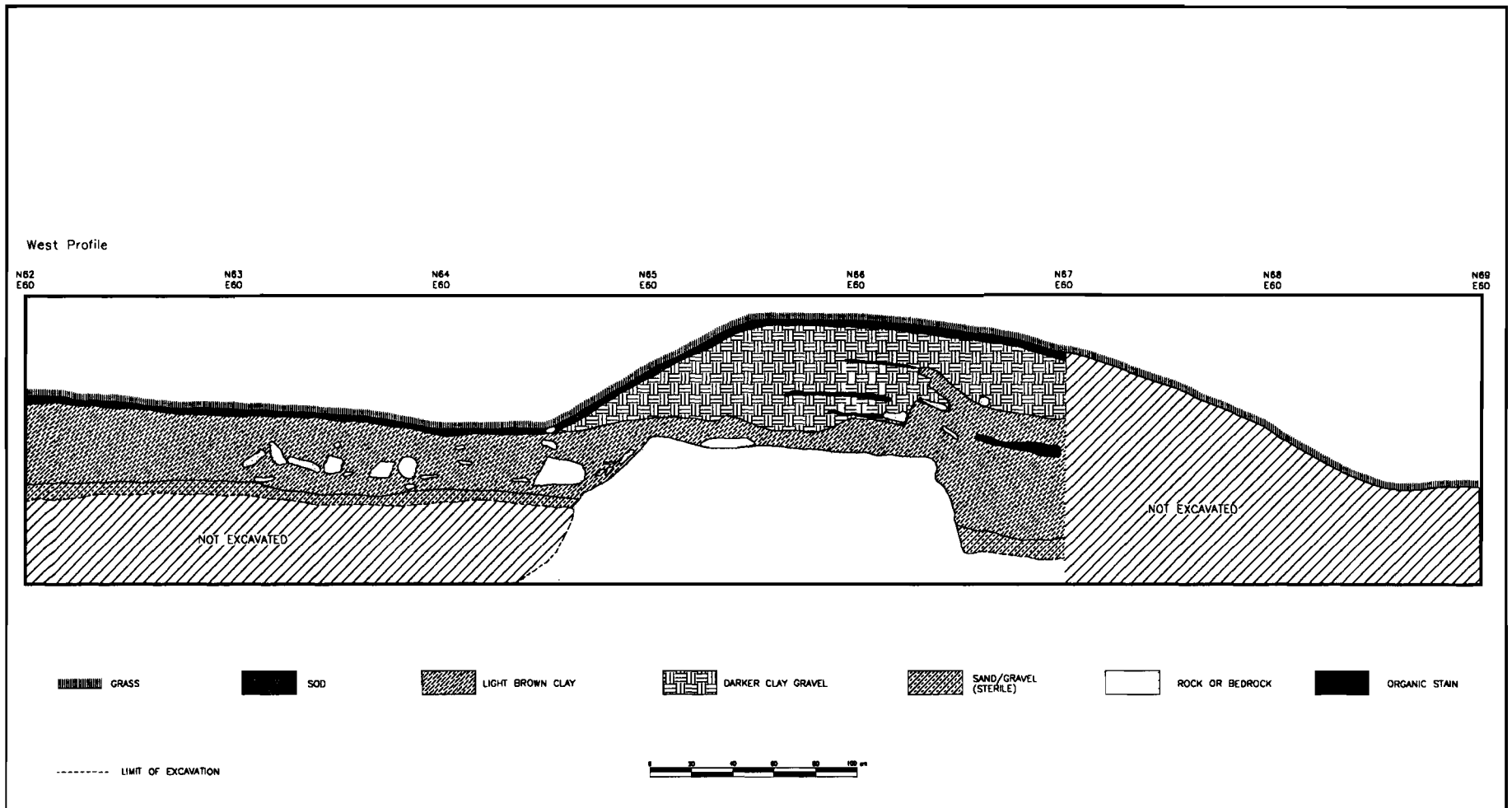


Photo 20: Area G Looking North.



Photo 21: Possible Line Of Entrenchment.

FIGURE 4.3
 QUIDI VIDI PASS SURVEY AREA G PROFILE



5.0 CONCLUSIONS AND RECOMMENDATIONS

During July and August of 1992 an archival study and archaeological survey of Quidi Vidi Pass was conducted by Jacques Whitford Environment for the Historic Resources Division in St. John's, Newfoundland. The results of the archival research indicated that Quidi Vidi Pass was the site of an engagement between the French and British when the latter re-took St. John's in September of 1762. Further findings indicated that during the American Revolution all the roads leading to St. John's from the "out harbours" were fortified in the event that enemy troops landed at one of the coves or bays to the north or south of the town. This scheme, referred to as the outer ring of defences, involved constructing small earthen batteries on the roads from Torbay, Portugal Cove and Petty Harbour. Also built as part of this defensive strategy was the military complex at Quidi Vidi Pass. A series of maps and correspondence by Royal Engineer, Lt. Col. Robert Pringle, indicate that the Quidi Vidi Pass facility was originally constructed in 1780 and initially consisted of lines for one hundred men and three batteries for four guns. Additional documentation from that year suggested that the facility was comprised of crudely constructed temporary earthworks that, when the threat of American attack engendered by the American Revolution faded, rapidly fell into disrepair. By 1790 the facility required significant upgrading and it seems that at that time it was essentially abandoned and downgraded to include only one battery for a single six pound gun. This continued to be the status of these defensive works until at least 1814 when there was still one six pound cannon remaining at the site. Subsequently, concerns were expressed that a military installation be re-established at The Pass; however, no documentation was found to indicate that this ever took place. The site was used again for defense purposes by the U.S. Military during the Second World War. It is significant that at no time during the entire military occupation of Quidi Vidi Pass were any of the defense systems ever used in action.

The archival study was supplemented with a brief field survey to test areas of archaeological potential as identified from the preliminary research and during an initial site walk-over. Because the maps by Pringle constituted the most thorough, comprehensive, and apparently accurate contemporary record of the site, it was these archival sources most relied upon to help identify areas of significance. During the course of the field survey seven areas were tested for the presence of archaeological remains. In four of these areas significant evidence of occupation from the period (late eighteenth - early nineteenth century) was found; however, no structural remains suggestive of a battery or a defensive line of entrenchment were identified. It was concluded therefore that even though components of the eighteenth century defense works were likely constructed at the locations tested, the extremely rudimentary facilities were subsequently adversely impacted by two hundred years of farming and by the military occupation during the Second World War. As a result, no further excavation is recommended for these areas. Of the remaining three test locations, Areas C, D and F yielded the most promising results.

Area C was selected for testing because it was at this location that the 1780 sketches by Pringle indicated that one component of the military complex was established. While to date the results

derived from the excavation of this area are not entirely conclusive, they do suggest that this is likely the location highlighted by the eighteenth century documentation. Field data highlighted that the area may have been chosen by military personnel because of its natural elevated vantage point that permitted an unobstructed view of the area to the north of Quidi Vidi Lake and the approach to Quidi Vidi Pass. A large quantity of rubble and gravel mounded against a bedrock outcrop, and the remains of an apparent stone wall, suggested that an earthworks may have been constructed at the site. It appeared as though these remains may have formed a V shape which, as we have seen, would correspond with 1780 illustrations of the complex. Whether the site was employed as a field battery or a line of entrenchment was not clearly determined from the artifactual material or from the configuration of the stone, although a line of entrenchment seems more likely. The quantity and range of cultural refuse identified at Area C indicated that individuals were probably residing in the immediate area and that a shelter of sorts was likely erected. However, the fact that no artifactual material irrefutably military was recorded at the site does not necessarily preclude it being used for defensive purposes, given that the line between military and civilian during that period would have been blurred at best¹ (O. Jenzen: personal communication). Even though a large percentage of the artifactual material recorded covered the period for which archival documentation suggested that the military facility was occupied, the somewhat disturbed or intrusive nature of a portion of the assemblage suggested later occupation or, more likely, disturbance. The nature of this disturbance was not positively established, although it was possibly due to small-scale farming in the area which could account for the mixing of the archaeological record. As a result of the above findings, further field testing is recommended for Area C. This work would concentrate on elaborating more completely the true nature and extent of the remains and on establishing the function of the stone wall that appears to be integrated with the rubble and gravel fill and the elevated bedrock outcrop. This done, it should then be possible to state with certainty the role that this feature played in the late eighteenth century defensive complex.

Testing at Area D resulted in the identification of a circular earthen structure that has been tentatively dated to the late eighteenth or early nineteenth century. While still somewhat enigmatic, this structure may prove to be directly associated with the 1780 military complex. At this stage in the research it is not possible to state the precise function of the remains but the possibility of it being a storage hut or a temporary magazine needs to be further investigated. It is therefore recommended that further testing be conducted at this location in order to more accurately define and interpret the feature.

Area F, situated on the edge of the upper meadow, was tested to determine if the most substantial line of entrenchment was in fact established at this location. Excavation revealed that the substratum in this area has undergone substantial disturbance resulting in a noticeable mixing or churning of the sediments. In places, this activity extended to a depth of 50 cm below the present ground surface. Recorded throughout the test areas in a relatively stratified pattern were

¹ This fact likely applies to all the areas tested during the Quidi Vidi Pass Survey.

materials dating from the present and back to at least the late eighteenth century. Based on this, it would appear that the disturbance to the lower portion of the excavation units was contemporary with the earliest cultural material. While it is still early to say definitively, it would seem that because the mixing of the sediments extended to such a depth, it was likely not the result of conventional farming and that the edge of this embankment may have been excavated during the late eighteenth century in order to establish a defensive line of entrenchment. Given that only a small area was investigated during the current field survey, it is recommended that further testing be conducted to determine if similar soil patterns and cultural materials are detectable in adjacent areas.

Two additional areas of potential significance emphasized by the Pringle maps were also identified but not tested during the current research project due to time constraints (Photo 3). According to the 1780 maps a line of entrenchment was situated on the high ground above the river between two large outcrops of bedrock, and a battery was situated to the south on an elevated plateau overlooking Quidi Vidi Pass and Quidi Vidi Harbour (Appendices VIIId, VIIIId, Photo 3, Figure 3.1). A cursory inspection of the area where the line was apparently established revealed an obvious dug-out area or ditch oriented north - south. This feature measures in the order of 2 m across with the central portion dipping to approximately 1 m below the adjacent ground surface (Photo 21). The dimensions and configuration of the feature are consistent with what one might find at such a site. Given that the feature is situated at the edge of an embankment in an area that may not have been under intensive cultivation, excavation here may prove rewarding. A brief examination was also undertaken of the area to the south of the possible line of entrenchment where a battery was supposed to have been constructed (Photo 22). Even though no obvious surface features indicative of such a structure were identified, it seemed likely that this elevated level area is the location highlighted by the eighteenth century documentation. From this high vantage point it would not only have been possible to defend The Pass from attack from the north, but also, in the event that an enemy were successful in penetrating The Gut, ordnance at this location could aid in prohibiting a force from advancing up Signal Hill or west towards St. John's (Photo 23). As a result of these findings, archaeological testing is recommended for both these areas. This accomplished, the authenticity of Pringle's eighteenth century maps and related correspondence can be more confidently evaluated, and so, the degree of confidence to be placed in conclusions drawn from them.

While it is not possible at present to state with certainty if the overall history of the site as interpreted from the archival study is accurate, based on the results of the archaeological survey, it seems likely that it is. Given the relatively strategic location of Quidi Vidi Pass and the fact that it was the site of a previous military engagement in 1762, it was to be expected that Governor Edwards and Lt. Col. Pringle would have foreseen the strategic importance of the area and acted to fortify it with makeshift batteries and lines of entrenchment. Subsequently, there was considerable documentation attesting to the fact that these defenses were likely downgraded shortly thereafter; however, what remains to be clarified is the configuration of these downgraded facilities. Therefore, until the recommendations outlined above are implemented, it will not be



Photo 22: Possible Location Of Battery.

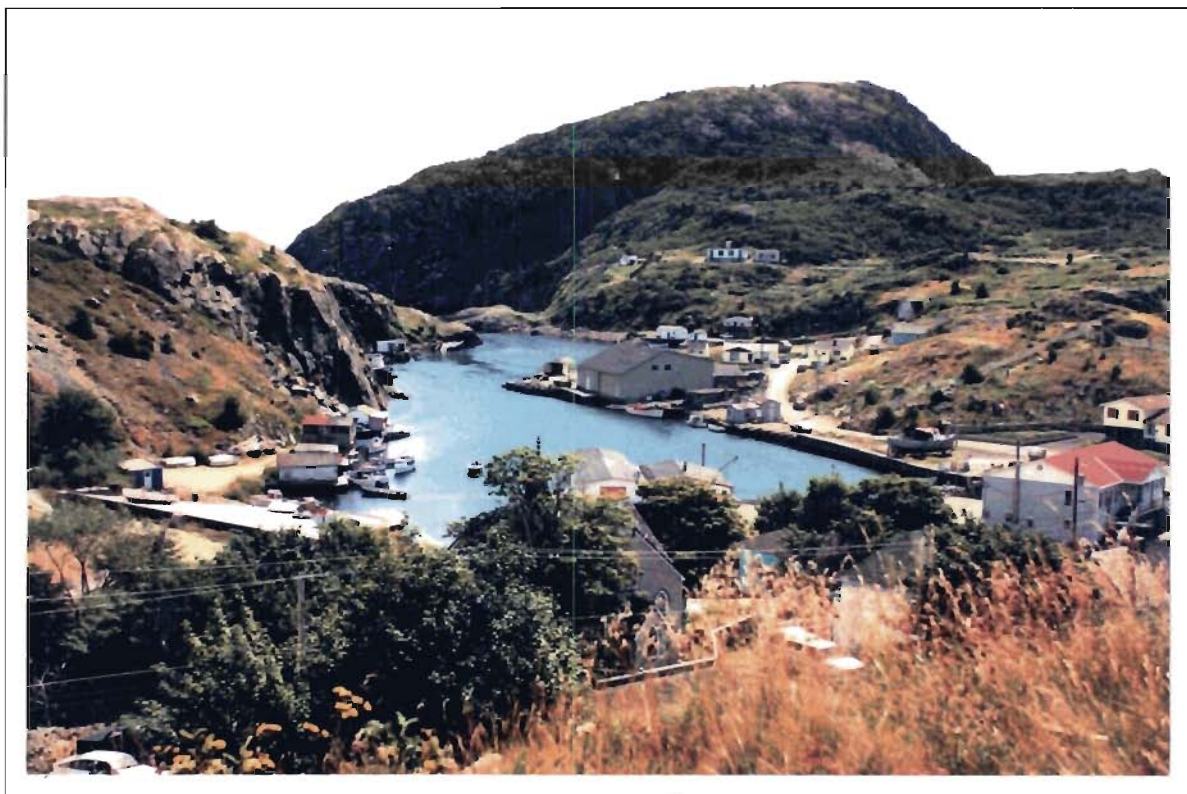


Photo 23: View Of Quidi Vidi Harbour From Possible Battery Site.

possible to draw further conclusions and elucidate the complete history of the site which is essential prior to any development. In conclusion, even though the research project has not resulted in the discovery of many intact structural remains to date, the study as a whole did shed significant light on the military strategy implemented in and around St. John's during the late eighteenth century and the efforts that were taken to protect the town from both coastal and overland assaults.

Another complementary area of research pursuant to the current project would be to undertake an archaeological survey to locate and identify the other facilities constructed in 1780 as part of the outer ring of defences for the town of St. John's. If this could be accomplished, and it is reasonable to believe that it could, minimal testing at sites such as Cox's Marsh Battery, 20 Mile Pond Battery, Hay's Battery and Cuckold's Cove Battery could reveal valuable comparative data to be employed in an overall interpretative scheme for the eighteenth century military history of the St. John's area.

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 56. Ibid. 150.
 57. "Report ...," from the Engineers Office in St. John's to Lieut. Gen. Moore, 5 May, 1814, Capt. E.W. Durnford, 1811-1816, G.B. 2/5, pp. 180, 203, 205, 208 (PANL).
 58. "Report ...," 30 September, 1815, E.W. Durnford, 1811-1816, G.B. 2/5, pp. 246, 248, 261, 270, 274 (PANL).
 59. "Report ...," 15 November 1816, E.W. Durnford, 1811-1816, G.B. 2/5, pp. 302, 318, 346 (PANL). Quidi Vidi is not mentioned in "Report ...," 5 November 1816, CO 194/57, f. 76.
 60. Webber Collection, MG 729, Box 2, file 21, PANL, the cited reference is: Vol. 1/S1,29 239-240, copied by Webber 20. 4. 64; Quidi Vidi is not mentioned in "Report ...," 16 November 1818, CO 194/61, f. 135.
 61. Ibid.; Quidi Vidi is not mentioned in the "Report ...," 19 November 1819, CO 194/62, f. 83.
 62. "Report ...," 30 October 1820, CO 194/63, f. 91.
 63. "Report ...," 30 November 1821, CO 194/64, f. 87.
 64. "Report ...," 1 October 1822, CO 194/65, f. 75.
 65. "Report ...," 8 October 1823, CO 194/66, f. 95-99.
 66. "Report of the State of the Fortifications of His Majesties Ordnance of this place", 27 November, 1826. CO 194/72, f. 364-366.

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67. "Report on Fortifications," by Colonel Nicolls, 25 August, 1827, G.B. 2/5, pp. 4, 14 (PANL).
 68. "Report...", 9 October, 1827. CO 194/74, f. 319.
 69. Report on the State of Defences, St. John's, Newfoundland by Colonel Nicolls, August, 1827. GB2/2 (PANL).
 70. "Report of the State of the Fortifications and Magazines of His Majesties Ordnance of this place", 9 December, 1828. CO 194/76, f. 364.
 71. "Report...", 8 December, 1829. CO 194/78, ff. 251-255.
 72. "Report of the present state of the Fortifications in the Island and the improvements therein contemplated". CO/194, 82, ff. 149-153.
 73. Correspondence by Lt. Col. John Oldfield, commander of the Royal Engineers, Engineer Office, Newfoundland, June 8, 1832. C.O.194/84, ff. 64-65 & 75-81 (PANL).
 74. Correspondence from the Office of Ordnance, 27 August, 1832. C.O.194/84, ff. 60-62 (PANL).
 75. "Plan of St. John's Harbour in Newfoundland". Great Britain, Public Records Office, WO 78/307. Taken from Pope, 1991.
 76. Call no. G 3439 S33 1770 M3, 1960 Map, Nfld, CNS.
 77. "Plan of the Town and Harbour of St. John's in Newfoundland", 1765. Uncatalogued map from the military map collection (PANL).
 78. "Plan of the Harbour of St. John's in Newfoundland, 27 July, 1770". Map by Capt. Hugh Debbieg. Uncatalogued map in the military map collection (PANL).
 79. Call no. G 3439 S33 1799 (CNS).
 80. NMC-105-H3/150/St.John's/1806 1/2, Cartographic and Architectural Section (NAC).
 81. "Plan of the Town and Harbour of St. John's, Newfoundland". Survey of the ordnance property in around St. John's, 20 September, 1806. Map-A.002, St. John's City Hall Archives.
 82. "Map of the Town and Harbour, with the Boundaries of the Land granted to the Ordnance by Admirals Duff and Holloway (stained yellow) in the Vicinity of St. John's, Newfoundland". NPM 599, Military Map Collection (PANL).

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83. Map of St. John's, Newfoundland, 1811. Military Map Collection, NMP 625 (PANL).
 84. "Town and Harbour of St. John's, Newfoundland From Various M.S.S. in the Hydrographic Office". Map-A046, St. John's City Hall Archives.
 85. "Sketch of the Harbour and Vicinity of St. John's, Newfoundland, showing the situation of the Several Pieces of Land referred to in Plans ? A,B,C,D,E,F,G".
"Transmitted with Sir Alexander Bryons ? to the Board dated (?) 9th August, 1832 ? Lt. Col. Oldfield's report of June 8th 1832". C.O.194/84, f. 81.
 86. Part of a drawing showing Queen's Battery, Chain Rock Battery, Frederick Battery, Quidy Viddy Battery and Quidy Viddy Pass Battery. Drawn by E. Lloyd in 1833. Military Map Collection, NPM 910 (PANL).
 87. Copy of Lloyd's 1833 map of military facilities in and around St. John's by B. Ouder (?), 9th August, 1938. Military Map Collection, NPM 953 (PANL).
 88. "Report on Fortifications" by Colonel Nicolls, 25 August 1827, p. 14, G.B. 2/5 (PANL).

APPENDICES FOR:

**AN ARCHIVAL INVESTIGATION OF INFORMATION
RELATING TO THE QUIDI VIDI PASS BATTERIES,
QUIDI VIDI, NEWFOUNDLAND**

1

APPENDIX I
TERMS OF REFERENCE
QUIDI VIDI PASS BATTERIES ARCHAEOLOGY PROJECT

COOPERATION

TOURISM AND HISTORIC RESOURCES
COOPERATION
AGREEMENT

ENTENTE DU COOPÉRATION
LES RESSOURCES TOURISTIQUES
ET HISTORIQUES

TERMS OF REFERENCE

QUIDI VIDI PASS BATTERIES ARCHAEOLOGY PROJECT (St. John's)

1. OBJECTIVES

To undertake an archaeological and archival investigation of batteries at Quidi Vidi Pass. The primary purpose of this research is to identify, locate, delineate, describe and analyze site features with a view to future site development.

2. GENERAL

This project is funded under, and subject to, the general financial and management procedures provided by the Canada Newfoundland Cooperation Agreement on Tourism and Historic Resources (April 1, 1991).

QUALIFICATIONS OF CONSULTANTS:

Bidders/bidding firms should have proven experience in the fields of archival research, archaeological surveying and excavation and must be qualified to hold an Archaeological Investigation Permit. Proven experience in military archaeology would be an asset.

SUPERVISION/REPORTING PROCEDURE:

The consultant shall report routinely to the Historic Resources Division of the Department of Municipal and Provincial Affairs. The Resource Archaeologist of the Historic Resources Division will brief the consultant prior to the start-up of the work and will be available to provide such in-progress advice, direction, etc. as may be required. The final report and recommendations will be submitted to the Historic Resources Division and the Management Committee. Where work requires provincial permit, Historic Resources Division staff will be required to approve, monitor and process all matters relative to project personnel and activities as routinely regulated under The Historic Resources Act (1985) and the Archaeological Investigation Permit Regulations.

PROPOSED DETAILS:

Proposals should clearly identify the following:

- (a) Personnel (including sub-consultants) assigned to scheduled tasks.
- (b) Start-up to completion schedule of project activities.
- (c) The proposed methodology to be employed in the project.

Consultants should provide at least two (2) references regarding successful completion of similar work in the past. Provisions of one (1) example of a completed project of a similar nature to that called for under this present Terms of Reference document would be an advantage. Consultants may suggest additions to these Terms of Reference where they judge effective and appropriate.

FEES:

Proposals should include details relative to time, fee structure, staff cost, overheads, etc. Tenders should clearly indicate the maximum prices for:

- (a) Professional services
- (b) Expenses

Proposals must be prepared on the basis of a project budget not to exceed \$25,000.00.

SCHEDULING:

All pre-fieldwork activities are to be completed during the winter of 1992. Fieldwork is to be carried out in the spring and early summer of 1992.

3. ARCHAEOLOGICAL PROJECT:

The proposed Quidi Vidi Pass Batteries project is designed to identify, locate, delineate, describe and analyze site features associated with the Quidi Vidi Pass Batteries.

PRE-FIELDWORK ACTIVITIES:

Pre-fieldwork activities will include the following:

1. Archival research aimed at identifying and describing both the

physical features of the site and its historical record. The consultant shall provide a summary of each document reviewed and reference it in standard bibliographic format.

2. Map analysis aimed at identifying, locating and describing the physical features of the site and relating the site to other relevant facilities. The consultant shall provide Historic Resources Division with copies of all maps.
3. Aerial photograph analysis aimed at identifying and locating site features.
4. An interim report summarizing the archival and map analyses to be delivered to the Historic Resources Division prior to undertaking fieldwork activities.

FIELDWORK ACTIVITIES:

Fieldwork activities will include the following:

1. Intensive archaeological surveying and testing of the Quidi Vidi Pass Batteries site to delineate site boundaries and locate, identify, record and analyze site features.
2. Information will be recorded on Historic Resources Division Archaeological Record Forms and Newfoundland and Labrador Archaeological Site Record Forms.
4. The consultant shall produce a contour map of the site and shall map to scale all survey routes and the locations of all test pits.
5. The consultant shall produce a detailed site map showing the locations of all features identified and all excavation units.
6. Site features are to be mapped to scale and photographed (both black and white print and colour slide).
7. Vertical sectional drawings (drawn to scale) of site stratigraphy, site features and typical off-site (natural) stratigraphy shall be produced.
8. All artifacts recovered are to be cleaned, numbered and catalogued on Historic Resources Division forms.
9. Conservation of archaeological specimens is the responsibility of the consultant.

10. A final report will be submitted to the Historic Resources Division upon completion of the project. Content and format of this report will conform to that which is outlined in the permitting regulations.

4. **PROPOSAL SUBMISSION:**

Return proposals to the following address:

Government Purchasing Agency
P.O. Box 76, Suite 501
5th Floor Atlantic Place
St. John's, Newfoundland
A1C 6C9

Telephone (709) 729-3348
Fax (709) 729-5817

5. **INFORMATION:**

For information on these Terms of Reference, please contact Marilyn Dawe or Linda Jefferson at the following address:

Historic Resources Division
283 Duckworth Street
St. John's, Newfoundland
A1C 1G9

Telephone (709) 729-2460
Fax (709) 729-2179

APPENDIX II

**PART OF PLAN OF THE HARBOUR
TOWN AND FORT OF ST. JOHN'S IN NEWFOUNDLAND**

APPENDIX III

**LETTER FROM THE EARL OF HILLSBOROUGH TO
MASTER GENERAL OF THE ORDNANCE IN ST. JOHN'S**

Whitchell July 28th 1769

79

My Lord,

I have received the King's Commands to signify to your Lordship His Majesty's pleasure, that you do take into your consideration the different Plans, suggested by Captain Debbing, for fortifying the Harbour of St. John in Newfoundland, and if your Lordship shall be of opinion that the Plan, by which he proposes to destroy the entrance of the Cove of Quiddi Viddi, & to erect such a Fortification as shall be defensible against ten thousand Men without Cannon, and for a small time even with Cannon, would answer the purpose of securing the Harbour against a sudden Attack, it is the King's pleasure that your Lordship do transmit to me, for His Majesty's information, an estimate of the expence that will attend the carrying the same into execution, and a plan of the Fortifications to be erected for that purpose. And it having been represented that the Fortification at Placentia is of little or no use, it is His Majesty's Pleasure that your Lordship do state to me, to

Yours General of the Ordinance

James Oglethorpe
M. W. M.

Public Record	Office Reference	CO.194.28
Accession	Contributor	
1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
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31	32	33
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100		

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be laid before His Majesty, whether you have
and if any, what Objections to that Fortrefs
being dismantled, and the Stores removed to
St. John's.

James Hillborough

APPENDIX IV

**LETTER FROM THE PRINCIPAL OFFICERS OF THE
ORDNANCE TO THE EARL OF HILLSBOROUGH
25 MAY, 1770**

Office of Ordnance
25. May 1770. 33

My Lord

Having in Obedience to His Majesty's Commands signified in your Lordships Letter of the 28th July 1769 taken into consideration the different Plans suggested by Captain Debbieg for Fortifying the Harbour of St. Johns in Newfoundland, particularly that in which he proposed to destroy Quiddy Kiddy, and to erect such a Fortification as shall be defensible against Two Thousand Men without Cannon, and for a small time with Cannon; And having taken the Opinions of His Majesty's Chief Engineer thereupon as likewise the Opinions of Lieut. Col. Bramham, Lieut. Col. Green, and Captain John Birence Engineers, who had been formerly employed in Newfoundland.

They agree that the Redoubt or Tower proposed at the Entrance of the Harbour is entirely requisite, and also agree to destroying the Entrance of the Cove of Quiddy Kiddy & that the Fort designed is defensible against 2000 Men without Cannon, and with 300 Infantry & 1 Company of Artillery Reinforced by the Seamen and Fishermen may be maintained for a small time against 2000 Men with Cannon, but the Chief Engineer having declared his opinion that "a simple Pentagon with 2 Bavelins to the Hill and placed on the Spot on which Captain Debbieg's first Project was, may be erected at less expence and be equally defensible against the proposed Attacks, but that neither can be supposed to sustain an Attack against 2000 Men, and a Regular Artillery longer of time sufficient till a superior Force can arrive from England, to relieve it; but as Captain Debbieg insists upon the necessity of the Out Works (as in the Plan annexed) he thinks that Captain Debbieg who had studied the nature of the Ground on the Spot, and taken very particular Profiles and Sections must judge best of the necessity and Utility of such Works."

We then recommended it to Captain Debbieg very strongly to reduce the Estimate as low as possible, but he has declared that

Lord Viscount Weymouth

Dated 10th11th May 1770

mouth, and so entirely commanded by Shells at a small distance as to be incapable of any Defence against Cannon.

With regard to the Plan proposed, the general opinion of the Majesty's Engineers consulted seems to be that a Pentagon, such as laid down in the Draught annexed, will answer the purposes of Defence against 2000 Men without Cannon, & of the same number of Men with Cannon for some time, but are of Opinion it would resist a regular Attack with Cannon long enough to allow time for relief from Great Britain.

With regard to other parts of the Plan, particularly the Out-Works annexed to the Fort we refer your Lordships to the words of General Skinner's Report as abovementioned.

It is, however, further to be observed, that if Quiddy Viddy Harbour is destroyed so as to prevent the Landing of Cannon or Stores there, it will, from the nature of the Country, be very difficult for an Enemy to bring up Artillery, & form such an Attack as would endanger the Loss of the Fort.

The Advantages therefore of the proposed Fort would be the keeping possession of the best situation on that Harbour, and together with the other Works proposed, of giving very great, (though not entire & absolute) Security to the Harbour itself and the Fisheries there; which in its present defenceless condition are liable, on the breaking out of a War, to be insulted and destroyed whenever it shall be left without a proper Naval Defence; or that the Enemy shall find means to form the highest Attack by Land

We beg Leave to add that this Report would have been long since sent, had not the perplexity of the situation, the variety of Opinions formed in regard to many Circumstances and the desire of adapting the Plan as nearly as possible to the Ends proposed by Government; as mentioned in your Lordships' last Letter, made it impossible for them to form

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CO.194 29
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APPENDIX V

**PROCLAMATION FOR THE SECURITY OF ST. JOHN'S
31 AUGUST, 1771**

Wth the
this
rajah
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having
a day of
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of
in the
by
and,
respect
"thine")
claims
going
harbour
the end
before
3/20/17
Debbin
2/17/17

Now We the undersigned
the Persons Inhabitants of Quiddi
Niddi, having duly considered Her
Majesties Royal & gracious
Declaration signified as above, do
in Duty to His Majesty, and in
Obedience to His Royal Commands,
perpetrated with His gracious
intentions of extending His
Protection both Thither by
Fortifying the Important Harbour
of St Johns, the Capital & Centre of
Newfoundland & hereby agree to
accept of the several Summs
respectively set down against our
Names, as a full and satisfactory
Payment for the Damage we make
of us may, or shall sustain by
the Destruction of the said Town of
Quiddi Niddi being destroyed;
provided the said Summation does

ack

that take place before the 1st day of
 October 1842; and provided words
 of us shall be permitted herein
 the several Notices of which
 our present Dwellings, Stages &
 Fish Flakes are composed. The
 said Valuations or Claims which
 each of us do hereby make, we
 confess to have been previously
 noted and fixed by the Arbitration
 of Mr John Burton & Mr Garrett
 Dingley Substant of S^t Johns
 upon our behalf and of Mr
 William Gadden and Mr Charles
 Whalley also Substant of S^t Johns
 on the behalf of the Crown. In
 confirmation of the Agreement
 made with our free will and
 consent, we have each of us signed
 our Names opposite to those Signs
 of our particular Claims; in the
 presence of His Excellency the Hon^{ble}
 Sir George Grey His Majesty's
 present Governor of New Zealand
 at the Harbour of Quiddi Vaddi
 25th day of Sept 1842

An Account
 of the present
 of their
 Dwellings
 Persons Names
 of Quiddi
 Claims
 W. Swing
 William Ford
 John & Ben
 Mich Gill &
 Mr William Ford
 Mich & Josa
 Rich Doo
 Mich & Josa
 for Mich & New
 Town
 John Cooke
 for Carl for the
 Mich & New
 The 2 B
 The 1 B
 James M
 Totals

An Account

APPENDIX VI

**LETTER FROM LT. COL. ROBERT PRINGLE
20 NOVEMBER, 1777**

before you the Annual report of my proceedings
and Plans & Estimates for the ensuing season
which I hope will be honoured with your
Approbation —

The Right Honble &
His Majesty's Commanders
at Sea
Whitehall
London

I have the honour to be
with the Greatest Respect
Right Honble & Honorable Gentlemen
Yours Obedient
(Signed) Robert Pringle

St. Johns Newfoundland Novr: 20th - 1771

Right Honble & Honorable Gentlemen

I did myself the honor to write you by
Admiral Montague on the 20th of October, wherein I informed
you I meant to avail myself of the leave I had obtained
from him to go to England, to lay my plans & Estimates
for the ensuing year before you —

But since the admirals departure
the disagreeable news of the defeat of General Burgoinies
Army, has reached us, the active Frigate which was to have
been left for the defence of this harbour we suppose has
been blown off the coast, as she has not been heard of
since September. These Misfortunes together with the
defenceless state of the works without a Garrison
to defend them that are completed or any Officer of any

Preference to succeed Major ^{Boyle}, ^{who is} ^{not} ^{with} ^{propriety} ⁱⁿ ^{such} ^{circumstances} ^{leave} ^{the} ^{Command} ^{particularly} ^{as} ^{Lieut. Caddy} ^{who} ^{will} ^{have} ^{the} ^{honour} ^{of} ^{delivering} ^{you} ^{my} ^{respects} ^{of} ^{Orders} ^{and} ^{is} ^{perfectly} ^{well} ^{acquainted} ^{with} ^{my} ^{Schemes} ^{for} ^{the} ^{Ensuing} ^{year}, ^I ^{will} ^{be} ^{able} ^{to} ^{give} ^{you} ^{every} ^{Information} ^{relative} ^{to} ^{them}, ^{and} ^{the} ^{present} ^{condition} ^{of} ^{the} ^{Works}, ^I ^{have} ^{given} ^{him} ^{particular} ^{directions} ^{to} ^{be} ^{aiding} ⁱⁿ ^{Shipping} ^{the} ^{Materials} ^{demanded} ^{that} ^{they} ^{may} ^{be} ^{ready} ^{to} ^{sail} ^{with} ^{Admiral's} ^{Convoys}, ^{and} ^{also} ^{to} ^{know} ^{your} ^{pleasures} ^{with} ^{respect} ^{to} ^{the} ^{Labourers} ^{for} ^{Ireland}, ^{that} ^{no} ^{time} ^{may} ^{be} ^{lost} ⁱⁿ ^{acquainting} ^{the} ^{Gentlemen} ⁱⁿ ^{that} ^{Country} ^{with} ^{your} ^{determination} -
I have also shown him all the Letters on Business that I write to my several Correspondants in the West for some trifling Materials to be had in that Country. I have furnished him fully with every necessary Memorandum. Therefore I shew myself the particular Service I am Engaged in will suffer nothing from the Obligation I shew I am under to remain on the Spot, in case the enemy should make any attempt on this Harbour.

Captain Frederick of his Majesty's Ship, being becoming Commanding Officer of the Squadron, has taken upon him to remain in the Harbour instead of going to America, and has also detained the Kingship of 10 Guns which was to have Wintered at Bristol, by this prudent ^{step} in some Measure it will relieve the loss of the Active, & by keeping the Naval Thoughts

11

I shall do every thing in my power cooperated
with him, and if the Merchants will be prevailed
on to furnish a few days ^{work} of their winter servants
I doubt not but we should be able to retard their
enemies progress, by occupying some favorable
Ports on the Roads leading from the out Harbours,
for the Guns we have Mounted on the several
Batteries here will be sufficient to defend the
Harbours from the Sea -

If from any Intelligence we should
be certainly Informed of any Intentions what so
ever expences the precautions we may use to frustrate
them, I will draw on the Lords Commissioners of the
Treasury according to your Instructions of 1772 a
these expences are independant of the Works, and
come under the head of expences incurred by Officers
Commanding Abroad. & where the Situation will
not admit of waiting for their Lordships approbation
or of presenting an Estimate -

I have the Honour
to be with the greatest respect
Right Honble & Honble Gentlemen
your most Obedient & most humble
404

APPENDIX VII

**REFERENCES AND 4 MAPS OF QUIDI VIDI
AND CUCKOLDS COVE
BY LT. COL. PRINGLE
1780**

N^o 1 *General Plan of QUIDDY VIDDY HARBOUR in the Neighbourhood of St. JOHN'S Newfoundland, which when in Possession of an Enemy would be convenient to land Guns & Ammunition to attack the Fortifications of St. Johns, and also a Plan of the Batteries & Lines lately constructed to defend it.*

REFERENCE

- A Quiddy Viddy Harbour sufficient to contain 100 Boats
- B Narrow Gut practicable for one Boat at a time only, when the Wind is off Shore and at high Water.
- N^o 2 C Entrance good Anchorage for Boats ... Plan N^o 2
- D Flat Rock where it is very practicable to land Guns supposing the Hill was sloped.
- E Battery & Barrack for Six Guns to defend the Gut & Entrance which Battery is above the Level of the opposite Hills as far as Musquet shot.
- N^o 3 F Lines for a hundred Men & Batteries for four Guns to defend the Passage of the River from the Point to the Harbour, for want of which Col. Amherst got Possession of Quiddy Viddy & Signal Hill when he retook St. JOHN'S in 1762.
- G Hill occupied by Col. Amherst's Troops when his Grenadiers & Light Infantry crossed the River to possess the high Grounds where the Lines are constructed.
- N^o 4 H CUCKOLDS COVE a safe Harbour for boats & where Guns can be landed nearer to St. Johns than Quiddy Viddy & which cannot be shut up.
- I Lines & Batteries for fifty Men to defend Cuckolds Cove.
- K Boats loaded with large stones to be sunk in the Gut at a moment's warning.

REFERENCE
 QUIDDY VIDDY HARBOUR
 PLAN N^o 2
 35
 OFFICE OF THE SECRETARY OF STATE
 FOR FOREIGN AFFAIRS
 WHITE HALL
 LONDON
 1792

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33

ENTS Newfoundland

1776 - 1777

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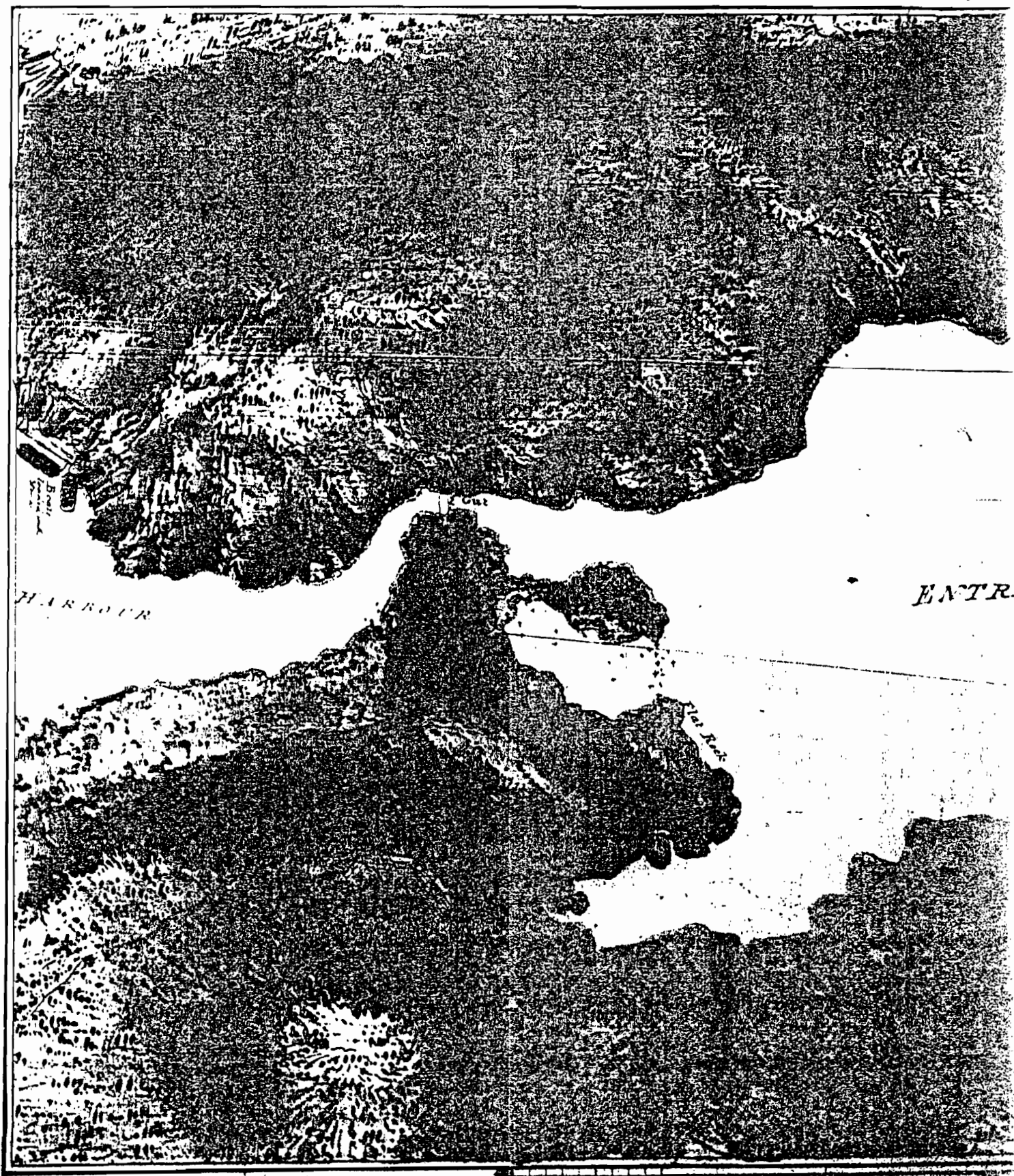
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702

Sketch of the Entrance into Quiddy Viddy Harbour showing the Sit

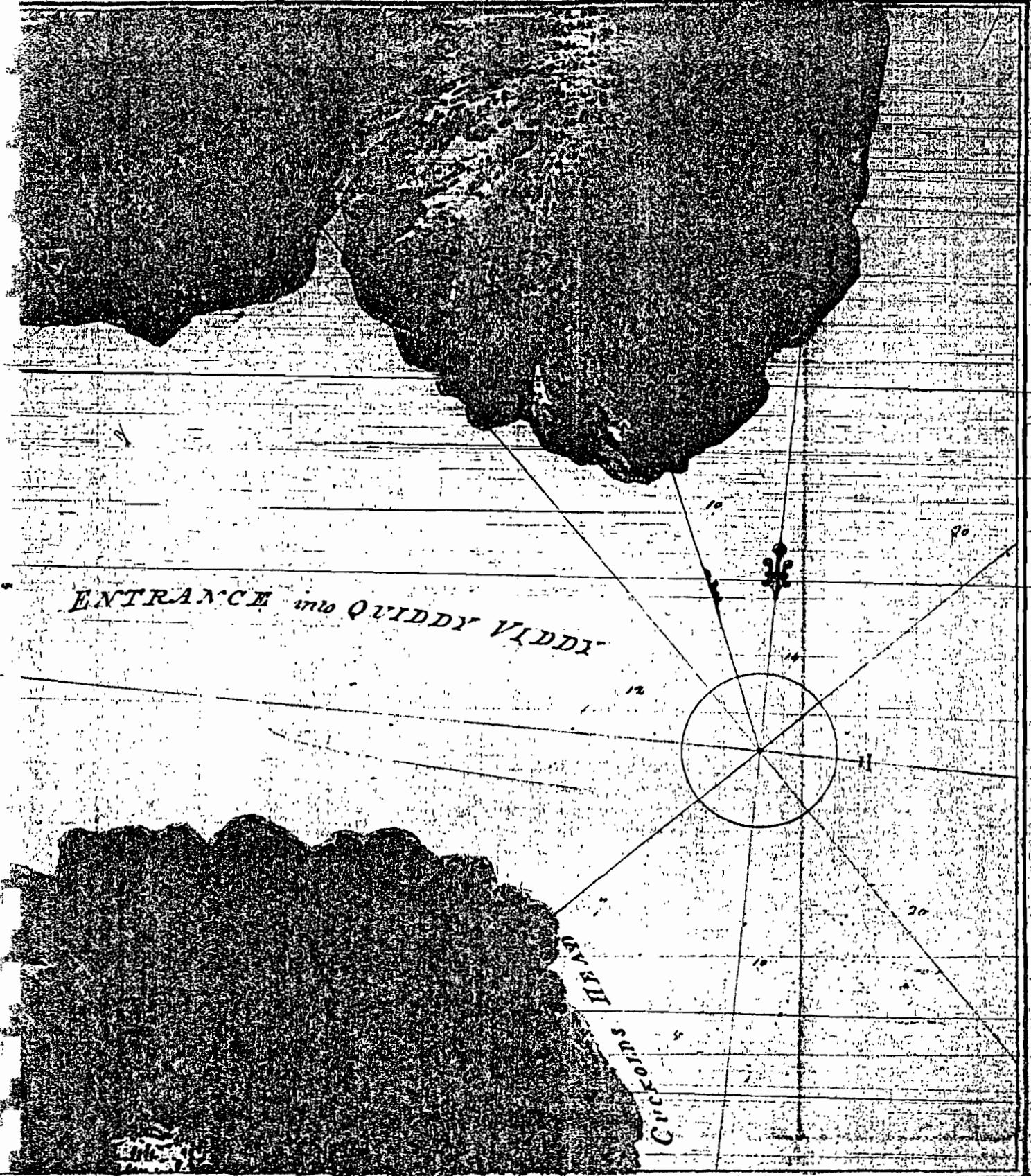
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Scale of 6 feet to an inch

Scale of 6 feet to an inch

Showing the Situation of Edwards's Battery to defend the Gut.



Scale of 60 feet to an Inch

*Robert D. Sample
Lieut. Colonel*

is and Batteries to beyond the Piers in a Quiddely Tiddy Pond.



Scale 1:10000
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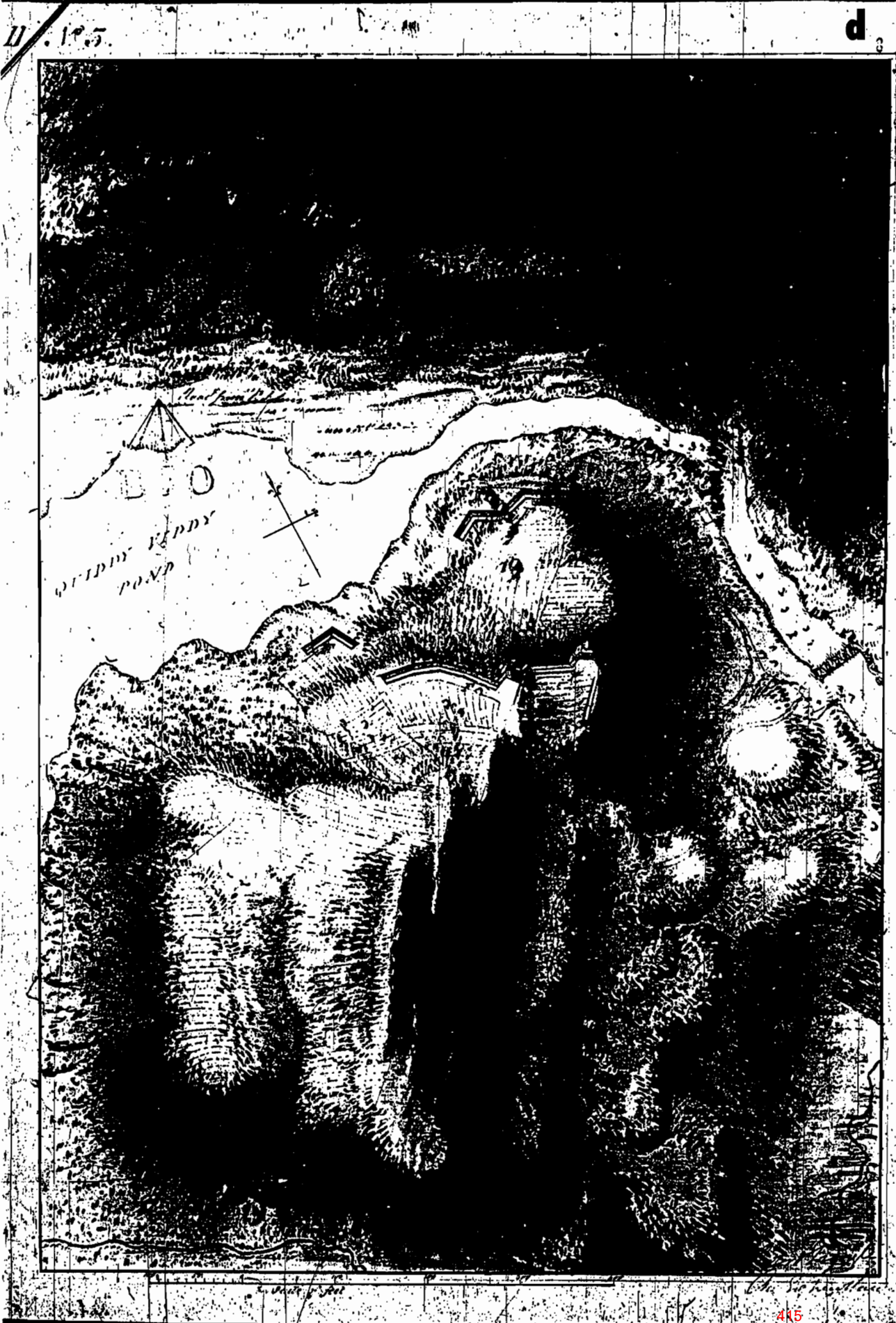
No. 3 Sketch of the Trench and Batteries to defend the Fort





Fig. 1. Plan of the site. See text.

APPENDIX VIII
SECOND SET OF MAPS
BY LT. COL. PRINGLE
1780



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GIPDY KEDDY POND

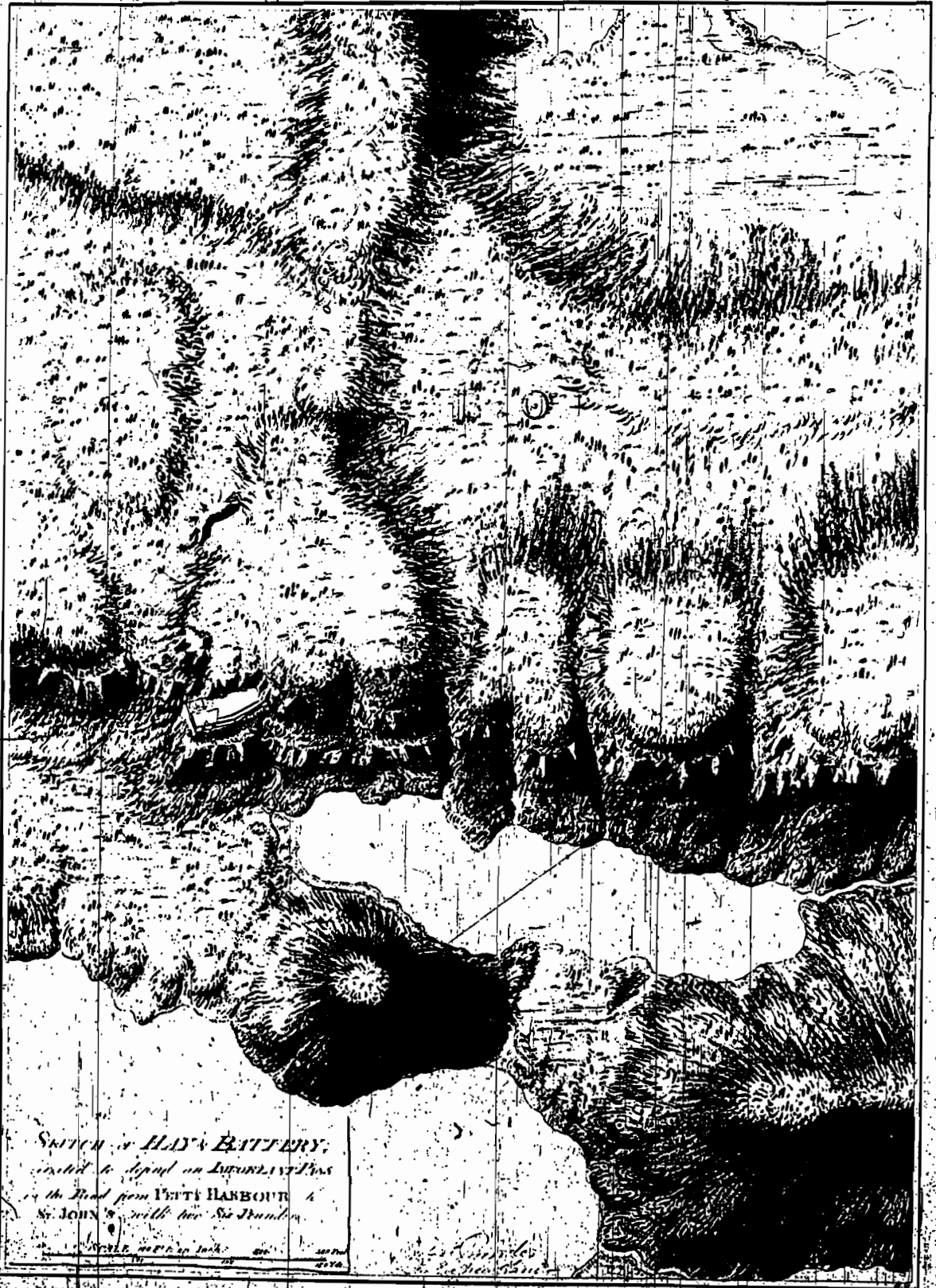




CUCKOLD'S COVE

Site of ...

III.



Sketch of H.M.'s BATTERY,
 situated to defend an *ANCHORAGE* Place
 in the Road from PETT HARBOUR to
 St. JOHN'S, with two *Sic Dunder*.

Scale 1000 Yards
 100 200 300 400 500 600 700 800 900 1000

Wm. Smith del.
 1756

APPENDIX IX

**REPORT OF THE STATE OF THE FORTIFICATIONS ST. JOHN'S, NEWFOUNDLAND
BY ROBERT PRINGLE, 1 AUGUST 1780**

17
40

Report of the State of the Fortifications of St. John's
Newfoundland 1 August 1780.

The Batterys that defend the
Entrance into the Harbour are finished and
in a good state of defence.

Ring Bolls are fixed in the
Rocks on each side of the Narrows, and the
Chain finished.

The Works of Fort Sownstrand
are finished according to the original plan
with some additions to the Outworks, and
nothing is wanted to complete, but sodding
the inside Slopes, and finishing the Governor
House and provision Store house.

The Batterys and Lines at Quiddy
Biddy and Cuckolds Cove are finished the
Guns mounted and in a state of defence.

The Post at Sorbay to the
Northward is furnished with a Battery and
two Guns and in a state of defence.

191 35

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At Bay of Bulls to the Southward
there is a Battery of six Guns in a state of
defence

And on the Road leading to
Bay of Bulls six Miles from St. Johns a
Strong Fort is Fortified with two Guns, Lines
and a Barrack for 12 Men, and in a good
state of defence.

The Roads leading from Torbay
Portugal Cove and Bay of Bulls have been
reconnitred by the Chief Engineer and
places marked out for Posts to oppose an
Enemy - some of which will be fortified
as soon as the Carriages in Store are altered
to fit the Carronades.

Robert Pringle

of the Garrison

To His Excellency Richard Edwards Esq.
Governor and Command in Chief Newfoundland

APPENDIX X

**REPORT OF THE FORTIFICATIONS AT ST. JOHN'S, NEWFOUNDLAND
BY JOHN CADDY, 20 OCTOBER, 1784**

Report of the Fortifications at St. Johns Newfoundland
 October 20th 1784

Fort Townsend

The additional works ordered to that Fort are in great forwardness and may in six weeks of good weather be completed, the Cazemates are quite finished and the doors hung, the Rampart over them brought to the proper level and the parapet partly up.

The Magazine, Storehouses, Barracks and other buildings have had a thorough repair and are in good order.

The Gates and Outlying in the Covered way are in good repair, and when the Parapet over the Cazemates is finished the Fort will be in a proper state of defence.

Amherst's Tower

The walls of the Tower and Battery have been new pointed, and the whole thoroughly repaired, and is now in a proper state of defence.

Frederick A.

Fredericks Battery

The Walls have been new painted,
The sod work and Barracks repaired and is also in a
proper state of defence.

Chain Rock Battery

In good repair and proper state
of defence. —

Fort William

The Barracks in good repair, the
Works in ruins not being thought necessary to be
kept up its situation having been condemned
when the New Fort was ordered to be erected

Quiddy Widdy

The Lines and Battery at this
place being only Temporary Works thrown up in the
year 1788 is not thought necessary to be kept up, and
are of course going to Ruins

The out Commands at Torbay
Co's Marsh, and Hays Battery are also in the same
situation.

Signed/ John Caddy

APPENDIX XI

**REPORT OF THE FORTIFICATIONS IN THE ISLAND OF NEWFOUNDLAND
BY JOHN CADDY, 20 OCTOBER, 1785**

Report of the Fortifications in the Island of Newfoundland
October 20th 1785.

Fort St John's

The Magazine, Storehouse, Barracks and other buildings have received the necessary repairs and are now in good condition.

The Gates and Pathway in the outworks and Countway are in good condition. The standing part of the Bridge at the Principal entrance will require to be new laid with Plank most of Spring being much worn by the Carriages.

The Damage done to the Works last Winter by the frost and Steins, have been repaired, and the New Works completed which renders this Fort in a proper state of Defence.

Amherst Tower

The Walls of the Tower and Battery have undergone the necessary repairs, and is in a good state of Defence.

Fredericks Battery

In good order and proper state of Defence.

Chain Rock

In good order and proper state of Defence.

Fort William

The Barracks and Magazine in good repair except the Stone Building occupied by the Lieut. Governor the repairs of which was deferred by his desire till next Spring.

The Works at Quiddy, Widdy, Torbay Cross & Wash and May Battery being only Temporary Works are mostly gone to ruin.

Placentia

The Forts, Batteries and Buildings at this place are in a ruinous condition, no repair having been ordered to any of the Works since the War.

John Caddy
Chief Eng^r Newfoundland

His Excellency John Campbell Esquire
Governor & Commander in Chief of all His Majesty's
Ships & Garrison in and over the Island of Newfoundland

APPENDIX XII

**PART OF A LETTER FROM JOHN CADDY
TO LORD DUKE OF RICHMOND, 1790**

Which he was so good as to give me, and likewise an Order for all the Inhabitants, who have Carts and Horses to lend their Assistance with them, With which I have made a tolerable Shift, till next year, when, if your Grace approves I shall put it in a proper state. The Expence which is very small is sent home in this years Estimate.

The alterations of the Governours House were finished before my arrival here, by Mr. Bulger the Clerk of the Works, and very much to the Satisfaction of the Admiral, I must take the liberty of acquainting your Grace that Mr. Bulger has Merit in having the Works in such Forwardness, with the small number of Men had to perform the work with,

I have sent Estimates home for the Repair of the two Batteries at Quiddy Viddy, One for the defence of the Harbour and the other for the posts, they are at present in a very Ruinous state, and as they appear to me to be of great consequence for the defence of this place I hope your Grace will approve of them, I have made the Estimate very low, as the commanding Officer of the St. is so good as to spare us all the men he can off duty,

The principal part of these repairs will be the Labour, which will come by one half cheaper than Usual, by Employing Soldiers at 9 pence, and we have Great plenty of earth on the Spot,

If your Grace does not approve of these repairs, I should strongly recommend the Ordinance mounted on them to be withdrawn.

Your Grace may rest assured I shall pay the utmost attention to ^{the} works you have been Pleas'd already to order, and any you may hereafter,

But if you can not allow me a Subaltern of the Corps, I shall be very much oblig'd to you to allow me an Overseer, as the Works are very much detached, and I find it the same here, as in other parts of the World, that Soldiers or Labourers will not do their work, (at least properly) without being constantly attended, Mr. Bulger is exceedingly attentive, but he has so much writing, he cannot pay that attention I wish to both Situations, as Clerk of the works and Overseer too,

The Battery at Chain Lock is likewise very much out of repair, indeed the Merlons are falling down, and the Platform rotten, the Expence however is not great, I have included it in the

APPENDIX XIII

**PART OF A SECOND LETTER FROM JOHN CADDY
TO LORD DUKE OF RICHMOND, 1790**

I should likewise beg to recommend
 the Batteries at Quiddy Waddy and Cuckolds Cove,
 to be fenced in to preserve them from being destroyed
 by the Cattle, and the Guard Rooms from being
 Injured by the Nede Inhabitants of this place,
 as likewise to keep the Kings ground from Inroad
 ments, the very Batteries themselves at present being
 converted into Potatoe Gardens, by the Fishermen
 being near them

"The Storekeeper and Barrack
 Master having represented to me that ~~they~~
 Neither of them ^{have} a proper place for their Arms
 Or Barrick Furniture - I have sent home an
 Estimate for a ^{Building} ~~small~~ additional ~~shed~~
 Proposed to be ^{erected} ~~built~~ in Port Townsend

I have the Honour to be with the
 Greatest Respect

My Lord Duke

Your Obedience

Most Obedt. and

Most Hble. Serv^t

APPENDIX XIV

**STATE OF THE FORTIFICATIONS AT ST. JOHN'S
IN THE ISLAND OF NEWFOUNDLAND
31 OCTOBER, 1790**

State of the Fortifications at St Johns in the Island of
Newfoundland October 31st 1790

West Side of the

The new facing to the battery
is now nearly finished, and will be
completed in about six weeks next Summer.

The New wall to the front of the
Batteries, ordered also to be finished, will be out about
June next Spring.

The new S. wall round the fort now
is nearly done, and will be finished about the middle
of next Month.

The Pointing round the bottom of the
Guns, are now at work and will want to be
repaired with new ones.

The Platforms on the Station Crayes,
are now repaired, and will receive new ones

The Magazines, Storehouses, Barracks,
and Guard houses, are in a good state.

The Masonry in the ramp of the
Grand Battery, Cutwaters, & other parts and the walls of
the Garrison are in a Through repair, and are
in a good state.

Amherst's Tower

The walls of the Tower and Battery,
Have had a through repair this season the masonry
to be rebuilt are nearly completed

The rest of the Moulons and part
of the retaining walls, from the severity of the frost
are nearly fallen down, and will require to be
rebuilt next Summer

The Barracks, Magazine, Guard
Houses &c are in good Order

Fredricks Battery

The walls have been new pointed
and are in good Order.

The Barracks will require new
Flooring, Shingling, Clapboarding

Chain Rock Battery

In a ruinous condition, and will
require new Moulons and new platforms, to it in
a state of Defence.

*Liddy Viddy, and
Cuckolds Cove Batteries*

Are likewise in a ruinous condition
And will require new platforms, Breast Work, and
Some repairs to the Guard Houses.

The Out posts, at Today, Bores Marsh,
 Guston's Marsh and Hayes's Battery, are almost gone to
 Ruin, and the Ordnance partly dismantled, and
 Will all require to be repaired to render them of any
 Utility - Fort Williams

The Magazine, Bridges, Gate and Officers Barracks
 In good Repair, the Soldiers Barracks are also in good
 Repair, Except a few Square of Shingling Wanting to
 part of the Roof -

APPENDIX XV

**LETTER FROM CAPTAIN SKINNER
REGARDING REPAIRS TO MILITARY FACILITIES AT ST. JOHN'S
8 MAY, 1791**

Duplicate

Goodwood 8th May 1875

Sir

I trust you will proceed with the following works and Repairs in the Island of Newfoundland conformable to your Estimate for the present Year, taking care not to exceed the sums allowed for each Service.

Repairs to the Government House	£ 58. 1. 7 1/2
Fence at the back of Do	4. 17. 0
New Fence round the Glacis of Fort Townshend	434. 15. 1
Repairs at Fort William	20. 12. 0
Repairs at Amhurst Tower	211. 4. 0
Ditto - at Fredericks Batteries	33. 3. 6
Do - to the Guard House at Liddy Viddy	5. 0. 9
Do - to the Road to Fort Townshend	25. 7. 0
Materials for Annual Repairs	197. 5. 0
Image of Do	45. 0. 0
Repairs of Boats	2. 10. 0
To enclose the Batteries at Liddy Viddy and Cuckolds Cove	108. 0. 0
Annual Service	1158. 2. 0
	<hr/> 2009. 17. 11 1/2

Captain Skinner

APPENDIX XVI
STATE OF FORTIFICATIONS AT ST. JOHN'S, NEWFOUNDLAND
OCTOBER 1791

Frederick's Battery

The Platforms decayed and in want of being now laid, the expense included in the General Estimate -

Quiddy Viddy & Buckholes Cove

The Guard House repaired the Fence ordered to be erected round the Barrack Ground almost prepared for putting up -

The Breast work in Ruins

Green Rock Battery and the outposts of Torbay, Coxes Marsh, Gaderis Marsh and Hayes Battery are almost gone to ruin

and the Ordnance mostly sunk in the Earth

I have discharged our Extra Carpenters, Masons, and most of the Labourers, but shall be under the necessity of employing a few more than our Winter Establishment for a few weeks longer to fill the Gaps, and clear away the Earth from the last built and work, and the Rubbish from the wall of the Lazymates -

APPENDIX XVII

**PART OF THE "REPORT OF THE STATE OF THE FORTIFICATIONS
ST. JOHN'S, NEWFOUNDLAND"
15 JULY, 1805**

right flank of the Hill, near 100 feet below it. The platforms have been relayed this spring. It is without a parapet.

P 2 Mounts two 9 pounder & an 8 inch howitzer

P 3 Supplied with powder from signal hill, by a travelling magazine.

P 4 There are no buildings in this battery.

P 5 Looks into Cuckold's nose, and commands the approaches from Duddy Viddy. In attacking the fort from thence, the enemy would be exposed for most part of the distance of 900 yards, with 400 feet ascent, to a cross fire from it, and the Canonade battery, as well as to the plunging fire of the upper batteries.

Duddy Viddy fort battery

Viddy

P 1 An open battery above the harbour of Duddy Viddy; its platforms have also been relayed this spring; its parapet is in decayed state. Apparently it is unprotected and is over looked by the opposite hills.

P 2 Two half 6 pounder are mounted upon carriage on this battery.

P 3 & 4 There is a house for an artillery man here.

The stores are in good state.

P 5 This battery, which is the only one that looks into the narrow and landing place of Duddy Viddy, is in a very inefficient state.

Canonade battery, the right of the three eminences already described, has three 24 pounder cannon, four 12 pounder, placed upon it, without any work.

ad. battery

Canon battery

whatsoever being the case.

The situation is most important, to defend the approaches to Signal-hill on the right; it also has a considerable sweep over many parts of the hill in front of it, which is bounded by Quiddy Biddy pond. It commands the eminence on which was placed.

Quiddy Biddy place
battery

When an old unserviceable 6 pounder is placed, with scarce a trace of a work left. Its object was to defend the passage of the river; which is of essential consequence, as it controls the attack, to 200 yards in front on the left where the ground is very stony from the successive stages of fire it offers, and also causes a considerable detour should the enemy have landed at Fishers.

2 um battery

D 1 Has already been noticed, to occupy a height, advanced near 300 yards on the left flank: it is at present an open battery. The platforms have been relayed this spring. The parapets are decayed: one half of the battery is without any.

D 2 There are six 24 pounders one 9 lb & two 6 lb which have been put up on it.

D 3 The stores are complete for the service of this battery, but it is within reach of supply, from Signal-hill.

D 4 There is a room here sufficient for the necessary guard for the fort.

D 5. Constructed before the works of Signal-hill, this battery only serves to protect the harbour, the entrance of which it completely

Office Reference

FOR PERMISSION TO REPRODUCE MATERIAL

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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APPENDIX XVIII

**RETURN OF THE MOUNTED ORDNANCE
AT ST. JOHN'S, NEWFOUNDLAND
15 JULY, 1806**

APPENDIX XIX

**A PROCLAMATION BY JOHN HOLLOWAY
16 OCTOBER, 1807**

Garrison, hereby requiring
fences kept in good condition, and not to
take possession of any part of the said ground
as private property, nor to dispose of it to any
person whatsoever, but to deliver it over to the
successing Detachment of Artillery and to cause
this order to be hung up in the most public
part of the Artillery Barracks.

Given under my hand & Seal
at Fort Townshend St. Johns
Newfoundland 6th October 1804
(Signed) E. Power

By command of
His Excellency
(Signed) J. B. Boscawen

By His Excellency John Holloway
Vice Admiral of the Fleet
& Commander in Chief of the
Island of Newfoundland

John Holloway

A Proclamation

Whereas it is necessary that a certain space of ground
round the works carrying on at Signal Hill for the
defence of this Harbour should be kept clear of
the use and security of the Fortifications, which
is now granted by His Majesty King George the
Third to His Majesty's Lieut. General Sir John Boscawen
Master General of the Ordnance All persons are forbidden

70

attempting to enclose any part of the land, or to
permissibly to erect any Building whatever, either within
that Boundary or between Signal Hill and Bushy
Cove and thence in a straight line to the house of Joseph
Grove, from thence along the road at the edge of Giddy
Pond to the west end, from thence in a straight
line to Waldegrave's Battery, as such buildings would
oppose the approach of an Enemy and are therefore to be
kept clear, and no building whatever is to be erected
in front of Giddy Paddy Pop Battery, nor between that
Battery and Grove's House. -

Given under my hand at Fort Townshend
St. John's Newfoundland the 16th Oct. 1807.

By Command of His Excellency
(Signed) G. Macleod



By His Excellency Sir Thomas
Gower Knight, Gov^r & Commander in
Chief of the Island of Newfoundland

No. 14
Captain Robt Comm^d St.urgeon as before having re-
presented to me that the Ordnance Store kept there,
situated on the Admirals' beach, is totally decayed,
and requested I will grant permission for building a new
one, when the Master Genl. or Board of Ordnance shall
give orders for that purpose; and the said Comm^d St.urgeon
having suggested that it would be attended with advan-
tage to His Majesty's Service to place the new Store di-
rectly opposite the Ordnance Yard, I do hereby grant my
assent for that purpose, pursuing that which

APPENDIX XX

**REPORT ON THE DEFENCES OF ST. JOHN'S, NEWFOUNDLAND
AUGUST, 1827**

G.B. 2/2
 Colonel Nicolls
 (Report on state of defences, St. John's)
 August, 1827.

The distribution of the Company of Royal Artillery and 800 men, supposed to be the War Establishment for St. John's, I would propose should be as follows:

Royal Artillery Line: Tower No. 1, Royal Artillery 40 men - remainder detached at the other Towers and Batteries.

Line 32

No. 2 - ditto 136

Stone Barracks on Signal Hill, lower part bomb proof, ditto 312

Towers No. 3 Carronade Hill - 100

4 Wallaces - 20

5 Above Quidi Vidi Pond - 60

6 Between Wallaces and Fort William - 100

Tower 7 Waldegraves Battery - 40

Total 800

APPENDIX XXI

**LETTER FROM THE ROYAL ENGINEERS OFFICER
8 JUNE, 1832**

372
 11681
 1832
 Engineer Office

Newfoundland

8th June 1832

Sir

1 In obedience to your commands communicated by Lt. Col. Fanshawe on the 11th May 1832 No 107 that: I should transmit Reports, and Plans of all Lands now in possession of the Ordnance for Works, Barracks, Store-houses &c, together with any other Crown Lands which would be required for the Defences proposed in Colonel Nicolls report - I had no time, upon the arrival of a Subaltern in commencing the preparation of the necessary documents, which are herewith transmitted; together with an appendix containing various Papers connected with the Tenure of the Lands; and respecting the idea entertained at the Government Office in Newfoundland that "the Ordnance have no title to lands in the Colony"

2 On Plan No 1 I have no observations to add to the marginal remarks in the column, except to suggest that the Land taken by the Ordnance in the Domain should remain in possession of

of all Lands now in possession of the Ordnance
for Works, Barracks, Store-houses &c, together
with any other Crown Lands which would be
required for the Offices proposed in Colonel
Nicolls report - I lost no time, upon the arrival
of a Subaltern in commencing the preparation of
the necessary documents, which are herewith
transmitted, together with an appendix containing
various Papers connected with the Tenure of the
Lands, and refuting the idea entertained at the
Government Office in Newfoundland that "The
Ordnance have no Title to Lands in the Colony"

2. On Plan N^o 1 I have no observations to add
to the marginal remarks in this return, except
to suggest that the Land taken by the Governor
into his Domain should remain in possession of
His Excellency, but with the full understanding
that, no such encroachments are to take place
in future: and to state my opinion, that it
would be useless to attempt to disturb the Title
of the Persons who have encroached on the original
boundary of Fort William, as the infants have

never
A. Byles R. C. H.

He He

a Tenure either by long possession or Governor's grant, which a Jury would confirm. -

3. Upon the Plan N^o 2, I have to observe, that, the Land of which we have at present possession, is but a small part, of that, which was allotted to the Ordnance, by Governor Baffin in 1775 as laid down in the Plan dated 20th Nov^r 1814 - a copy of which was furnished to me from the Inspector General's Office 13th June 1831: the circumstances attending the curtailment of the Boundary, are explained in a correspondence referred by Mr Secretary Brew to General Mann on the 27th April 1811. I have annexed as N^o 18 of the Appendix an extract of a Report from Colonel Sumford to General Mann of the 5th Oct^r 1814, which throws additional light upon the subject; this report is not entered in the Books, and the copy I send is incomplete, it may probably exist in your Office. The recovery of any portion of this land, it now I consider out of the question but, I strongly recommend our retaining possession of what we now hold not only from considering the site of Fort Townshend, as a feature of some importance as connected with the defence of the town and Harbour, but from the inconveniences which must arise from the increase of buildings near our Barracks Stores &c, which will remain for some

attending the certificate of
 explained. in a correspondence referred by Mr
 Secretary Brown to General Mann on the 27th April
 1811. I have annexed as N. 18 of the Appendix an
 extract of a Report from Colonel Durford to
 General Mann of the 5th Oct. 1814, which throws
 additional light upon this subject; this report is
 not entered in the Books, and the copy I have is
 incomplete, it may probably exist in your Office.
 The recovery of any portion of this land, is now I
 consider out of the question but, I strongly recom-
 mend our retaining possession of what we now
 hold not only from considering the site of
 Fort Townshend, as a feature of some importance,
 as connected with the defence of the Town and
 Harbour, but from the inconveniences which must
 arise from the increase of Buildings near our
 Barracks, Stores &c which will remain for some
 years longer at Fort Townshend, & when removed,
 will probably (as proposed by Colonel Nicolls) give
 place to a Town - a small piece of ground between
 the Fort and the Charity School, recently granted
 to Mrs. Baines, was sold by this Officer for £125
 to a Publican, the Public House immediately rear
 up, adding not only to the depopulation of the Garrison,

but interfering with the Canton lately re-established and which produces to the Public £28.2.0 last Quarter. When our Title to the Land is confirmed, such portions of it, as are not immediately required for the Public Service may be beneficially let, on such terms as will not interfere with the Defence or other Military arrangements.

65

4. With respect to Plan No 3. It is left to improve the necessity, of a more strict adherence to the Proclamation of Governor Holloway in 1807, forbidding all new sections within the limits laid down in the Plan, and defined in the Proclamation. Also of the transfer to the Ordnance of the land about Leiddy, Viddy Battery, Leiddy, Viddy Pass Battery, and Cuckhold's Head, for the reasons detailed in the Column of remarks upon the letters E & F. Leiddy Viddy Pass Battery would be established as a Field Battery to protect the right of our Position (facing the country) and an entry to land in any of the numerous bays to the Northward.

5. Plan No. 4, needs no additional observations, but, that should it be deemed necessary at any future period to remove the Wharves to the summit of Signal Hill, the site of the present wharves might be advantageously disposed of, for the benefit of the Public. The same remark is applicable to the second plan No. 5.

the very ¹ Proclamation of Governor Holloway in 1807, governing
all new sections within the limits laid down in
the Plan, and defined in the Proclamations, & also
of the transfer to the Ordnance of the land about
Leiddy Viddy Battery, Leiddy Viddy Pass Battery,
and Cuckhold's Head, for the reasons detailed in
the Column of remarks upon the letter E & F -
Leiddy Viddy Pass Battery would be established as
a Field Battery to protect the right of our Position
(facing the country) were an enemy to land in any
of the numerous Bays to the Northward.

5. Plan N. 4, needs no additional observations,
but, that should it be deemed necessary at any
future period to remove the Wharves to the summit
of Signal Hill, the site of the present Wharves might
be advantageously disposed of for the benefit of the
Public - the same remark is applicable to the
Leidy Kiln Plan N. 5.

6. The reasons for retaining the cottages over the
South Hills are fully explained in the remarks, as
also for the transfer of the site of the Signal Post
at Red Head, and of the Batteries on the road to
Petty Harbour, all this land is of little value.

7. The Battery at Torbay Plan N. 7 may possibly
be re-established at some future period, in which
case the site of one relinquished would not be
required.

recovered without incurring a considerable expense. -
 8. I recommend that when our title is confirmed by the Colonial Office, no time should be lost in marking the boundaries with stones, or unswerving Cannon. -

9. Should opportunities at any time offer for my visiting the out Harbours, and should I consider it necessary at any of them to retain land for military purposes I will not fail to report thereupon for your information. -

10. When it is decided what portion of the land, included in this Return, is to become Ordnance Property, I shall take no time in submitting a Plan for the appropriation, or letting it for the benefit of the Public. -

I have &c
 (Signed) John Oldfield Esq
 Com^d R. Engineer -

P.S. The documents herewith transmitted have been submitted to the President & the Lt Colonel Com^d the Troop -

(Signed) J.O.

No. of Title Plan or Map	Occupation	Contents			Tenure	Notes
		a	r	p		
3	<p>C) grounds front of the Postoffice for 20 years annum. signed Anderson</p>				Governor Hallways Proclamation	This is cultiva it was It was built soon to continue weaken to enter British possession Governor however
	<p>D) Land occupied by under- minerals on which they are prohibited from Building</p>					
	<p>E) Quiddy Biddy Battery and Land adjacent</p>				Long possession no Grant	The course should be reverse. Should disconnected no grant. The ady. Battery constructed by Col Pringle prior to 1763 with the sanction of the of the Colonial Government
	<p>F) Quiddy Biddy Post Battery</p>					
	<p>a) By the Ordinance for Land in 1763</p>				1763. date of Grant for presumption unknown	
	<p>b) By Commission for Surveying Lands</p>					

Section of Signal Hill

Remarks

allowways
above

This ground is covered with rocks, swamps and underwood. Cultivation should be discouraged on the face of the Hill, as it would materially tend to weaken the Position

It would appear notwithstanding the Proclamation of His Excellency Governor Holloway in 1807, subsequent Governors have given building leases within the prescribed Boundary; a continuance of this practice cannot fail to, most materially, weaken the position of Signal Hill; It is not recommended to enter into expensive law proceedings to remove the present buildings, as the result would probably be in favour of their possessors; these encroachments having been sanctioned by Governors Grants; the prohibition from building should however be rigidly enforced in future

view

The contour over this area is indispensable, as Cuckoo Hill stands on the north part of the position of Signal Hill in reverse, it is difficult of access, these difficulties should not be decreased

is no ground
is tract by
near to 1703
is long fence
is boundary

The adjacent ground held by various individuals by purchase of Cuckoo Hill, was acknowledged to have been the same, but no time will now be lost in discovering the same, and a acknowledgement from the owners

is boundary
is boundary
is boundary

See Appendix 4

Government

F	Daddy's duty. Pass Battery		dismounted no grant. Battery constructed by Col Pringle prior to 1763 with the sanction of Council of the Colonial Government	reversal should be made
5	<p>a. By the Ordnance for Landing Store</p> <p>b. By Commission Naval for Landing Store</p> <p>c. Ordnance Store</p> <p>d. Saw Pit</p> <p>e. Ordnance Wharf or Boat Repair House</p> <p>f. Open space in Street</p>		<p>any way remaining 1/100. date of grant for presumption unknown</p> <p>Permission Governor Elliot 24 July 1787</p> <p>Permission of Governor For Lower 10th October 1800</p>	See G, Jome
5	<p>a. Stone kiln and yard for Lime Stone</p> <p>b. Yard for Lime Stone</p>	c 1	<p>Long Occupation</p> <p>Grant unknown</p>	

Ordnance Wharf

Stone Kiln

APPENDIX XXII

**LETTER WRITTEN BY THE OFFICE OF ORDNANCE
AT ST. JOHN'S, NEWFOUNDLAND
27 AUGUST, 1832**

RECEIVED
C. D.
AUG. 31
1839

Office of Ordnances
27 August 1832 $\frac{8}{702}$

Sir,

The Postoffice Officers in charge of the Ordnance Department at Newfoundland have on the 27th Decr 1829, submitted a Representation in regard to certain Encroachments which had been made upon the Ordnance Lands in the vicinity of Fort Townshend, and it having appeared, by a Correspondence to which that Representation gave rise, that some difficulties existed on the part of the Authorities at the above Station with respect to the Claims of the Ordnance to the Lands which are considered as properly belonging to this Department. The present Governor and the Attorney General being of opinion that the Ordnance have no title to Lands in that Colony.

Office to Newfoundland? Oct 1832

I have the honor to remain

Copies to Newfoundland? Oct 1832

origin in the year 1824, admitted a representation in regard to certain Escochohoocks which had been made upon the Pedernars Lands in the vicinity of Fort Townsend, and it having appeared, by a Correspondence to which that Representation gave rise, that some difficulties existed on the part of the authorities at the above Station with respect to the Claims of the Pedernars to the Lands which are considered as properly belonging to this Department. The present Governor and the Attorney General being of opinion that the Pedernars have no title to Lands in that Colony;

I have the honor to communicate the same to you, for the information of the Government of this Colony, and to state that the Attorney General and Board of Admiralty having considered it to be most important

W. H. Murray Esq
C. H. Murray Esq

to the interests of the Service that a clear understanding should be had upon this question, and that these Lands, which are held to be the property of the Ordnance, together with any other Crown Lands which are necessary for the purposes of this Department, should be accurately defined and regularly conveyed to the Ordnance. They ordered a Reference to be made to the Commanding Royal Engineer at Newfoundland, with the directions that he would submit a full and particular Report upon the subject. This Report has been now received, and I beg to enclose a Copy thereof, together with Copies of the several orders which accompanied it, to be laid before Lord Gadsden.

These Papers, I am commanded to observe, have been attentively considered by His Majesty's General and Board, with reference to a Plan of Defence for Newfoundland which they approved of in the Year 1827, and the Honble General and Board re-

to the Admiralty, - then ordered a copy
to be made to the Commanding Royal En-
gineer at Newfoundland, with directions that
he would submit a full and particular
Report upon the subject. - This Report has
been now received, and I beg to enclose a
copy thereof, together with Copies of the Docu-
ments which accompanied it, to be laid
before Lord. Goddard.

These Papers, I am commended
to have been attentively considered
by the Honble the General and Board, with
reference to a Plan of Defense for Newfoundland
which they approved of on the 18th Jan 1827,
and the Honble the General and Board re-
quest you will be pleased to move Lord
Goddard to enforce the Honble the
Proclamation of the 14th Oct 1827, as shown
in enclosure No. 13, and also to give Orders
that the Land, therein referred to, adjacent
to the Fort of St. John's, be reserved for
the use of the Garrison, and that the
same be fenced in, and that the
same be reserved for the use of the
Garrison, and that the same be
reserved for the use of the Garrison.

original Hill, as well as that about Siddy
 Diddy Battery, Siddy Diddy Pops Battery,
 and Cooks Head, as shown by the color
 green on the Plan A, N. 3, may be transferred
 permanently to the Ordnance, for the purposes
 of Defence.

The Atlantic General and Board also
 request that the Governor may be instructed
 as follows.

1st To convey permanently to the
 Ordnance the Land now allotted for Military
 purposes at Fort Town Head, as shown by
 the color green on the Plan B, N. 2.

2nd To make no alteration of the
 present appropriation of the Land now occupied
 for military purposes near Fort William, as
 shown on Plan C, N. 1, colored green. But
 whenever those Lots cease to be required, in
 consequence of the arrangements for main-
 taining the Military Buildings on Signal
 Hill, the same to be relinquished to the

The attached plan of the land also
 request that the Governor may be instructed
 as follows.

1st. To convey permanently to the
 Ordnance the Land now allotted for Military
 purposes at Fort Townshend, as shown by
 the coloring on the Plan B, No. 2.

2^d. To make no alteration of the
 present appropriation of the Land now occupied
 for Military purposes near Fort Melburn, as
 shown on Plan C, No. 1, colored green; but,
 whenever the above lots cease to be required, in
 consequence of the arrangements for man-
 ufacturing the Military Ammunition on Signal
 Hill, the same to be relinquished by the
 Ordnance to the Colonial Department.

3^d. To convey permanently to
 the Ordnance the Land on the Southern end
 of the Narrows and the adjacent high ground
 as colored green on the Plan D, No. 6.

I am further commanded to request that the Ordnance and Commission at Wharves, shown on Plan E, No. 4, may remain in possession of this Department, for artillery purposes, and be conveyed permanently to the Ordnance.

That the Stone Sills and Gun, colored green on Plan F, No. 5, may remain allotted to the Ordnance for the present, and when no longer required for the uses of this Department, be relinquished to the Colonial Department, and.

That the Land, now occupied for artillery purposes at Torbay Bay (Plan G, No. 7) also Half-way Battery, Petty Harbour Head and Red Head, (but for which latter places there are no Plans) be continued for the present in charge of the Ordnance, when no longer required, to be relinquished to the Colonial Department.

In submitting this application I am directed to refer to the last paragraph of the commanding Engineer's Report in this behalf.

coloured green on Plan J, No. 5 may remain
 allotted to the Ordnance, for the present, and,
 when no longer required for the uses of this
 Department, be relinquished to the Colonial
 Department, and

That the land, now occupied for
 military purposes at Fox Bay Bay, (Plan J, No. 7)
 also Half-way Battery, Petty Harbour Head
 and Red Head, (but for which latter places
 there are no Plans) be continued for the pre-
 sent in charge of the Ordnance, these lots,
 when no longer required, to be relinquished to
 the Colonial Department.

In submitting this application I am
 directed to refer to the last paragraph of the
 commanding Engineer's Report in force, by
 which it will be seen that, as soon as the
 lands herein allotted to me permanently
 conveyed to the Ordnance, it is the intention
 of that Office to submit a Plan for approval

Handwritten notes in the top left margin, partially obscured and difficult to decipher.

62A
6
 702

In regard we must send the Secy of State this which I have prepared. but I am not certain whether the plans are original, or if they were in the hands of the Secy. The Colonial Office will, I think, want them permanently.

St. C. Alfred, in the 1st page of his Report, refers to a correspondence with the Secy in 1814 - but I cannot say how far it may be necessary to refer to the Secy of State in his office of that correspondence. There is however a copy of a letter in the Secy's office.

Sam further commands to request that the Ordnance and Commissioned Wharves, shown on Plan E, No. 4, may remain in possession of this Department, for Military purposes, and be conveyed permanently to the Ordnance.

That the Stone Sills and Ground, colored green on Plan F, No. 5, may remain allotted to the Ordnance for the present, and when no longer required for the use of this Department, be relinquished to the Colonial Department, and

That the Land, now occupied for Military purposes at Fox Bay Bay (Plan G, No. 7) also Half-way Battery, Petty Harbour Head and Red Head, (but for which latter places there are no Plans) be continued for the present in charge of the Ordnance, until when no longer required to be relinquished to the Colonial Department.

That the same Plans and Grounds, colored green on Plan J. No. 5, may remain allotted to the Ordnance for the present - and, when no longer required for the uses of this Department, be relinquished to the Colonial Department - and

That the Land, now occupied for military purposes at Forbay Bay (Plan J. No. 7) also Half-way Battery, Petty Harbour Road and Red Head, (but for which latter places there are no Plans) be continued for the present in charge of the Ordnance - those Lots, when no longer required, to be relinquished to the Colonial Department.

In submitting this application I am desired to refer to the last paragraph of the Commanding Engineer's Report enclosed, by which it will be seen that, as soon as the Lands herein alluded to are permanently conveyed to the Ordnance, it is the intention of that Office to submit a Plan for application

appropriating or letting them for the public benefit.

The papers which accompany this letter, in addition to the Report of the Commissioning Engineer (and which are referred to in that Report) are as follows. viz.

A Return of the Lands proposed to be transferred to the Ordnance.

A General Plan of
an Appendix.

I have the honor to be,

Sr,

James M. Leonard

Humble Servant,

W. P. Leonard

papers
sent
as
enc.

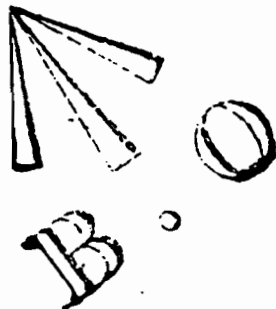
APPENDIX XXIII

**MAP OF ST. JOHN'S HARBOUR AND QUIDI VIDI LAKE
SHOWING THE STUDY AREA IN 1728.**



List of Plans

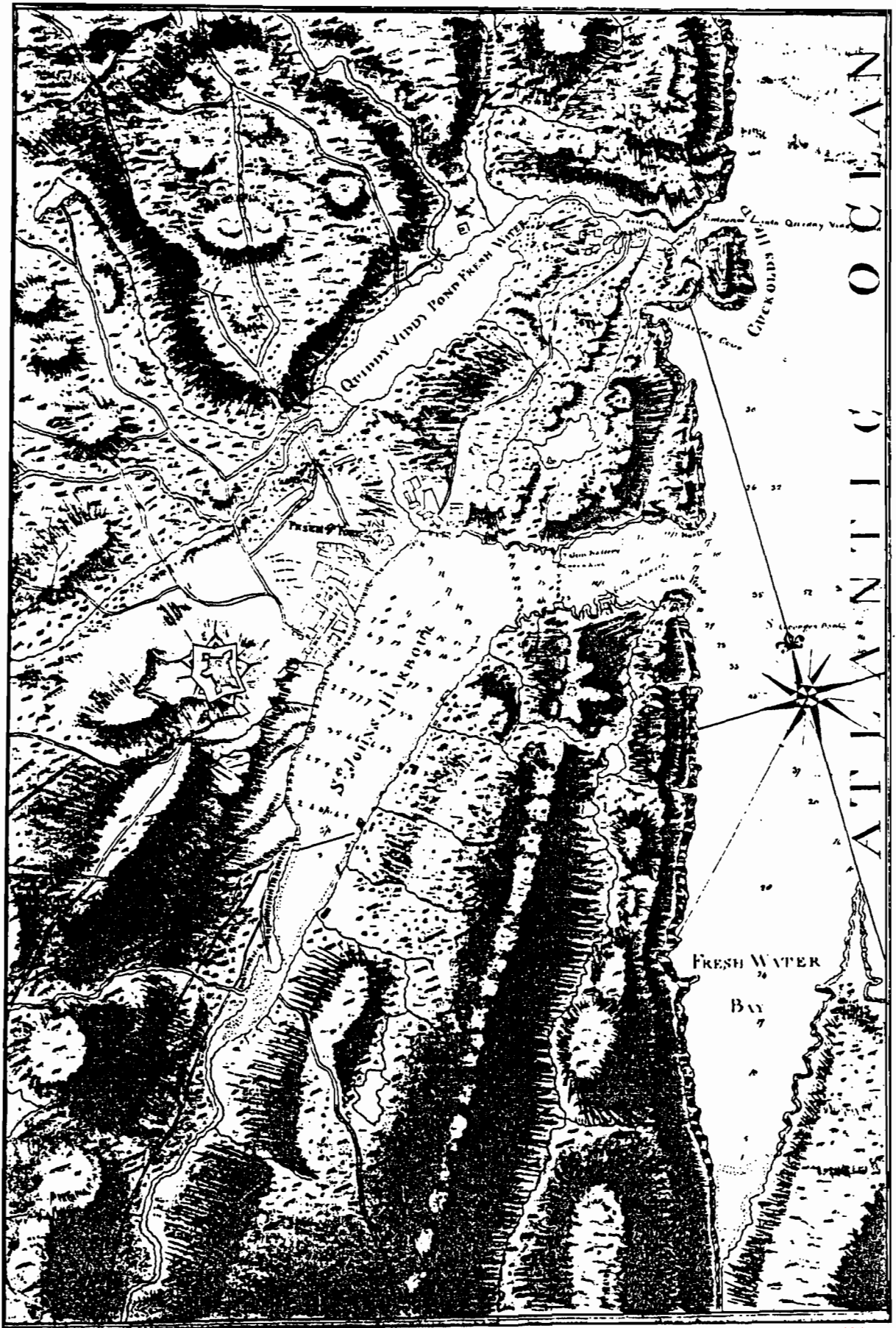
- I. 1. Plan of Fort Townshend. 2. Sections of D.
- II. Plans of Quiddy Viddy Harbour.
 - No. 1. General Plan with References.
 - 2. Plan of the Entrance of the Harbour
 - 3. Plan of the Lines to defend the Passage of the River
 - 4. Plan of Jackson's Cove.
- 7. Sketch of Key's Battery.




APPENDIX XXIV

**MAP SHOWING ST. JOHN'S, THE HARBOUR, QUIDI VIDI LAKE,
AND FRESHWATER BAY, NEWFOUNDLAND ASSUMED TO DATE FROM
THE LATE 18TH CENTURY**

54
241
533
1710
103
142
204
243



Newfoundland -
 Fort Townshend, Riddy Riddy Harbour,
 and Head Battery - 7 Plans.
 R. Pringle 1780 Z 63/10

 PLANS of WORKS
 at S^t. JOHN'S
 NEWFOUNDLAND
 1780.

MS. A. 11. 2. 1

W6075/B248

General Plan of Quiddy Tally Harbour in the North West
which shows the positions of the Battery, and of the
in about the middle of the 18th century, and also the
constructed in 1810.

References

- A Quiddy Tally Harbour: A plan of the Harbour and
at North West.
- B The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the
will show the nature of the Harbour and the
- C The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the
- D The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the
- E The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the
- F The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the
- G The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the
- H The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the
- I The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the
- J The Harbour and Barracks for the Garrison of
the North West Harbour, the plan of which is
will show the nature of the Harbour and the
will show the nature of the Harbour and the



W. G. Campbell
The Harbour and Barracks for the Garrison of the North West Harbour

The Harbour and Barracks for the Garrison of the North West Harbour



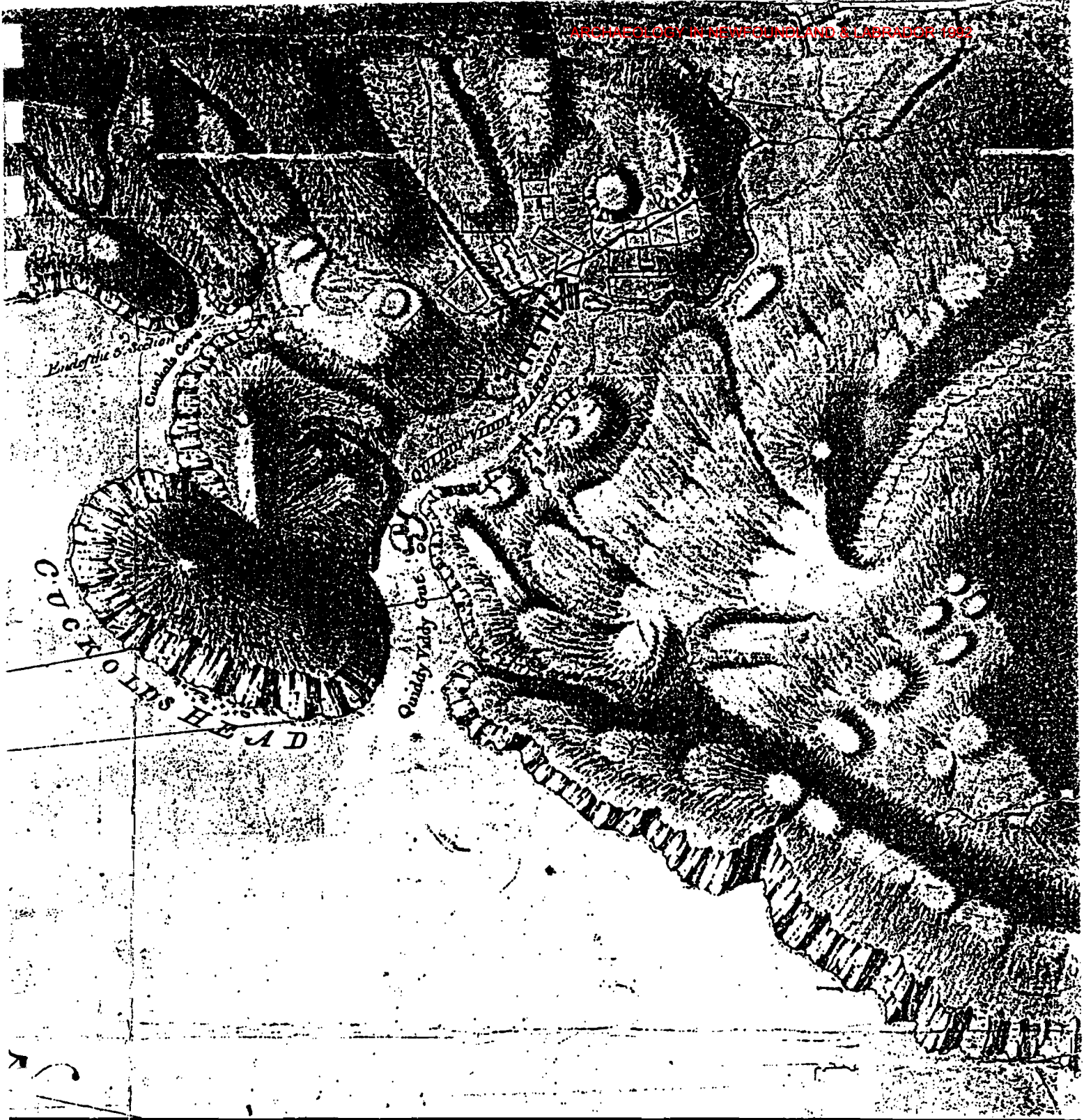
H. No 2

APPENDIX XXV

**PLAN OF THE TOWN AND HARBOUR OF
ST. JOHN'S, NEWFOUNDLAND, 1765**

APPENDIX XXVI

**PLAN OF HARBOUR OF ST. JOHN'S, NEWFOUNDLAND
27 OCTOBER, 1770**



Signal Hill
C

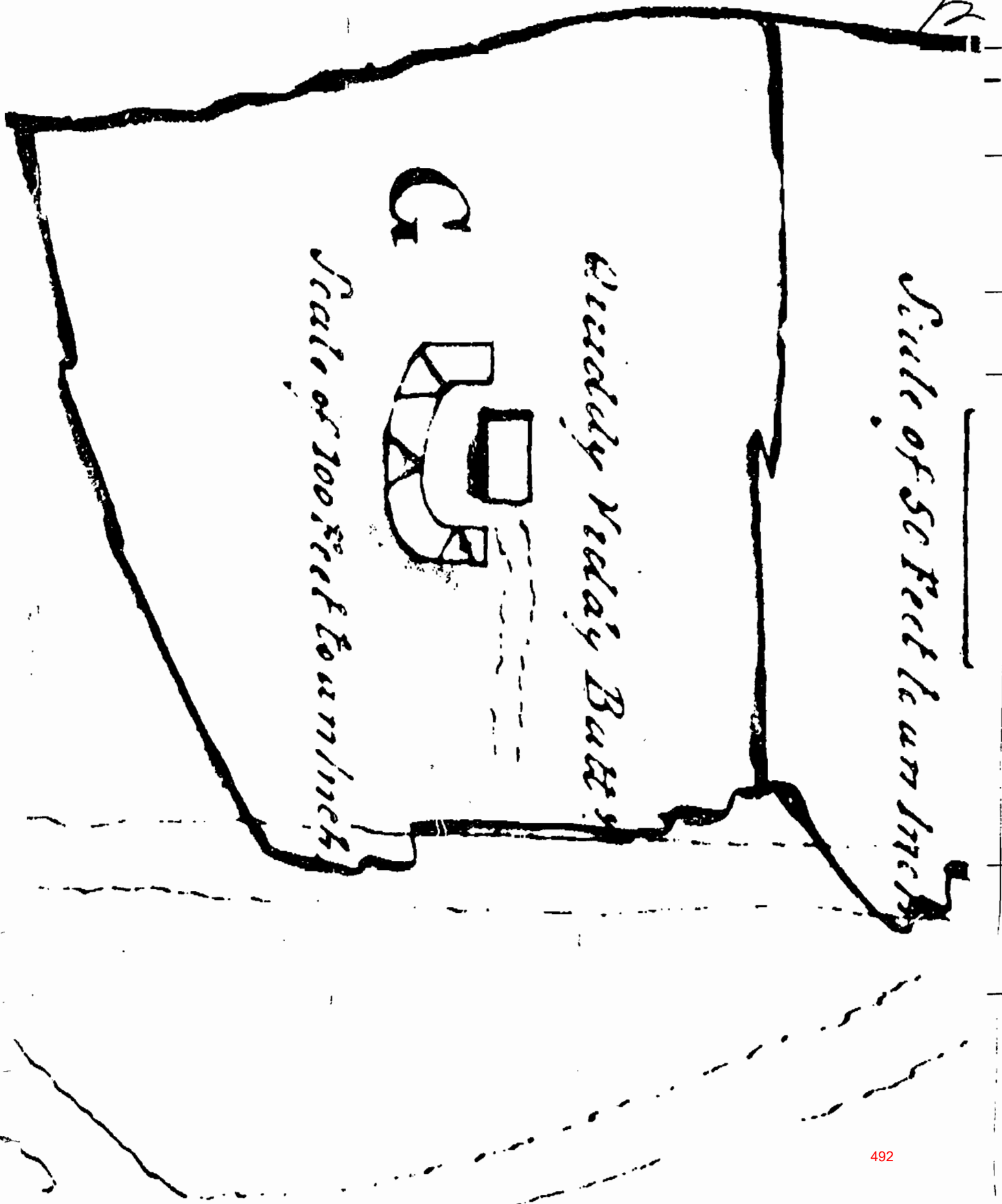
Section 1.3. Taken along the top of the South Ridge across the narrowest part of the
 Harbours Throat over the North Ridge det. to Cuckolds Cove, upon the line
 T. C. U. W. X. Y. Z.

APPENDIX XXVII

**CHART OF ST. JOHN'S HARBOUR IN NEWFOUNDLAND
SURVEYED IN OCTOBER 1796**

APPENDIX XXVIII
INSET FROM A MAP OF ST. JOHN'S, 1806

NMC-105 - H3/150/ST. JOHN'S 1/806
1/2



APPENDIX XXVIX

**PLAN OF THE TOWN AND HARBOUR OF ST. JOHN'S, NEWFOUNDLAND
SEPTEMBER, 1806**

APPENDIX XXX

**MAP OF ST. JOHN'S, NEWFOUNDLAND
POSSIBLY 1807**

PUBLIC RECORD OFFICE

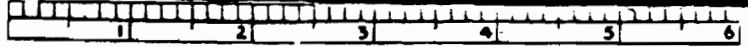
THIS COPY IS SUPPLIED ON THE CONDITION THAT NO REPRODUCTION OF IT BY ANY PHOTOGRAPHIC PROCESS MAY BE MADE WITHOUT PERMISSION OF THE PUBLIC RECORD OFFICE

54

28

S/Q 849

N.O. 72/94 93



Several encasements
Admiral Holloway

No.	Name and Situation of the place or Land	(Perch)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
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27
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31
32
33

PUBLIC RECORD OFFICE

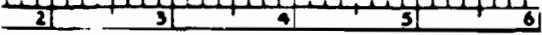
CONDITION THAT NO REPRODUCTION OF IT BY ANY
MANNER WITHOUT PERMISSION OF THE PUBLIC RECORD OFFICE

SHEET NO

5

N.O. 78/24 93

NPM 579



Schedule of Ordnance

Several encasements that have taken place within the Ordnance
Governor Holloway in the Year 1807

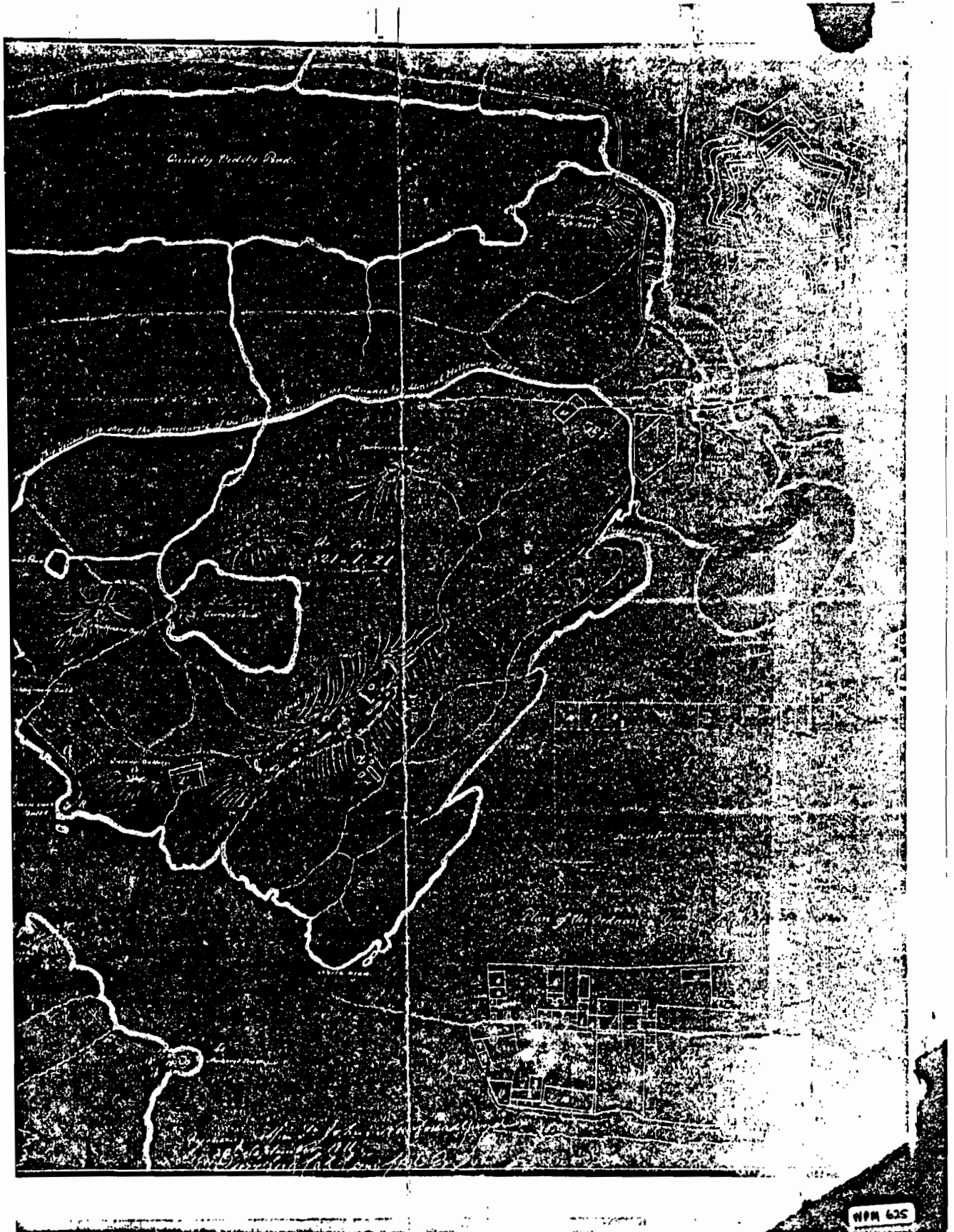


No.	Name and Location of the place or Land	Dimensions in feet or No. of Aers	By whom Occupied	Boundaries	Instrument employed
1	East of St. John's Bay	10 - 3 - 20	Wm. Thomas	St. John's	Baromet
2	Do. Do.	6 - 2 - 20	Wm. Street	Do.	Do.
3	Do. Do.	11 - 1 - 0	Lord Chancery		not indicated
4		27 - 1 - 21	Do. Do. Do.		Do.
5		15	Do. Do. Do.		Baromet
6		4 - 2 - 30	James Hill		not shown
7		3 - 2 - 20	Jos. Rose		Baromet
8		6 - 2 - 25	James O'Spencer		
9		3 - 1 - 24	W. McDonald		Baromet
10		7 - 1 - 31	Hamilton's Millinery		
11		5 - 1 - 28	A. Richmond		
12		2 - 1 - 30	J. Williams		Lead and baromet
13		1 - 1 - 27	Michl. Power		Scale and baromet
14		1 - 1 - 20	J. Bulgarve		Do.
15		1 - 1 - 14	W. Williams		Lead and baromet
16		2 - 3 - 36	Governor		Lead and baromet
17	Anthracite	2 - 2 - 16	C. L. Anderson		
18		1 - 1 - 27	Jos. Williams		
19		5 - 1 - 16	Private school garden, School of Landing ground & Landing ground		
20	Land of the Governor	1 - 1 - 4	Continental Department		Lead and baromet
21	Do. Do.	8 - 1 - 21	And. B. Puchard		Baromet
22		3 - 3 - 3	P. Smith		
23		2 - 1 - 13	J. Brown		
24		2 - 1 - 27	V. Chancery		
25	Do. Do.	4 - 1 - 3	Wm. Green		
26		1 - 1 - 4	W. Burns		Baromet
27		2 - 1 - 29	James Waller		Continental
28		3 - 2 - 4	Geo. Lilly		Baromet
29		3 - 2 - 25	Geo. Winters		
30		2 - 2 - 21	Edmund's Millinery		



APPENDIX XXXI

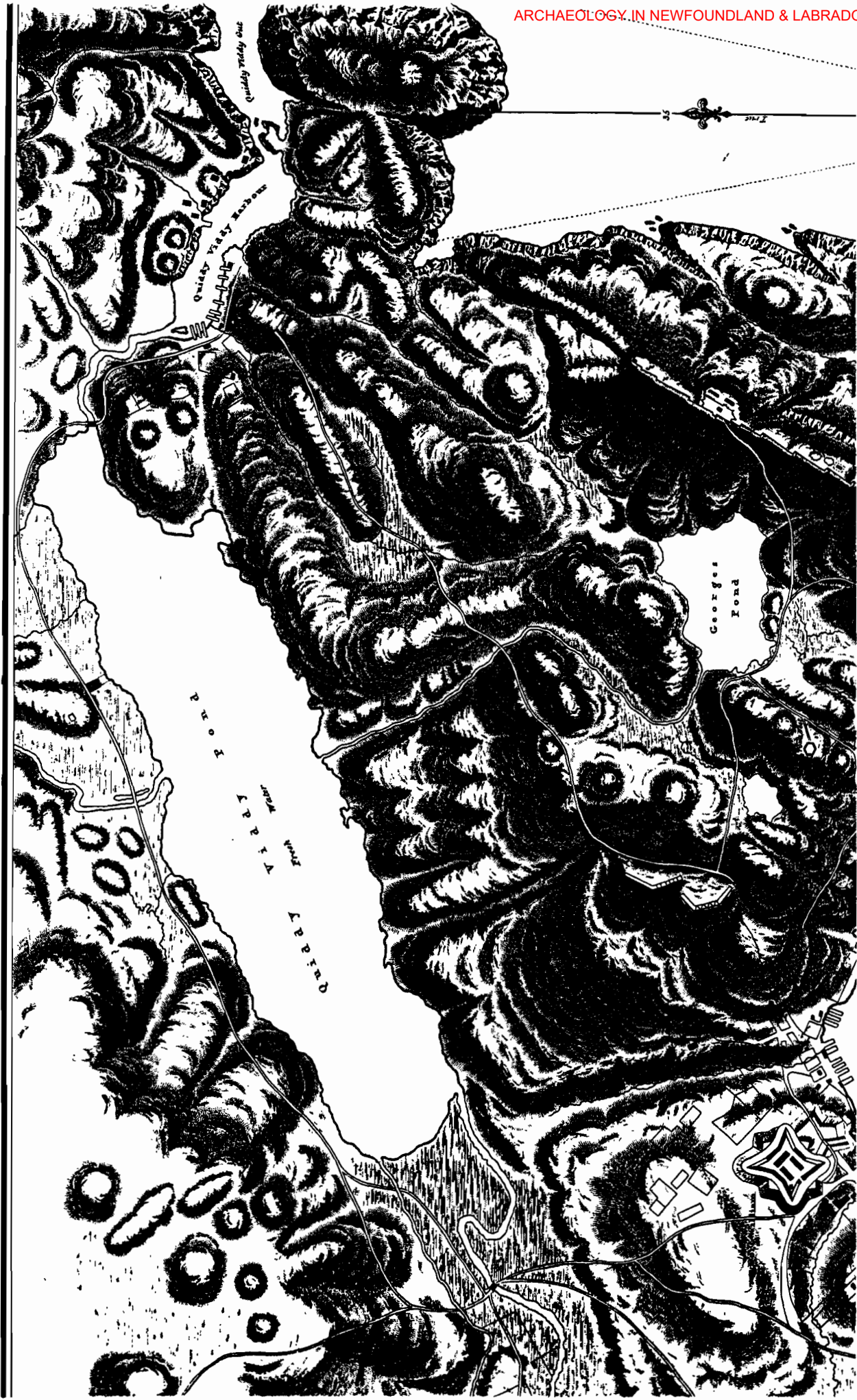
MAP OF ST. JOHN'S, NEWFOUNDLAND, 1811



NPM 625

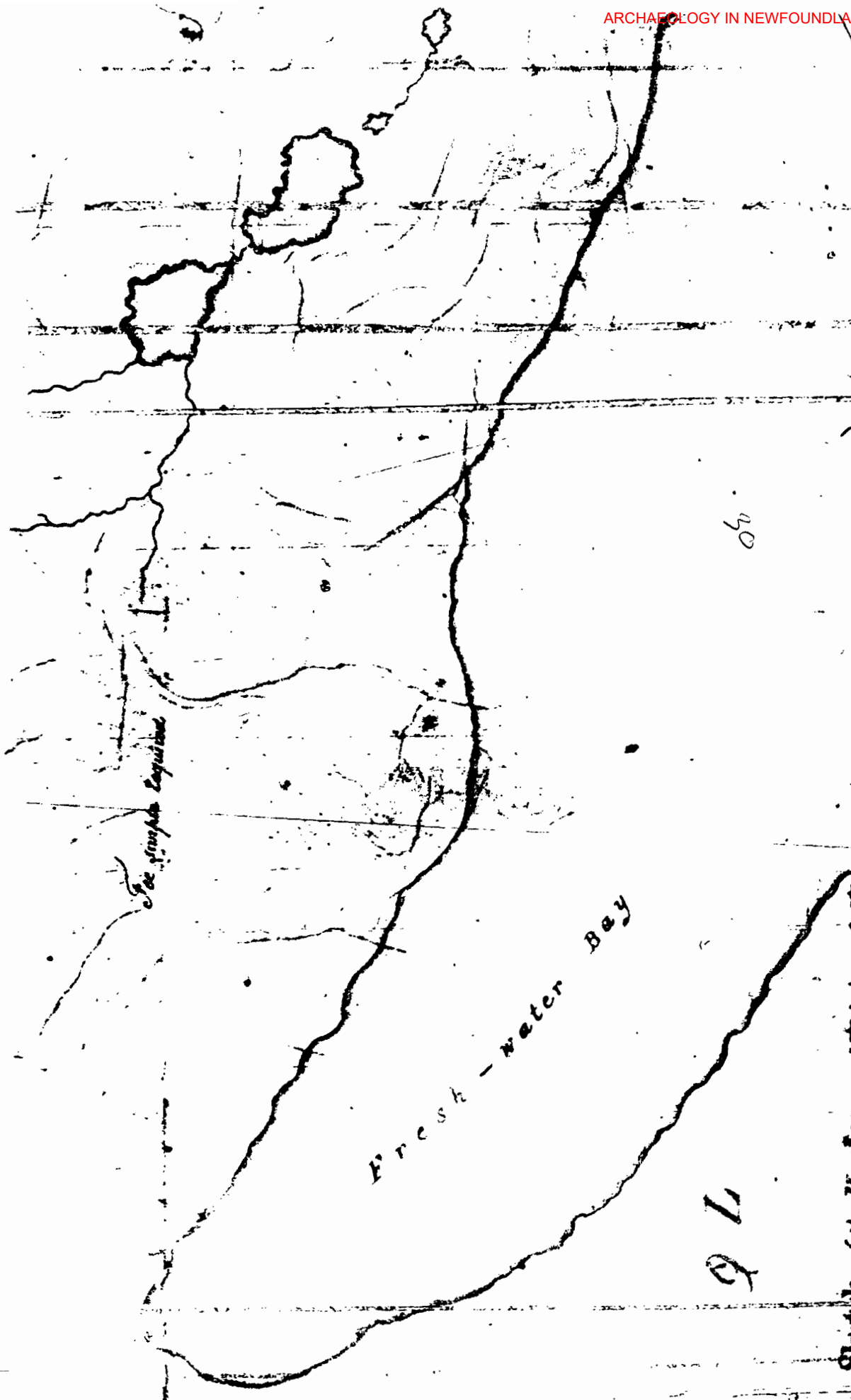
APPENDIX XXXII

**MAP OF ST. JOHN'S, NEWFOUNDLAND
SHOWING QUIDI VIDI LAKE
1816**



APPENDIX XXXIII

MAP OF ST. JOHN'S, NEWFOUNDLAND, 1832



30

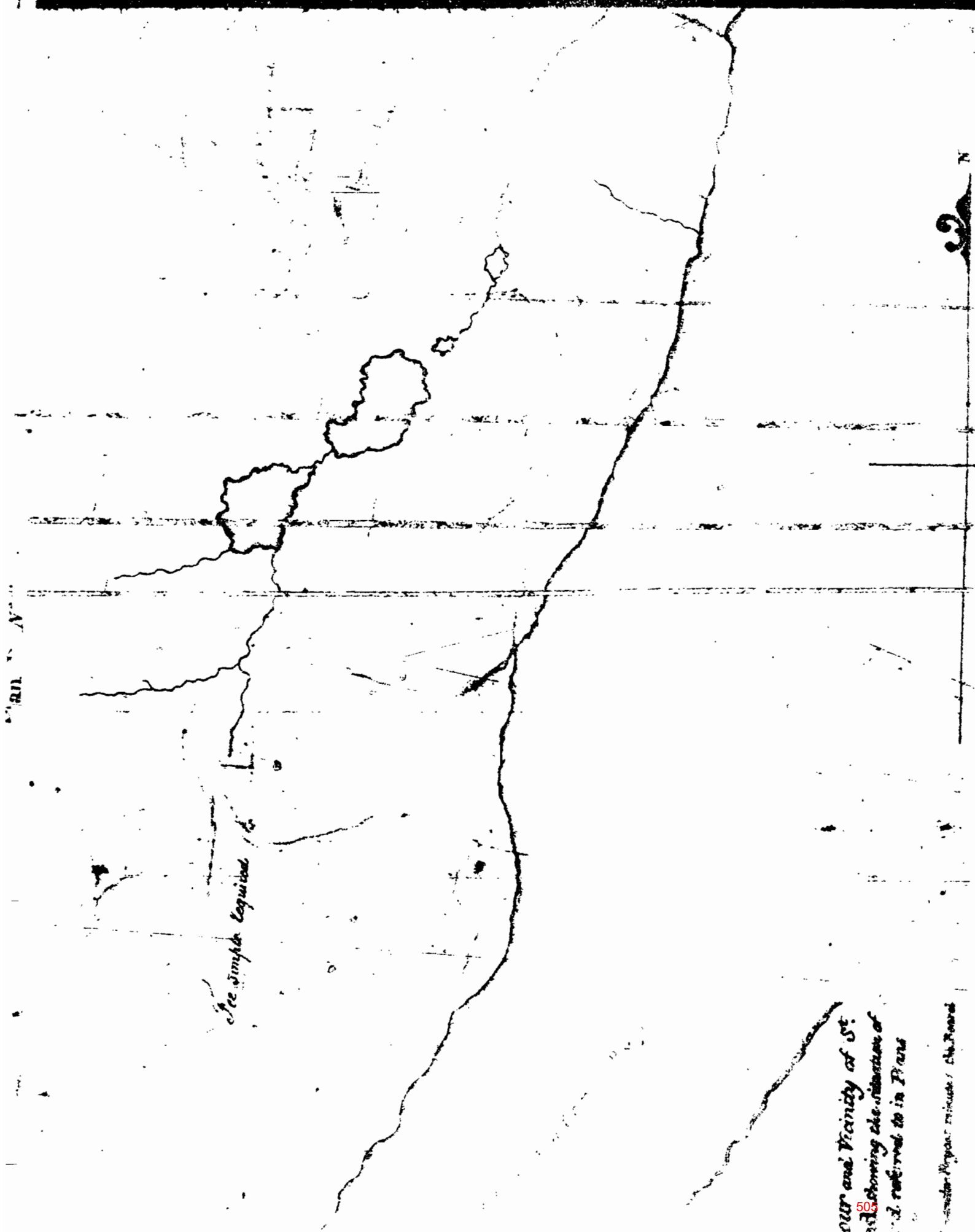
See Sketch Enquired

Fresh-water Bay

96

Sketch of the Harbour and Vicinity of St. John, Newfoundland, showing the situation of the several Points of Land referred to in Plans
 in order A. B. C. D. E. F. G.
 Taken with St. Ann's Bay, and taken to the base
 of the Point of Land, and the situation of the Point of Land.





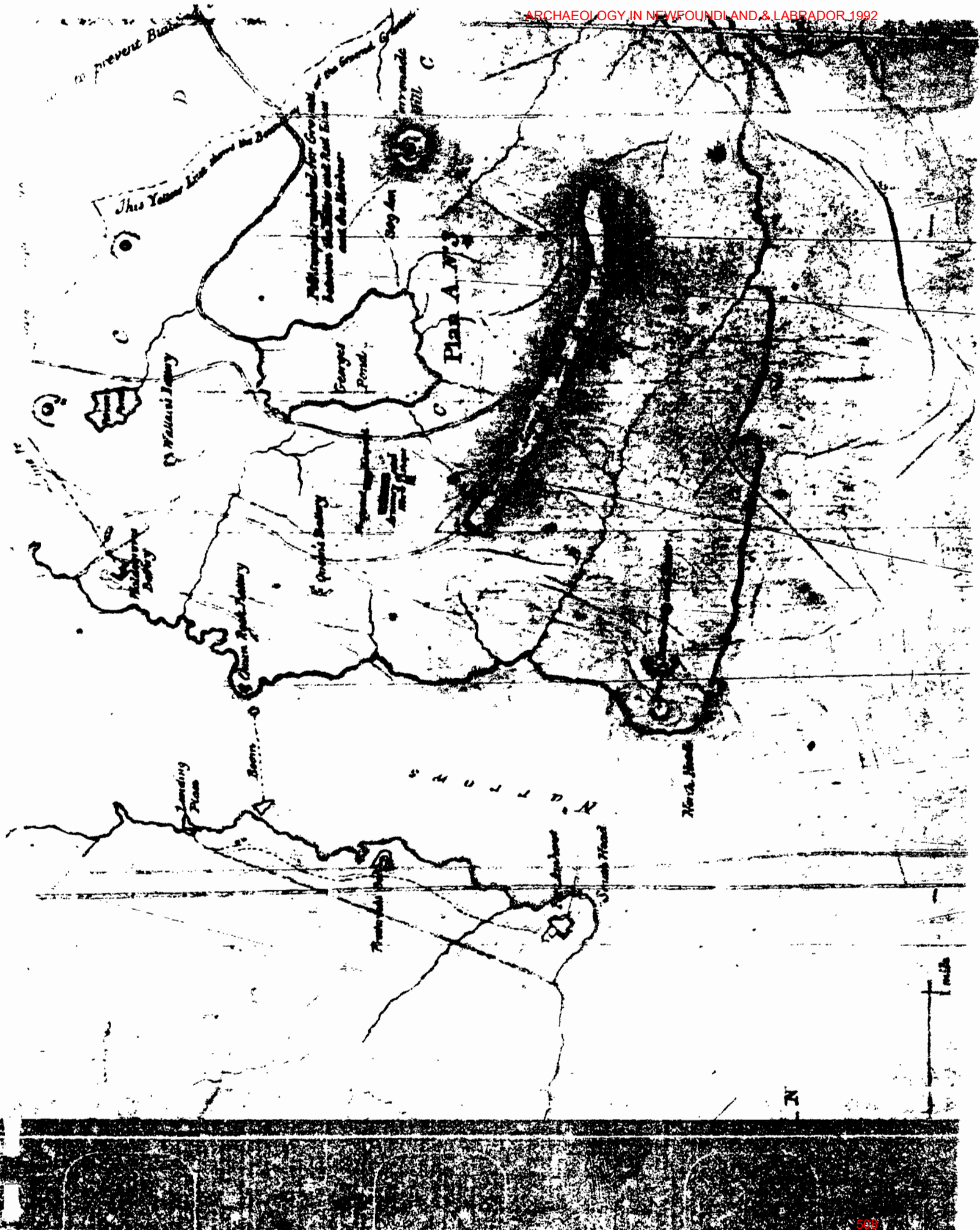
54° 10' N

See Simple Layout

Four and vicinity of St. John's showing the situation of the referred to in Plans

See also Paper 1710/18 / Ch. 10/11





APPENDIX XXXIV

MAP OF ST. JOHN'S, NEWFOUNDLAND, 1833



APPENDIX XXXV

MAP OF ST. JOHN'S, NEWFOUNDLAND, 1958

56 W41



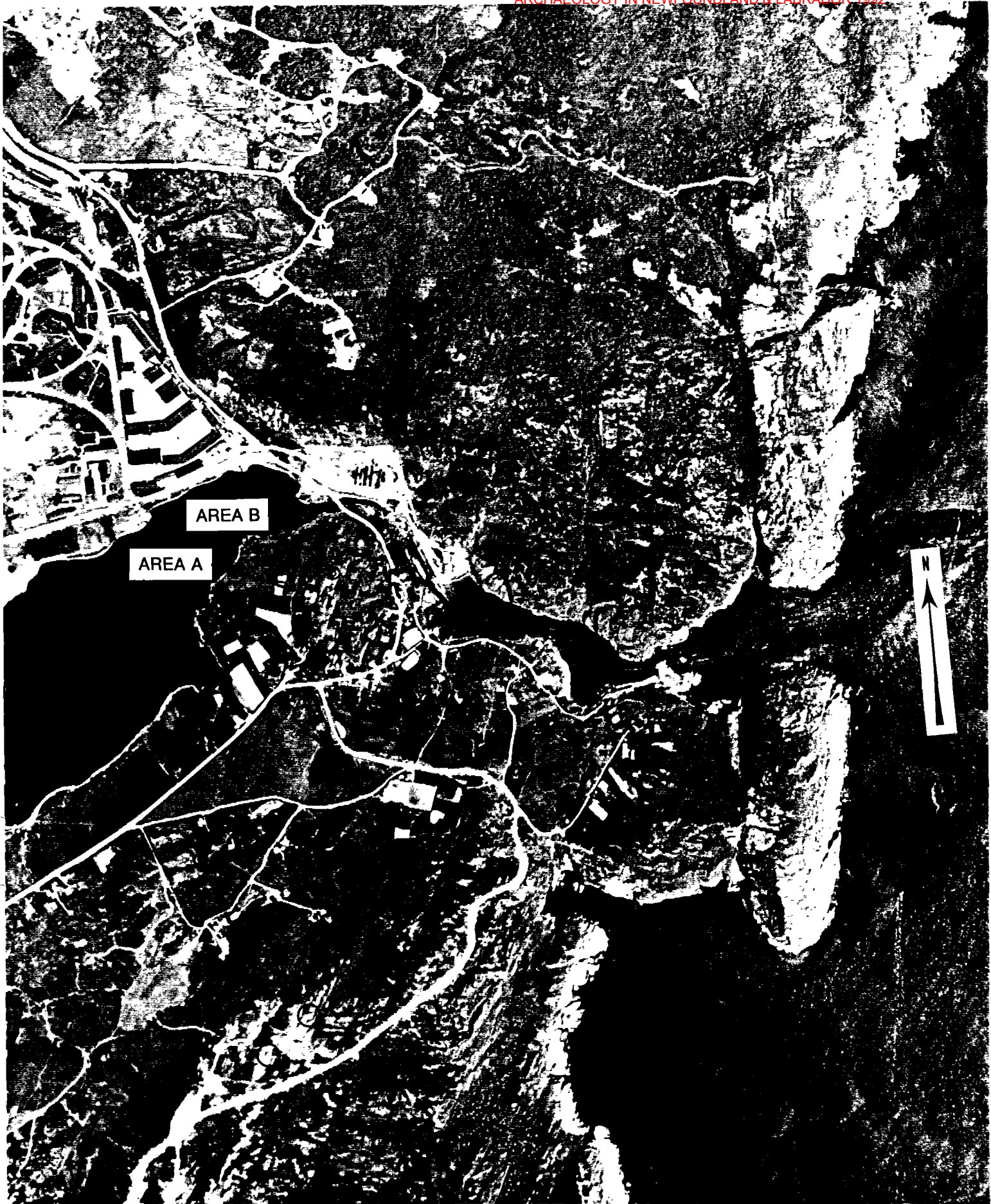
17 Dec 1933
 28 Dec 1933
 29 Dec 1933



57

APPENDIX XXXVI

**AERIAL PHOTOGRAPH OF THE EASTERN END OF QUIDI VIDI LAKE
ST. JOHN'S, NEWFOUNDLAND TAKEN IN 1948**



XXXVII

**REPORT BY PETER POPE:
ANALYSIS OF CERAMICS FROM QUIDI VIDI PASS SURVEY
WITH NOTES ON CLAY TOBACCO PIPES, GLASS AND SMALL FINDS**

Quidi Vidi Pass Survey: Ceramics etc. ...1Method

The ceramics, glass, clay tobacco pipes and some other small finds were cleaned and catalogued by the Jacques Whitford Group and then submitted to Past Present for stylistic analysis. The cataloguing had included a preliminary analysis of ceramics into wares. This preliminary analysis was generally sound, with reservations in particular cases. The subsequent stylistic analysis will be summarized here following the grouping of artifacts as submitted. In order not to prejudice the question of identification the submitted samples are referred to by a sample number assigned by Past Present, rather than by blanket terms like "pearlware" or "creamware", as assigned in the preliminary cataloguing. These terms make good analytic sense for eighteenth-century collections but rather less sense for collections from the nineteenth century (Noel-Hume 1969: 123ff., Miller 1980 and 1991).

Selected artifacts from the ceramic samples, as submitted, have been identified and dated. Within each sample the selected artifacts are analyzed in order of catalogue number. The ceramics are followed by a brief analysis of glass, clay tobacco pipes and any additional pertinent small finds. A discussion of dating concludes the analysis for each area.

Quidi Vidi Pass Survey: Ceramics etc. ...2

AREA C

Sample C1 CEW (Coarse Earthenware)

There are two significant vessels in this sample:

1. CjAe-6: 111 etc. is a South Somerset (or "Donyatt") pot, with a base diameter of about 12 cm and a body diameter of at least 18 cm. It exhibits the typical, speckled, yellow-brown interior glaze of this ware (Coleman-Smith and Pearson, 1988). It could be eighteenth- or early nineteenth-century. (Compare the examples published by Coleman-Smith and Pearson: from the eighteenth century, fig. 132, 14/44, p.253 and from the early nineteenth-century, fig. 133, 14/58, p. 255)
2. CjAe-6:123a etc. is an English or Anglo-American pot or jar, with a very shiny dark black glaze . This could be eighteenth- or nineteenth-century, the shiny glaze tending towards the latter.

Quidi Vidi Pass Survey: Ceramics etc. ...3

Sample C2 REW (Refined Earthenware)

There are a number of significant sherds in this sample:

1. CjAe-6: 177a,b,c are sherds of REW painted in green with gilding. The decorative technique indicates a dating after 1870 (Miller 1991: 9).
2. CjAe-6: 194 may be a sherd of moderately light creamware of c. 1780 to 1830 (Miller 1991: 5).
3. CjAe-6: 277 is REW transfer-printed in green, the colour suggesting it probably post-dates 1825 (Miller 1991: 9) although it could possibly be late eighteenth-century (Williams-Wood 1981: 50).
4. CjAe-6: 331, 343, 376 etc. are sherds of REW, painted in pale red and green. They might relate to an early fashion for this style of decoration between c. 1795 and 1815 (Noel-Hume 1969: 129) but the fabric suggests the vessel may well date from the 1870s, when this style of decoration was in fashion again (Miller 1991: 8).
5. CjAe-6: 348 etc. may well be sherds of early, rather yellow creamware, dating c. 1760 to 1780 (Miller 1991: 5).
6. CjAe-6: 433 is a rim sherd of shell- or feather-edged creamware, with a green edge-band. The fabric is quite white so it probably dates after c. 1800, but before c. 1840, after which time green was not commonly used on this pattern (Noel-Hume 1969: 125, Miller 1991: 5).

Quidi Vidi Pass Survey: Ceramics etc. ...4

Sample C3 (REW)

There are several significant sherds in this sample:

1. CjAe-6: 119a is a sherd from an REW serving dish, decorated in flow blue willow pattern transfer print. Compare CjAe-6: 276a etc., from another flow blue vessel. This effect dates after 1840 and remained available for several decades (Miller 1991: 8).
2. CjAe-6: 232r is base sherd of an REW saucer with the classic indication of pearlware: a blue tint in the glaze gathered along the foot ring. It dates after 1785 and, probably, before 1830 (Noel-Hume 1969: 130, Miller 1980: 2).
3. CjAe-6: 358 is an REW shell-edged rim sherd, decorated in blue. This might date anytime between 1770 and 1860 (Miller 1991: 5). The lightness of the fabric suggests it might well be after c. 1830.
3. CjAe-6: 397a is a sherd of REW, decorated with a cut sponge pattern in blue, probably dating it after 1850 (Miller 1991: 6).
4. CjAe-6: 401 is REW, sponge-decorated with spattered blue, suggesting a date between 1770 and 1830 (Miller 1991: 6).
5. CjAe-6: 405a is a sherd of REW blue-willow transfer-printed teaware. The occurrence of this pattern on a vessel of this function probably dates it after 1850 (Miller 1991: 8).

Quidi Vidi Pass Survey: Ceramics etc. ...5

Sample C4 (REW)

Several sherds in this sample merit comment:

1. CjAe-6: 233a is a handle sherd of an REW teacup, transfer-printed in blue. The lightness of the fabric suggests a dating after 1840.
2. CjAe-6: 323ee is another sherd of REW decorated with flow-blue transfer-printing, an effect dating after 1845. It appears to have been gilded as well, which would date the piece even later, after 1870 (Miller 1991: 9,10).
3. CjAe-6: 342kk etc. are sherds of creamware, with a distinctly crazed glaze, decorated with a purple-black transfer print, indicating that this could be a Leeds ware of 1780 to 1820 (Towner 1978: 132, 136).
4. CjAe-6: 347c is a sherd of creamware, painted freely under glaze in green and blue. This also might be a product of the Leeds potteries, in the period following 1770 (Towner 1978: 132 and cf. plate 85G).
5. CjAe-6: 394a and 400 b,f are sherds of an REW plate, transfer-printed in flow violet-black. The effect dates it after 1840, as does the border motif, which is a Copeland style of c. 1840 to 1870 (Sussman 1979: 67,108,116).
6. CjAe-6: 407 is a rim sherd from an annular-ringed pearlware bowl, decorated in the classic colours of medium blue and brown. The decorative style dates c. 1795 to 1815 (Noel-Hume 1969: 131).

Quidi Vidi Pass Survey: Ceramics etc. ...6

Sample C5 (REW)

1. CjAe-6: 498a is just one of many sherds of many REW vessels, transfer-printed in blue willow pattern, a common style after c. 1790 (Miller 1991: 8).
2. CjAe-6: 580 is a sherd of REW, transfer-printed in blue and red. The colours would probably date the vessel after 1825, though it could be earlier.
3. CjAe-6: 593 is a sherd of REW, transfer-printed in flow blue, an effect dating after 1845.
4. CjAe-6: 1350a etc. are sherds of a plain REW footed saucer. The very white fabric would suggest a dating c. 1830 or later.
5. CjAe-6: 1353b is REW, transfer-printed in brown. The transfer colour indicates a probable date after 1825, although it could be earlier, a possibility indicated by the rather beige fabric.

Sample C6 (REW)

There are no identifiable sherds of interest in this sample, except the rim sherd of an REW serving dish which probably matches CjAe-6: 119a in Sample 3.

Sample C7 (REW)

There are no identifiable sherds of interest.

Quidi Vidi Pass Survey: Ceramics etc. ...7**Sample C8 Coarse Stoneware (CSW)**

There are three identifiable vessels in this sample:

1. CjAe-6: 112 is a sherd of a grey salt-glazed CSW cylindrical jug or storage jar, probably Anglo-American, nineteenth-century.
2. CjAe-6: 115 is a sherd from a salt-glazed London Brown CSW jar or large mug, quite possibly eighteenth-century (Noel-Hume 1969: 112).
3. CjAe-6: 116 is a sherd of a salt-glazed London Brown CSW jar or bottle, with a rather orange exterior glaze, which could well be eighteenth-century, even early eighteenth-century (Cf. Oswald 1982: 53,55).

Quidi Vidi Pass Survey: Ceramics etc. ...8

Sample C9 Clay Tobacco Pipes

One substantially complete clay tobacco pipe bowl and one marked stem were recovered from Area C:

1. CjAe-6: 114 is a spurred bowl, a good example of Noel Hume's type 23, dating 1820 to 1860 (Noel Hume 1969: fig. 97, p. 203).
2. CjAe-6: 140 is a pipe stem with impressed markings of "...ASGOW" on one side and "A COGHIL..." on the other. Glasgow pipe makers frequently marked their goods in this manner in the nineteenth century (Noel Hume 1969: 305).

Sample C10 Clay Tobacco Pipes

These bowl fragments appear to be of the same spurred type as CjAe-6: 114 in Sample 9, above.

Sample C11 Clay Tobacco Pipe Stems

Obtainable bore measurements were as follows:

4/64 inch	3
5/64	5 (plus the bowl in Sample 9 = 6)
6/64	0
7/64	0
8/64	3

The mean pipe stem bore was 5.4. The sample is too small to provide a stem bore dating, which is in any event not useful after about 1775. The mean stem bore is certainly consistent with occupation late in the stem bore chronology. The bimodal distribution of bores suggests a multi-component locus.

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Sample C12 Glass

This sample consists of samples of glass selected by the analyst out of glass material from Area C and contains examples about which some comment is evident:

1. CjAe-6: 47 and 103 are of a medium light olive green bottle glass with a rim and finish resembling those reported for Spanish bottle after 1800 (Dumbrell 1983: 134).
2. CjAe-6: 51c,d are sherds of moulded pebble glass, of nineteenth- or twentieth century type.
- 3 CjAe-6: 62a is a base sherd of a small soda bottle dating after 1870 (Talbot 1974: 44).
4. CjAe-6: 71 is a rim sherd of a pale green jar, apparently moulded and therefore dating after 1820 (Jones 1986: 88).
5. CjAe-6: 72a, 76, 288a, 806 are neck and base sherds of a dark olive-green bottle. The base diameter of 11.5 cm and the neck form suggest this is a large beer quart of c. 1760 to 1790 (Jones 1986: 77).
6. CjAe-6: 92 is the base of jar, showing a moulding seam and therefore dating after 1820.
7. CjAe-6: 117c is a base sherd of a an olive-green bottle of base diameter about 9.5 cm, which could well be a wine bottle of c. 1760 to 1820 (Jones 1986: 77 and table 17, pp. 152,153).
8. CjAe-6: 130 is a rim sherd of a delicate, clear colourless flask, with a rim diameter of 11 cm, which could well belong to the period c. 1780 to c. 1810 (Jones 1985: 92,93; Noel Hume 1969: fig. 17.14, p. 73)

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9. CjAe-6: 207c is a brown stubby beer bottle c. 1970 to 1980. There are a number of other interesting forms amongst this sample of glass (CjAe-6: 249a, body sherd of a pale green ridged glass jar or jug). These are not immediately identifiable but might repay further study.

Sample C13 Glass Bottle

This sample consist of sherds of a single vessel:

1. CjAe-6: 60a, 60aa etc. are sherds of very pale green glass bottle. The body is marked with a moulded "B.L.O." in a circle. The neck shows a crude moulding seam obliterated at the finish. The fact that the bottle is moulded dates it after 1820.

Sample C14 Glass

Noteworthy sherds were moved to Sample C12.

Sample C15 Glass

Noteworthy sherds were moved to Sample C12.

Sample C16 Glass

Noteworthy sherds were moved to Sample C12.

Area C: Discussion

There are a number of ceramic and glass vessels from Area C which clearly belong to the late eighteenth century or early nineteenth century. These include some early yellow creamware

Quidi Vidi Pass Survey: Ceramics etc. ...11

(c. 1760 to 1780 or so); shell-edged creamware in green (1780 to 1840), classic pearlware (1785 to 1830), annular-ringed pearlware (1795 to 1815), sponge-spattered REW (1770 to 1830), London Brown CSW jars or bottles (c. 1650 to c. 1900), a delicate clear colourless glass flask, probably of c. 1780 to 1810, and beer and wine bottles of c. 1760 to c. 1820. On the other hand there are other materials from Area C which certainly belong to the period after 1840 or even after 1850. These would include flow blue REW (1840 to c. 1860), transfer-printed REW in colours other than blue or black (probably after 1825), painted REW (probably 1870 to 1880), spurred clay tobacco pipes (1820 to 1860) and moulded bottles (after 1820).

The most economical explanation for the recovery of these materials would be to make the hypothesis that there are two components represented in this material. An earlier occupation dating sometime between 1780 and 1800 or even 1815, and a later occupation dating sometime between 1840 and 1860 could account for almost all the material analysed. Almost all the material appears to be British. The types of ceramic and glass vessels recovered relate almost entirely to serving and consumption functions, rather than with food preparation.

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AREA D

Sample D1 CEW

Evidence of one CEW vessel was recovered from Area D:

1. CjAe-6: 919a etc. are sherds of a CEW vessels with a pink-red fabric and a dark olive-green glaze. It might be French or Anglo-American of the eighteenth or even nineteenth century.

Sample D2 Creamware

This sample appears to be sherds of one vessel:

1. CjAe-6: 946a etc are sherds of what appears to be true creamware of a fairly early type, dating perhaps 1775 to 1800.

Sample D3 Creamware Mug

This sample appears to be sherds of one vessel:

1. CjAe-6: 754a etc. are sherds of a rather pale creamware cylindrical mug or jug, probably dating before 1830. In form it appears to be comparable to a published cylindrical mug of c. 1805 (Towner 1978: fig. 93B right).

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Sample D4 REW

This sample contains two artifacts of interest:

1. CjAe-6: 798 is an REW plate transfer-printed in blue willow pattern and therefore probably dating after 1790 (Miller 1991: 8)
2. CjAe-6: 859 is a sherd of REW transfer-printed in violet and therefore probably dating after 1825 (Miller 1991: 9), although it could conceivably date to the late eighteenth century (Williams-Wood 1981: 50).

Sample D5 REW

There are at least six noteworthy vessels here:

1. CjAe-6: 773 is a sherd of brown-glazed beige creamware possibly of c. 1760 to 1830.
2. CjAe-6: 779 may be a sherd of beige creamware of c. 1760 to 1830.
3. CjAe-6: 823,860,932 are sherds of a brightly-painted REW cup or bowl, of a style popular c. 1815 to 1835 (Noel Hume 1969: 129).
4. CjAe-6: 840a is an REW bowl or cup, edge-banded in brown, of a style popular c. 1815 to 1835 (Miller 1991: 7).
5. CjAe-6: 1010 and 1032 are REW saucers or plates transfer-printed in blue willow pattern and therefore probably dating after 1790 (Miller 1991: 8)

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Sample D6 Porcelain

Two porcelain vessels were recovered:

1. CjAe-6: 682 and 757 are sherds of what appears to be a Chinese porcelain dish, elegantly painted in underglaze blue. This could be eighteenth-century (Little 1992).
2. CjAe-6: 833 is a sherd of white "porcelain" bone china, gilded over-glaze with a thin annular band. Bone china was produced in England from the 1790s (Miller 1991: 14) and gilding was used on porcelain from this time (Miller 1991: 13).

Sample D7 Refined Stoneware (RSW) and Ironstone

There are several noteworthy vessels of these types:

1. CjAe-6: 712 is a sherd of an ironstone REW bowl, a ware that dates after 1840 (Miller 1991: 10).
2. CjAe-6: 683 is a rim sherd of a grey English RSW "rope" or "berad and reel" edged plate, c. 1750 to c. 1780 (Noel Hume 1969: 117, cf. fig. 36-2, p. 116)
3. CjAe-6: 736 is a base sherd of a grey English RSW footed saucer of c. 1720 to 1780 (Noel Hume 1969: 114-116).
4. CjAe-6: 977 is a rim sherd of a grey RSW bowl, edge-banded in brown. This has a nineteenth-century look about it.

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Sample D8 Clay Tobacco Pipe Bowl Fragments

There are two possibly-identifiable bowls here:

1. CjAe-6: 783 is a bowl fragment exhibiting a "wheat pattern" at the seam. This is a nineteenth-century decorative style.
2. CjAe-6: 959 is part of a bowl that has some characteristics of eighteenth-century examples.

Sample D9 Pipestems

None of the pipestems bear inscriptions. The bore measurements of measurable examples were as follows:

4/64	3
5/64	9
6/64	4
7/64	2
8/64	1

Again the sample is too small to calculate a stem-bore dating, but the mean stem bore of 5.4 is consistent with material from late in the stem-bore dating chronology (i.e. after 1750).

Sample D10 Glass

There is some identifiable glass material from this area:

1. CjAe-6: 730a is a body sherd of a dark green bottle, with diameter of c. 11 cm. This could be a British beer quart of c. 1760 to 1800 (Jones 1986: 77).
2. CjAe-6: 762 is a large sherd of a large cylindrical jug (?), showing a mould seam and thus dateable after 1820.

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Sample D11 Small Finds

The small finds include metal objects, like a curious copper alloy chain (CjAe-6: 149), lead bird shot (CjAe-6: 743 and 906), sprue (CjAe-6: 803), a copper alloy snap fastner (CjAe-6: 900), and a bronze and steel composite screw eye (CjAe-6: 1000) (possibly from a musket?). This sample also includes a gun flint spall (CjAe-6: 1071) and a piece of unglazed decorative "alabaster" porcelain (CjAe-6: 1074), of uncertain function. None of these materials would be out of place in a late eighteenth-century sample, with the possible exception of the copper-alloy snap fastner, which might merit further research.

Discussion

The presence of several types of English grey REW at Area D suggest occupation at some time between 1750 and 1780. The presence of early creamware (c. 1760 to 1800) and brightly-painted pearlware of a style popular 1815 to 1835 as well as a brown edge-banded REW vessel of c. 1815 to 1830 suggests minimal occupation span between say 1780 and 1820. Again finds of materials dating after 1840 suggest a later occupation of the mid-nineteenth century. The most economical hypothesis would be of two periods of occupation, first c. 1780 to c. 1820 and later c. 1850. The first period might actually reflect two separate occupations one c. 1780 and one c. 1815 to 1820.

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AREA E

Sample E1

This is a small sample, containing little in the way of datable material.

1. CjAe-6: 110 is a sherd of what may be creamware, dating before 1830.
2. CjAe-6: 1093 is a base sherd of an REW plate, with traces of overglaze red painting. This could possibly date 1795 to 1835, although the fabric suggests the later period for this decorative style is more likely: 1870 to 1880.
3. 1112a is a base sherd of a delicate cylindrical glass tumbler.
4. CjAe-6: 1126 is lead bird shot.

Discussion

It is difficult to date such a small assemblage of material, especially one exhibiting little chronological coherence.

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AREA F

Sample F1 REW and RSW

Area F has but a small assemblage of ceramic materials, but these yield a surprising amount of dating information:

1. CjAe-6: 1135 is a base sherd of a grey English RSW turned and footed saucer of c. 1730 to 1780 (Noel Hume 1969: 114-116).
2. CjAe-6: 1139 and 1152b are sherds of true early creamware, dating between 1760 and, probably, 1800.
3. CjAe-6: 1140 is a sherd of a grey English RSW cup of c. 1730 to 1780 (Noel Hume 1969: 114-116).
4. CjAe-6: 1171 is a sherd of an REW plate or saucer, possibly pearlware, edge-banded in brown and therefore dating probably between 1815 and 1835 (Miller 1991: 7).
5. CjAe-6: 1178 is an REW shell-edge plate, banded in blue and therefore dating between c. 1780 and 1860 (Miller 1991: 6).
6. CjAe-6: 1179 is an REW shell-edge plate, banded in green and therefore dating between c. 1780 and 1840 (Miller 1991: 6).
7. CjAe-6: 1181 is a sherd of REW brightly painted in blue and yellow, likely dating 1815 to 1835 (Noel Hume 1969: 129).
8. CjAe-6: 1182 is a sherd of REW brightly painted in red and green, also likely dating between 1815 and 1835.
9. CjAe-6: 1190 is a sherd of REW, perhaps pearlware, painted in blue and dating probably, 1770 to 1815 (Miller 1991: 7,8).

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Sample F2 Clay Tobacco Pipestems

A number of tobacco pipe stems were recovered from Area F.

The measurable stem bores were as follows:

4/64	2
5/54	0
6/64	1
7/64	3
8/64	0
9/64	0

Again the sample is far too small and probably too late to provide a meaningful stem bore dating but the mean of 5.8 is consistent with occupation late in the stem bore chronology.

One pipe stem is marked around the stem with a series of rouletted triangles. This motif is known from eighteenth-century examples.

Discussion.

Again the presence of English grey RSW suggests occupation by 1780, while the presence of edge-banded pearlware and other styles popular c. 1780 or 1790 to c. 1830 suggests occupation in the following period, as late as 1815 if we accept the dates for brown-banded pearlware (1815-1835). This is a small sample, much damaged probably by foot traffic, but reasonably coherent, certainly suggesting an occupation by c. 1780, perhaps on-going to c. 1815 or later.

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AREA G

Sample G1 REW

There are a number of interesting sherds in this sample:

1. CjAe-6: 1216 is a sherd of REW transfer-printed in green and therefore probably post-dating 1825 (Miller 1991: 9), although a late eighteenth-century dating is possible (Williams-Wood 1981).
2. CjAe-6: 1227a,c,d are sherds of REW transfer-printed in blue willow pattern, indicating a probable date after 1790.
3. CjAe-6: 1229a is a sherd of rather yellow creamware, probably dating c. 1760 to c. 1800.
4. CjAe-6: 1231 is the strainer element of a creamware teapot, probably dating c. 1760 to 1830.
5. CjAe-6: 1314 is a sherd of REW transfer-printed in black, which could date as early as 1780.
6. CjAe-6: 1331 is a sherd of REW transfer-printed in red, indicating a probable date after 1825, although a late eighteenth-century dating is possible.

Sample G2 REW

The significant sherds in this sample are as follows:

1. CjAe-6: 1202 and 1206, a,d are sherds of REW transfer-printed in flow blue, a technique generally post-dating 1840 (Miller 1991: 9).
2. CjAe-6: 1211 is a base sherd of pearlware, showing the classic blue-tinted glaze, probably dating 1790 to 1830.

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3. CjAe-6: 1245 is an REW cup, transfer-printed in blue willow pattern, a style not usually applied to teawares before c. 1850 (Miller 1991: 8).

4. CjAe-6: 1252e,f are sherds of sponge/spatter decorated REW, probably dating c. 1780 to 1830 (Miller 1991: 6).

5. CjAe-6: 1305 is an REW saucer, transfer-printed in blue willow pattern, a style rare in teawares before c. 1850.

Sample G3 Miscellaneous

Several sherds from this sample are of interest:

1. CjAe-6: 1199 is a sherd of grey CSW salt-glazed in a yellow beige. It could be Anglo-American, nineteenth-century.

2. CjAe-6: 1217 is a sherd of a moulded glass lid, showing the mould seam and therefore dating after 1820.

3. CjAe-6: 1223 is a sherd of CEW with a red fabric and a very shiny black glaze, probably nineteenth-century.

4. CjAe-6: 1302 is a sherd of Chinese porcelain, painted in blue under-glaze, which could certainly be eighteenth-century.

Quidi Vidi Pass Survey: Ceramics etc. ...22

Discussion

The datable artifacts recovered from Area G again suggest that this is a locus with at least two components. An earlier occupation at some time between c. 1790 and 1800 would explain the presence of early creamware, pearlware, sponge/spatter decorated REW and relatively plain blue-painted Chinese porcelain. A later occupation c. 1850 to 1860 would explain the presence of REW transfer-printed in green and red, flow blue willow pattern REW, REW willow pattern teawares and a moulded glass lid.

SUMMARY

We might propose the following general chronology for the locuses discussed, in order to make a minimal explanation for the datable artifacts recovered:

<u>Area</u>	<u>Phase I</u>	<u>Phase 2</u>
C	1780-1815	1840-1860
D	1780-1820	c. 1850
E	uncertain	
F	1780-1815	
G	1790-1800	1850-1860

Quidi Vidi Pass Survey: Ceramics etc. ...23

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Gerald Penney Associates Limited

20 September 1992

Roger Pottle
Environmental Planner

Department of Works, Services and Transportation
Confederation Building
St. John's
A1B 5T7

Dear Roger;

This letter of transmittal encloses the final report of an historic resources overview assessment of the proposed Mainland to Cape St. George connector road.

Yours sincerely,



Gerald Penney

encls.

REPORT

**HISTORIC RESOURCES OVERVIEW ASSESSMENT
MAINLAND TO CAPE ST. GEORGE CONNECTOR ROAD**

Archaeological Research Permit 92:11

submitted to

**DEPARTMENT OF WORKS, SERVICES AND TRANSPORTATION
Government of Newfoundland
Confederation Building
St. John's, Newfoundland**

submitted by

**GERALD PENNEY ASSOCIATES LIMITED
P.O. Box 13787
St. John's, Newfoundland
A1B 4G3**

September 1992

EXECUTIVE SUMMARY

Documentary research, informant interviews, and a foot survey of the road route, coupled with topographic map interpretation, indicate no historic resources exist within the proposed Mainland to Cape St. George connector road corridor. The corridor has a low potential for accidental discovery of historic resources and no further effort is recommended.

CREDIT SHEET

Research and consultation

**Gerald Penney
Tor Fosnaes**

Report authors

Gerald Penney Associates Limited

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INTRODUCTION

The Department of Works, Services and Transportation, Government of Newfoundland and Labrador, proposes to build a two lane connector road from Mainland to Cape St. George on the Port au Port Peninsula. This 16.2 kilometer long road will have a 20 meter right of way.

STUDY AREA

The proposed road route corridor (Figure 1) and three alternatives form the study area. The route follows, for most of its length, a walking trail, in use by local residents for nearly a century. It follows a woods road paralleling Cointres Brook, crosses the brook, and ascends the first kilometer or so. On the south side of Cointres Brook an all terrain vehicle (atv) track from the community provides an alternate route. At Cape St. George the route crosses the Bill of the Cape Park while a proposed alternate crosses cleared, although unused, land east of the park.

METHODOLOGY

Documentary research, in private holdings and at Memorial University's Centre for Newfoundland Studies, was conducted to delineate the study area's historical references; topographic maps were interpreted to assess the route's potential for historic resources; and, local families, historical societies, and knowledgeable individuals, were interviewed to aid in the creation of a settler history as well as a local toponymy. The route was foot surveyed and observations recorded. A judgemental sampling strategy for site location was followed.

RESULTS

Documentary research

Simpson (1986:84) surveyed 30 percent of Port au Port Peninsula shorelines including one kilometer of cobble beach south of Mainland without result. He speculates (ibid:25-29) that coastal sites on the west coast of the Port au Port Peninsula, which might have been used since 4900 BP (the earliest aboriginal occupation of the Island), are now up to 14 meters below the existing sea level, due to post glacial sea level fluctuations. Carignan (1975) and Simpson (1986) discovered four prehistoric sites; three at the isthmus and one at Long Point. While the Long Point site is non-descript the other sites produced Dorset and Recent Indian assemblages dating from 2500 BP to 500 BP.

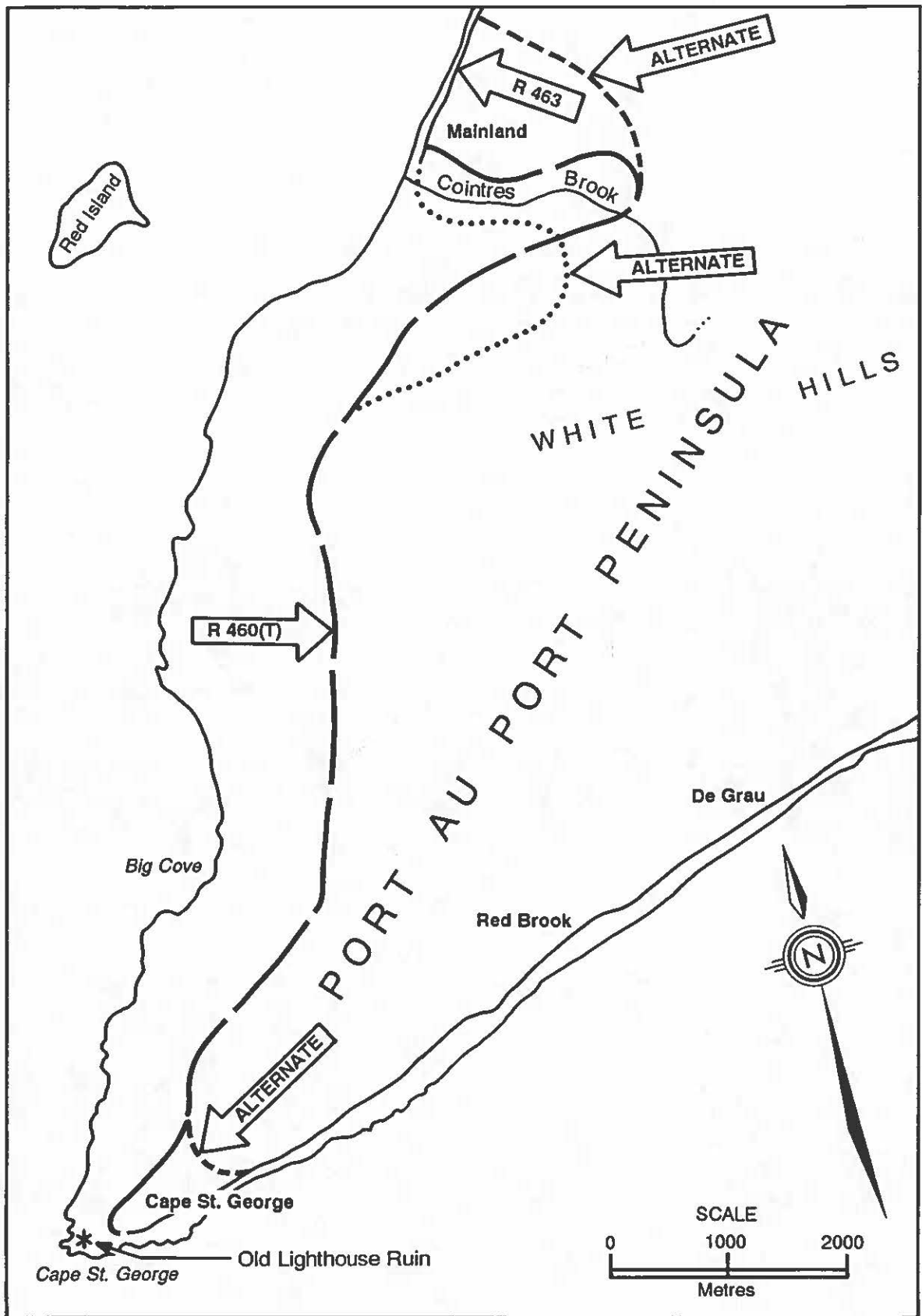


Figure 1: Mainland to Cape St. George connector road study area



Plate 1: The beach at Mainland looking south

The White Hills, which form most of the main body of the peninsula, and over which the road route is proposed, are part of Damman's (1983:172) geological Port au Port sub-region. The area is described as mostly wind-exposed limestone barrens with shallow soils and large areas of exposed bedrock; a long frost-free season of 140-160 days results in a very rich flora. DeGrace (1974) classifies the interior as a major limestone deposit, "North of De Grau", assessed as having in excess of 200×10^6 tonnes of commercial limestone. It is observed as grey, fine-grained limestone and dolomite typical of the St. George's Group. Stenzel (1990:23) places the area in the Cape Cormorant Formation "a thick sequence of polymictic, carbonate-clast conglomerate, calcarenite, and shale".

Foot survey

The proposed road route has three distinct areas: the ascent from Cape St. George; the high interior ridges; Cointres Brook and the ascent from Mainland. The route coincides with the old walking trail and a newer, well-used, all terrain vehicle track out of Cape St. George, crossing cleared fields and passing through a second growth forest of black spruce and fir. Level areas here are either boggy or bedrock. At the top it follows bedrock and loose gravel ridges which enclose tundra-like areas of shrubs and mosses.

The high interior ridge is inhospitable and about midway descends into a lightly wooded interior valley (immediately northwest of Big Cove) before ascending to a second rocky ridge and descending into Cointres Brook valley. These broken limestone ridges contain deposits of chert and fossils of "graptolites, phyllocarids, small inarticulate and articulate brachiopods and small orthoconic and coiled cephalopods" (Stenzel 1990:22).

A woods road, which accesses the interior northeast of Mainland, forms part of the proposed road route on the north side of Cointres Brook. The brook crossing is not marked and the area is heavily forested. An all terrain vehicle trail, which follows the south bank of the brook, forms an alternate route in this area, and as it turns south to climb the hill, it joins the proposed route. This trail and the traditional walking trail join about halfway along the first ascent out of Mainland.

Two gastropod fossils (Plate 6), dating from the early Ordovician era, some 500 million years ago, were surface collected at the highest point of the southern half of the trail. These are deposited with D. Boyce at the provincial Mines and Energy department.

Informant interviews

No informant reported the existence of prehistoric artifacts or other evidence of prehistoric occupation at either Mainland or Cape St. George. The existence of a lighthouse foundation (the lighthouse itself burned in the 1930's), now within the Bill of the Cape community park at Cape St. George, is remote should the proposed be followed through the park itself.

RECOMMENDATIONS

No part of the proposed connector road route is considered to contain prehistoric or historic resources and no further proponent action is recommended.



Plate 2: 900 foot contour looking north;
Mainland and Cointres Brook valley in background.

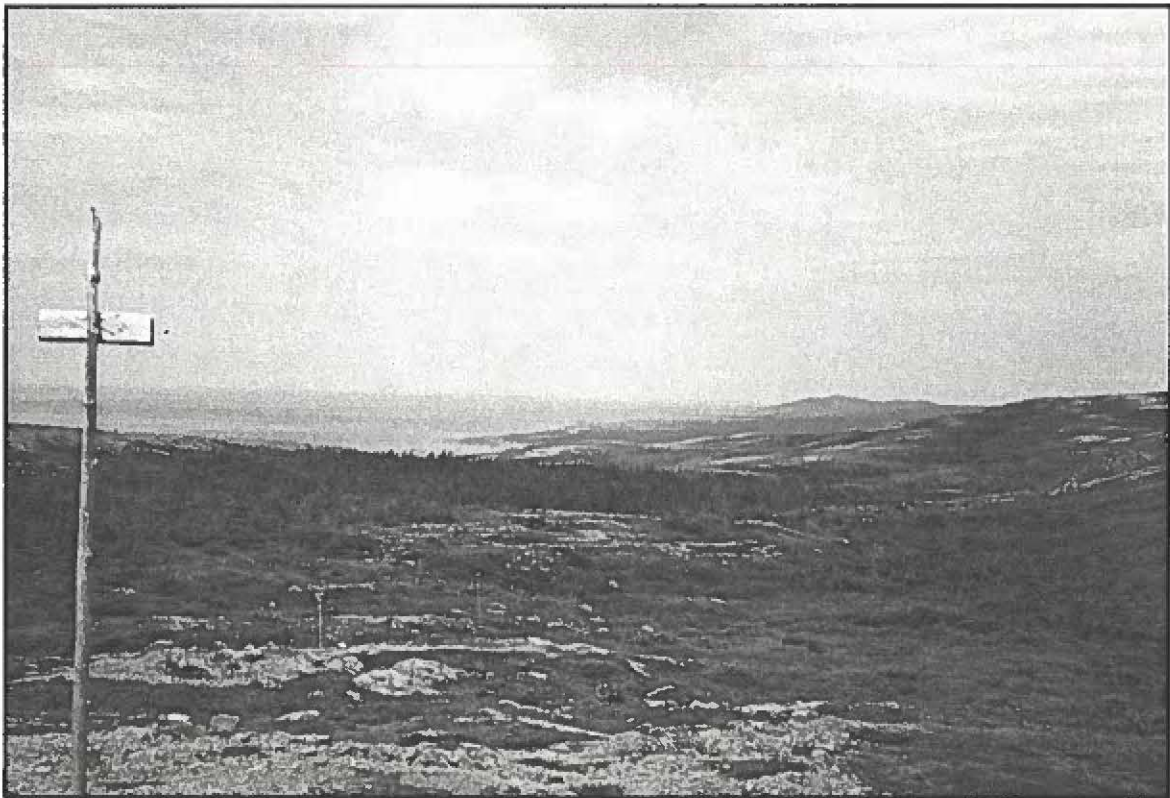
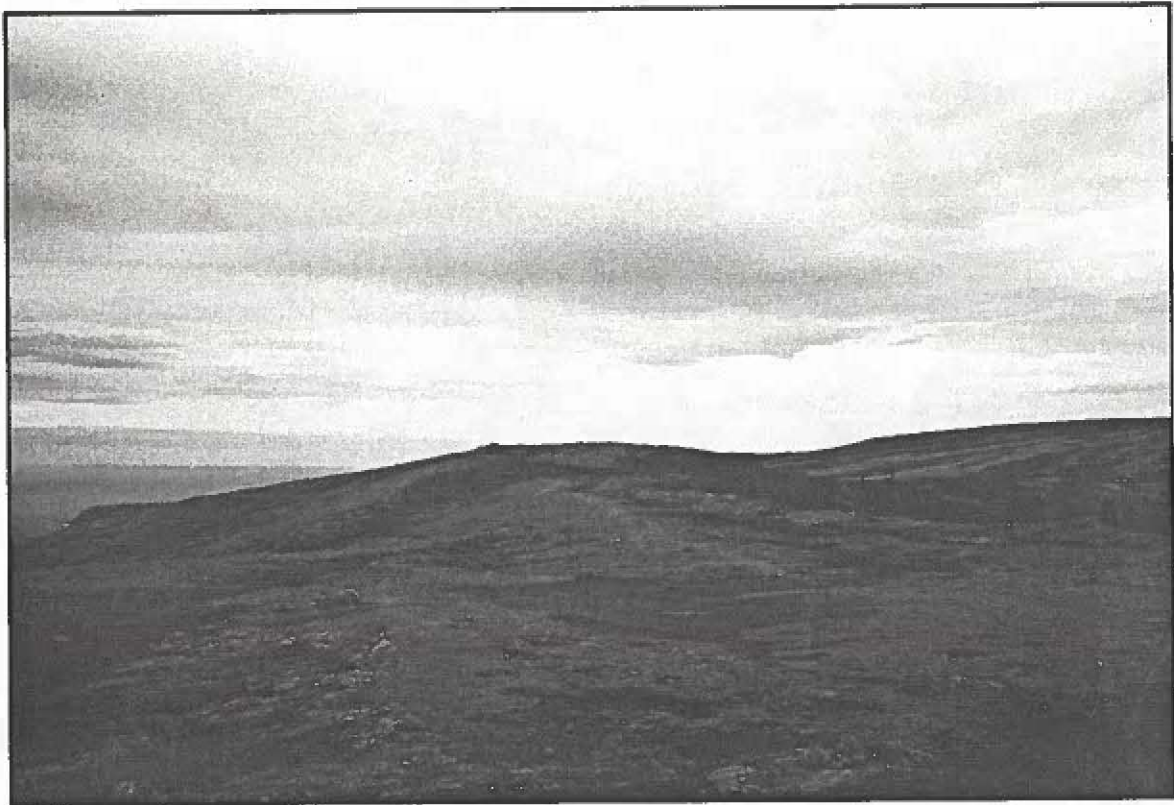


Plate 3: Marked trail at highest point looking north



**Plate 4: Highest point of southern half of trail;
Red Island at left middle; exposed fossil deposit in foreground**

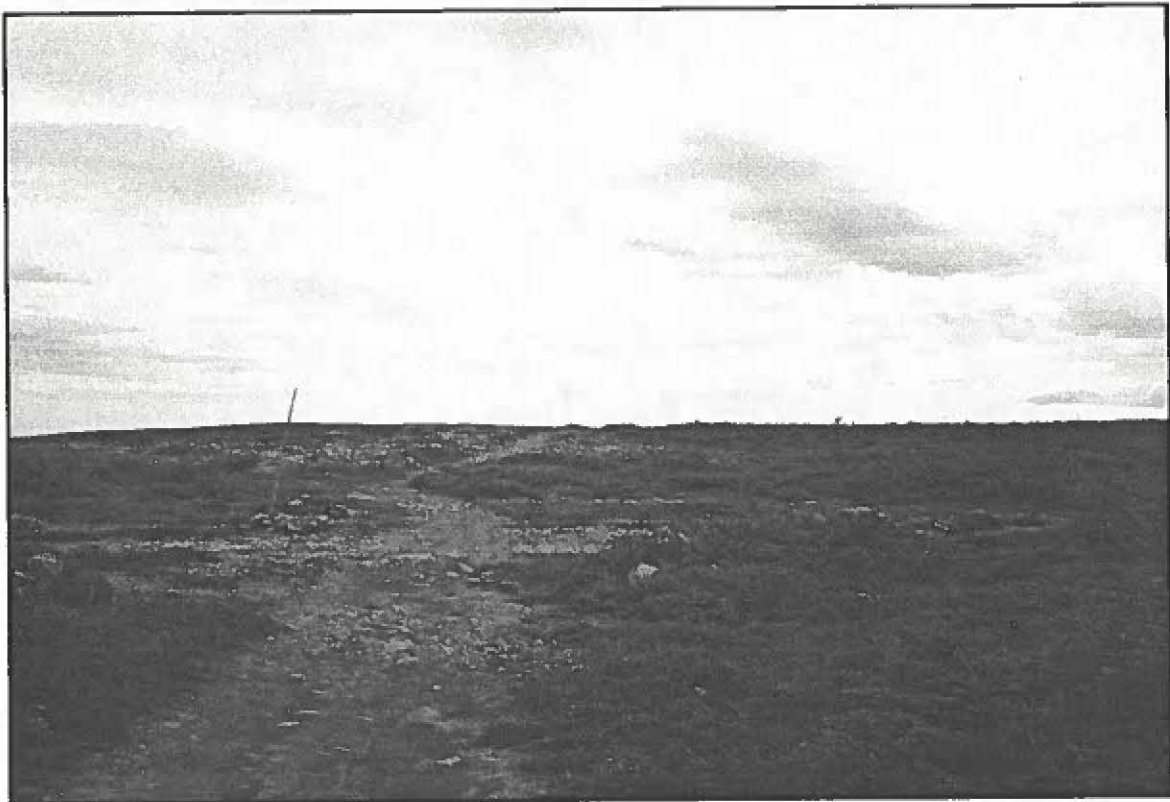


Plate 5: First ridge ascending from Cape St. George looking north

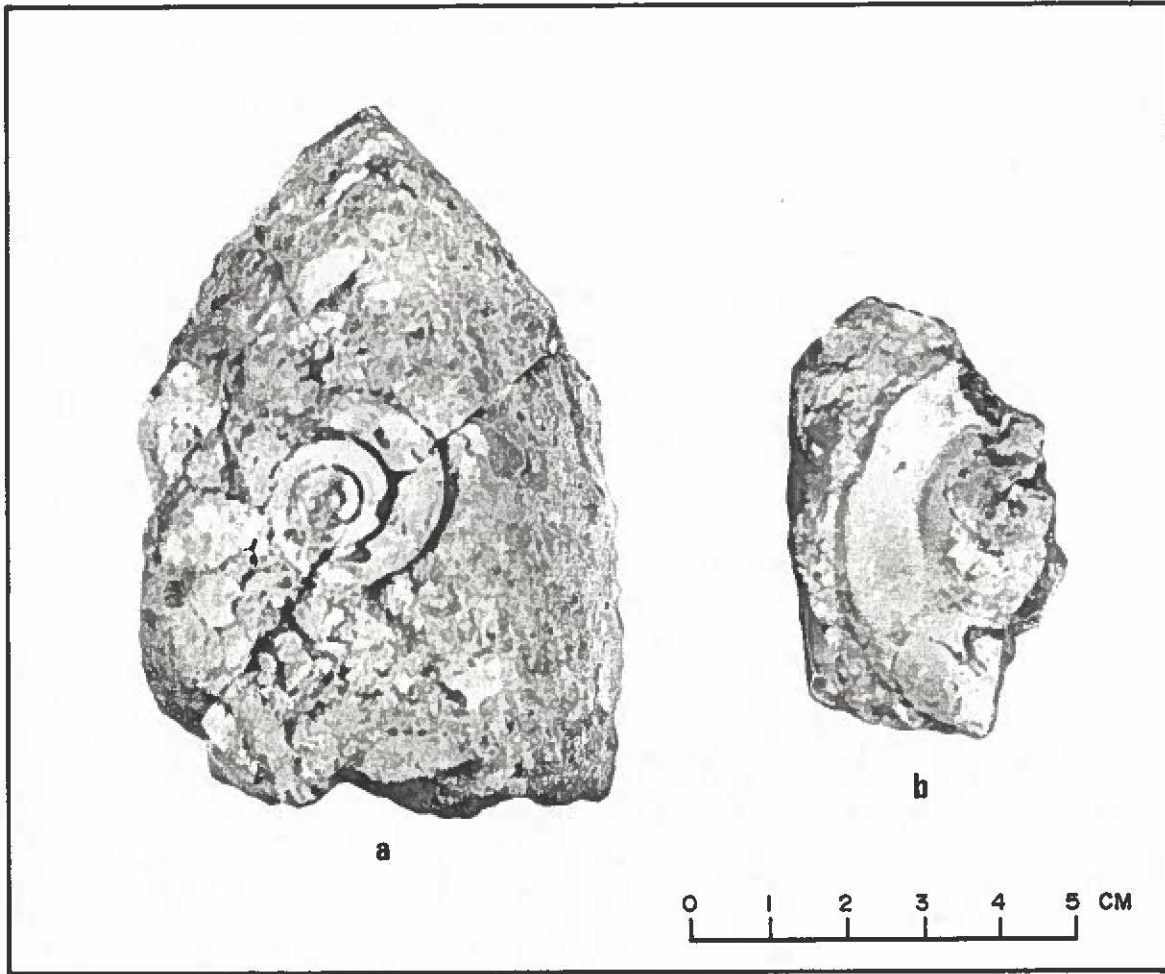


Plate 6: Gastropod fossils

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APPENDIX 1 - Daily log

Monday, July 27

Visit and photograph Isthmus and Gravel Pond sites; drive to Cape St. George; drive to Mainland and walk halfway over route on walking trail and return. Explore Cointres Brook valley and proposed road route and alternate. Consultations with Mainland informants.

Tuesday, July 28

Arrive Cape St. George and walk halfway over route on walking trail and return. Consultations with Cape St. George and other peninsula informants.

APPENDIX 2 - List of informants

Mainland

Sylvia Oliver
Keith Oliver
Gloria Lecointre, Societe de Heritage d'Ile Rouge
Terry Benoit

Cape St. George

Samuel Fenwick
Naomi Felix
Stella Cornect, Librarian Cap St. Georges Community Library
Tony Cornect, Co-ordinator Port au Port French Association

Port au Port East

Audrey O'Gorman, Traditions Craft Store

St. John's

Christopher Perreira, Department of Mines and Energy
Ian Knight, Department of Mines and Energy
Douglas Boyce, Department of Mines and Energy

BURNSIDE HERITAGE PROJECT
INTERIM REPORT FOR 1993 ARCHAEOLOGICAL FIELD SEASON

PREPARED BY: LAURIE MCLEAN

FEBRUARY, 1993

INTRODUCTION

In 1992 the Burnside Heritage Project (BHP) undertook its third field season in a long-term archaeological research plan in Bonavista Bay, Newfoundland (Figure 1). This research and previous data are to be incorporated in a dynamic public interpretation program based in the community of Burnside, Bonavista Bay. An interpretation centre, including a display area, archaeology lab, gift shop, theatre, and coffee shop, is to be built in Burnside within the next two to three years. This facility will be complemented by boat tours of the BHP study area, including visits to ongoing archaeological excavations.

The theme of BHP interpretation is human adaptations within a local Newfoundland environment and the archaeological program is designed to address this question. When the BHP began archaeological field work in 1989, 12 Aboriginal occupations were known in the region, including a large living site at the Beaches and smaller-scale localities elsewhere (Figures 1, 2). BHP field seasons in 1989, 1990, and 1992 combined systematic excavations at the Beaches with re-evaluations of formerly known sites and surveys of unexplored parts of the study area.

BHP surveys have discovered 16 new Native sites and three European occupations, with six of the Aboriginal localities occurring at a large rhyolite quarry in Bloody Bay Cove (Figures 1, 3). Raw material for stone tools was

obtained in Bloody Bay Cove and carried away for use in other areas. The extent of the distribution of this stone is not known and will be a topic of future research. Most of the other sites found in the surveys appear to be small camps associated with hunting, stopovers, and other temporary functions.

BURNSIDE HERITAGE PROJECT: 1992 ARCHAEOLOGICAL FIELD SEASON

A \$29,500 grant from the federal Department of Communications' "Access to Archaeology" program provided funding for the 1992 BHP field season. The 1992 season started on July 20, 1992 and ended on September 27. Laurie McLean, of St. John's, Newfoundland, was chief archaeologist, while Mac Babstock, of Eastport, Bonavista Bay was boat operator/guide. Three high school students, Glennys Elliot, Don Hunter, and Dana Harvey, from the Burnside area made up the rest of the field crew. Memorial University Conservation Services, of St. John's, was contracted to conserve delicate artifacts recovered. A vacant shed on the government wharf in Burnside was used as a field laboratory.

In 1992 the BHP continued its analysis of Recent Indian occupations of the Beaches site by digging a Beothuk Indian housepit and sampling a prehistoric Beaches Indian/Palaeo Eskimo component referred to as Area B (Figure 2). Newfoundland's Recent Indian cultures consist of three

chronological phases that are differentiated on the basis of changing stone projectile point morphologies. The oldest Recent Indians are referred to as the Beaches complex (ca. A.D. 100-960), which is represented by its side-notched stone projectile points (Austin 1981:168, 169; Pastore 1985:323). The Beaches complex is named in light of its discovery at the Beaches site in 1972 and 1973 (Carignan 1975:201). The dates of the Beaches Indians occupations of the Beaches site and other aspects of their presence there remain poorly understood, and Area B offered a chance to elaborate on this problem.

The side-notched Beaches points were gradually replaced by corner-notched Little Passage examples. The Little Passage complex is named after the channel on Newfoundland's south coast which contained the L Anse a Flamme site at which it was first identified (Penny 1984:ii, 41, 187). From an archaeological perspective, the Little Passage complex ended around A.D. 1500 with the start of Newfoundland's historic period. The historic phase of Newfoundland's Recent Indians are referred to as the Beothuk, who became extinct around A.D. 1829.

Beothuk stone projectile points continued to change in shape from their Little Passage predecessors during the historic period. By the eighteenth century in Notre Dame Bay, and possibly earlier elsewhere, the Beothuk were using tiny stemmed points that were proportionally broader, with a

reduced amount of bifacial retouch, or none at all, and increased asymmetry, compared to Little Passage examples (Schwarz 1984:4, 65).

The changes in Beothuk stone projectile points' shape took place as Beothuk stone tools in general were gradually being replaced by iron items made from European objects. The Beothuk utilized European tools, but the most popular iron implements were projectile points, awls, and scrapers that they recycled from European items (McLean 1989:11, 19, 107; Howley 1915:230).

It was hoped that excavating part of Area B would produce information about the dates of Beaches Indians occupations at the Beaches site. The co-occurrence of Palaeo Eskimo and Beaches Indian artifacts within one component offered potential new information concerning the processes by which Indians succeeded Eskimos there. It would also be useful to find evidence for a hearth, house, or other feature associated with either the Beaches Indians or Palaeo Eskimos in Area B.

The interior of Housepit 5 held potential new data concerning the Beothuk occupation at the Beaches, including possible dates, house construction, their use of European materials, and the fate of traditional material culture. This information, along with previously compiled data from other Beothuk housepits and a Recent Indian midden at the Beaches, would provide a sample of some of the changes

Beothuk underwent in Bonavista Bay, attributable to historical pressures.

Another goal of the 1992 season was to obtain more information about the Bloody Bay Cove quarry by testing along the stream bed and the base of the low mountain that contains the rhyolite outcrops (Figure 3). Test pits were also dug at the Bloody Bay Cove Summit site (DeAl-9) that was identified on top of the rhyolite outcrop in 1990 (Figure 3) (McLean 1991:32). Following the examination of the Bloody Bay Cove quarry, surveying of the coast west of the Beaches produced six new sites, consisting of four Native occupations and two European deposits (Figure 1).

BURNSIDE HERITAGE PROJECT 1992 EXCAVATIONS AT THE BEACHES:
HOUSEPIT 5

Digging at Housepit 5 at the Beaches began on Tuesday, July 21 and continued until August 26. The eight housepits at the Beaches are the remainder of 19 roughly saucer-shaped depressions seen there by T.G.B. Lloyd in 1872. The 11 missing housepits appear to have eroded away with a large portion of the original site. Lloyd reported that the housepits sat on a tract of low-lying land about a quarter of a mile long and an average 120 yards wide (Lloyd 1876: 222). BHP research indicates that approximately 65% of the Beaches site has washed into the ocean

The Beaches presently occupies 4000 square metres, but

as much as 8500 square metres may have been lost there due to erosion (McLean 1991:3, 36). The site's original area extended much further south along the presently eroding bank and also to the east over the pebble beach tombolo that now connects the Beaches to a small island. One retired gentleman from Burnside told the author that he used to cut hay from the tombolo area at the Beaches before a large portion of it washed away in the 1940s. This erosion has dumped hundreds of stone artifacts and flakes in the tidal zone east and south of the site (Figure 2).

The housepit depressions at the Beaches and other Beothuk archaeological sites are the remains of houses that had excavated interiors with the earth piled around their perimeter in a low mound. Historical and archaeological data indicate that poles were placed in the earthen walls and were inclined inwards or stood vertically upright. Birch bark, seal skins, caribou hides, and canvas sails were used to cover these buildings (Pastore 1984:103; Howley 1915:15, 30, 33, 85).

In 1992, seventeen square metres were dug in Housepit 5, mostly in the house interior, which potentially contained the maximum amount of in situ Beothuk data (Figure 4). The earthen walls were avoided whenever possible as they mostly contain secondary deposits of prehistoric material inadvertently disturbed by Beothuk housebuilders. In 1992, a small amount of wall fill was unavoidably excavated where

it slumped into squares at the perimeter of the house floor and also where the walls rose very gradually and were not easily distinguished from the floor. All backdirt was screened using 1/4" steel mesh. When a large quantity of bone was discovered in the northeast corner of Housepit 5, the associated backdirt was water screened using a spaghetti strainer to check for small fish vertebrae.

A contour map (Figure 4) indicates the approximate floor area of Housepit 5 with the earthen walls rising all around it to a maximum of 40 cm from the lowest point where the hearth was located. The original floor area probably was slightly larger before the earthen walls slumped inwards following the house's abandonment. This slumping is most evident on the eastern side of the floor which rises a very gradual 10 cm to the top of the earthen wall (Figure 4). The doorway appears to have been located at the northeastern corner of the house.

A total of 655 stone artifacts, 40 iron objects, eight glass items, one lead fish line weight, and two pieces of modified bone were recovered from Housepit 5 (Tables 1-3). The fish line weight is clear evidence for contact with European fishermen or their premises, which also suggests a source for the iron and glass. There are insufficient data to indicate whether the European objects were obtained through peaceful contact, pilfering from fishing stations, shipwrecks, or other means.

The 655 stone artifacts and the 2564 flakes that were recovered include an undetermined proportion of pre-Beothuk items that were present in parts of the earthen walls included in the excavations. Preliminary analysis of artifact distribution suggests that at least 284 items, including 252 stone objects, 22 iron artifacts, one piece of modified bone, and the lead hand line weight, were found on the house floor. Final analysis of all provenience data should indicate further clustering of artifacts of different ages, except in wall fill which is somewhat disturbed.

The 22 stone projectile points obtained from Housepit 5 include examples from each Recent Indian culture. There were two Beaches Indian side-notched projectile points, along with three classic Little Passage types that have deep corner notches. Nine points with elongated, symmetrical blades and wide corner notches or expanding stems are classified as late Little Passage/early Beothuk, while seven artifacts encompass characteristic traits of the mid- to late Beothuk period. The latter items have different combinations of proportionally wider blades, straight stems, a varying degree of asymmetry, and reduced bifacial retouch. These traits are characteristic of late Beothuk stone points which suggest a declining lithic industry resulting from the Beothuk's increased use of iron tools (Schwarz 1984:52-58).

The late-period Beothuk stone points in Housepit 5 suggest a slightly later occupation than Housepit 6 which is

dated to late sixteenth-early seventeenth century (McLean 1991:12, 16). Housepit 6 and the Beothuk component of the midden, which was radiocarbon dated to the fifteenth-early sixteenth centuries, provide the best estimated times of the Beothuk habitations at the Beaches. The Beaches' Housepit 4 was partially excavated in 1966, but could be dated only to the historic period (Figure 2) (Devereux 1969:57).

Housepit 5 yielded 49 artifacts made from European materials, compared to seven iron items from Housepit 6 and 21 examples of European materials from Housepit 4. The difference in the number of non-traditional artifacts is insufficient to suggest that Housepit 5 dates to a later period when more European objects were available. All three housepits did not contain many intact European objects, the artifacts present are small fragments of a few items, totalling a handful of nails, one fur trap, iron container(s), one clay pipe, one drinking glass, and one lead weight. Housepit 5's larger number of artifacts made from European items was also obtained from a bigger excavated area, 17 square metres, compared to 7.25 square metres in Housepit 6, and 10.25 square metres in Housepit 4.

Housepit 5's iron artifacts include two wrought nails and a rod fragment that had been reworked by Beothuk. These modified artifacts are similar to objects found in Housepit 6 at the Beaches and at other Beothuk sites in Notre Dame Bay. Housepit 6 and the midden north of Housepit 5

represent the oldest Beothuk occupations excavated to date in Newfoundland, although older Beothuk sites will eventually be found. The presence of the same types of modified iron at the Beaches and at later sites along Newfoundland's northwest coast and interior suggests that the Beaches may have played a pivotal role in the evolution of the Beothuk iron industry.

Final analysis of Housepit 5's data will hopefully indicate its relative chronological position to the other excavated features in Area A. One charcoal sample from Housepit 5's interior hearth was sent for dating to Beta Analytic in Florida, but the sample was too small for analysis when dried. Luckily, other samples were collected from the housepit this summer.

THE BEACHES: AREA B

The BHP's 1990 testing of the Beaches site discovered Area B where 12 50 x 50 cm test pits produced 110 stone artifacts that mostly consisted of Palaeo Eskimo items, along with one Beaches Indian projectile point (Figure 2) (McLean 1991:22-25, 50, 51). The 1992 excavations at Area B began on August 26 and ended on September 15. In 1992, five 1 x 1 m units were dug in Area B, producing 692 stone artifacts, 4915 flakes, and 83 bone fragments (Table 4). Preliminary analysis of the 1992 assemblage suggests a Palaeo Eskimo deposit with no diagnostic Indian artifacts,

although some of the triangular bifaces, retouched/utilized flakes, and lithic debitage could be Beaches complex objects.

There was no obvious stratigraphy in Area B's soil matrix, which consisted of sod, 30 cm of wet brown peat, and a culture layer that ranged from a barely discernible thin grey lens to a greasy black humus up to 12 cm thick (Figure 5). The culture layer was very wet and sticky which made it hard to dig. Therefore, all Area B backdirt was water screened according to level and most objects were found on the screen, although many items were found in situ. The remains of a hearth were suggested by the presence of scattered wet charcoal, small angular rocks, and bits of bone.

BURNSIDE HERITAGE PROJECT: 1992 EXCAVATIONS AT THE BLOODY
BAY COVE QUARRY

The 1989 and 1990 BHP field seasons discovered an Aboriginal rhyolite quarry spread over approximately 18 hectares in Bloody Bay Cove (Figures 1, 3). Six sites were identified within the quarry, one of which was partially dug in 1990, but much more research is needed to determine the different cultural groups who utilized this facility, the seasons in which it was visited, and the methodologies employed there.

The 1992 season completed testing of the stream bed and stream banks that had begun in 1990 (Figure 5). The Bloody Bay Cove Summit site (DeAl-9) was tested in 1992 to obtain a sample of the amount and distribution of lithic material there. The Charlie site (DeAl-11), which is located on the western edge of the rhyolite outcrops, was surface inspected and a datum point was implanted to facilitate future references to the site.

The Bloody Bay Cove stream provides good fresh water throughout the summer and undoubtedly was utilized by people visiting the quarry. The banks of the stream also offer a rough trail partway to the rhyolite outcrops through the dense cover of mature evergreen forest and alders that otherwise has no obvious paths. At the time of the quarry's use, there probably were foot trails with intermittent small camps alongside throughout it. Continued surveying should

eventually produce these features.

Since 1989, BHP field crews have established three routes to the top of the rhyolite outcrops (Figure 3). One of the routes follows the course of the stream to the western base of the hills and climbs to the Bloody Bay Cove Summit site via the Charlie site. The second course follows the stream for a shorter distance and midway up its length veers off to a steep pass in the bedrock which sharply rises to the top of the hills. The third route originates from the Bloody Bay Point site (DeAl-10), which is a worked rhyolite outcrop on the northern side of Bloody Bay Cove. If testing along these passageways does not produce cultural material, they may be incorporated into the BHP interpretation plan as hiking trails.

The banks of the stream were tested every ten m where an appropriate ledge offered a prospective activity area (Figure 3). The 100 m distance between the stream mouth, where two sites were discovered in 1989, and the Howard site (DeAl-12), which is a cluster of lithic debitage in the stream bed, were examined and found to be sterile. The 120 m of stream between the Howard site and the bog were more productive.

Rhyolite cores and flakes were found in the stream bed 140 m away from the stream mouth. Clusters of cores and flakes were discovered in two test pits and one surface deposit between 185 m and 215 m inland (Figure 3). Another

pit contained a hammerstone and anvil stone, suggesting that initial preparation of rhyolite cores took place nearby. The large amount of lithic debitage along the upper half of the stream might be partly attributable to the close proximity of suitable rhyolite outcrops at the Charlie site (Figure 3).

Three 1 x 1 m squares were dug at the Bloody Bay Cove Summit site (DeAl-9) in 1992 (Figure 3). This site contains a 90 x 35 m (3150 square metres) patch of bare rock with worked outcrops and widespread lithic debitage on the surface. A 47 x 32 m (1504 square metres) talus slope to the northwest consists of quarrying byproducts and rocks that broke off the hills through natural processes. Future analysis should indicate the distribution of artifacts vs. naturally broken fragments here and throughout the rest of the quarry.

Many rocks on the talus slopes are blue-grey coloured on top and grey-black on the bottom, suggesting that patination is well underway. The colour gradation in individual rocks from top to bottom suggests that they were not subject to excessive movement and the deposits are relatively undisturbed. Given the difficulty in walking on these loose slopes, wild animals and most human visitors probably have avoided them, except in cases of people collecting suitable fragments for tool production.

The Bloody Bay Cove Summit's three test squares

contained enough chunks and flakes of rhyolite to fill six 11 kg plastic containers. Preliminary analysis of the BBCS data indicates that retouched/utilized flakes and worked cores were common, with no diagnostic artifacts noted during excavations or in rough sorting in the field laboratory. Most artifacts' provenience data were recorded in 2 cm levels, as there were far too many items to record the precise location of every individual object. Artifacts indicating extensive working had their vertical and horizontal locations noted whenever possible.

Each of the Bloody Bay Cove Summit squares had brown or black humus layers which suggested cultural levels, but lithic debitage was present throughout all strata (Figure 6). This distribution of artifacts possibly represents the site's use over a long period of time and its exposed location which makes soil formation difficult. The BBCS site also suggests a specialized activity area that was unsuitable for camping or other extended visits that would have contributed to forming a thicker cultural layer.

The two deepest units, S1 W54 and N13 W53, contained worked bedrock at their bottoms. At 60 cm below the surface in N13 W53, a bowl-shaped depression in the northern 40% of the square resulted from the removal of rhyolite to be manufactured into tools (Figure 6). This unit was located on the top of the slope at the northern edge of the site. A small terrace immediately below N13 W53 may have been used

as a platform for people to stand on as they removed rock fragments from the low escarpment above it, or it could have served as a temporary work station.

Although the Bloody Bay Cove Summit site is a very exposed location, a large amount of raw material was procured there. The BBCS site may have been a preferred outcrop during the summer when flying insects would have been a serious problem in more protected sections of the quarry. The winter winds also would have kept the site relatively snow-free, which would have facilitated working the bedrock at this time.

The Bloody Bay Cove Summit also offers a commanding view of the surrounding territory for many km in all directions. This vantage point would have provided the means to monitor living sites and climatic conditions near Bloody Bay Cove while people gathered sufficient supplies of stone to last them a while.

BURNSIDE HERITAGE PROJECT: 1992 ARCHAEOLOGICAL SURVEY

The BHP is dedicated to extensively surveying its study area as a means of generating new heritage information. In 1992, three and a half days were devoted to surveying parts of the study area's coastline and one half day was provided for an overland analysis (Figure 1). Six new sites were discovered and two previously discovered large prehistoric living sites were re-evaluated.

On July 22, the proposed site for a new cabin in Mishes Cove was tested for cultural materials that would be endangered by this construction (Figure 1). No artifacts or related materials were found, so the request for permission to build a cabin was approved. On September 16, an inspection of Rum Island Cove produced no cultural material.

On September 16, the crew also traversed the two km distance from Rum Island Cove to Cary's Cove where a large prehistoric site had been found in the 1974 (Figure 1) (Carignan 1977). No signs of former trails were apparent in the dense vegetation that covered the two parallel routes taken by the crew and no cultural material was recovered from this trek which terminated in the bottom of Cary's Cove.

The following day, September 17, the crew travelled by boat to the Cary's Cove site where Maritime Archaic stone artifacts were found eroding from a low bank. The crew dug three test pits which indicated a very rich site, despite the presence of three cabins directly on it. Based on the author's advice, Newfoundland's acting Provincial Resource Archaeologist, Martha Drake, subsequently rejected a request for permission to erect a fourth cabin on the site.

On September 17th, the crew also visited a previously discovered site at Brown's Beach, which is located 3 km past Cary's Cove (Figure 1). Brown's Beach and Cary's Cove have a similar topography, consisting of 1-4 m high, grassy banks

in locations fairly exposed to Bloody Reach. Brown's Beach suffers from slight erosion, but to a lesser degree than Cary's Cove, and also has a number of cabins. Testing of a grassy bank, less than 1 m high, produced prehistoric stone artifacts and flakes.

On September 19th, the coastline above the Beaches site was surveyed for 5 km, producing four new Native occupations and two European localities (Figure 1). The first inlet along the coast was Little Dog Cove which contained a small Maritime Archaic Indian site near a brook in the bottom of the cove. This site was subsequently named Little Dog Cove-1 (DeAk-10). A double-arris macroblade was found in one test pit while light blue-coloured flakes came from another pit dug 50 cm away. A number of pits placed 2 m from the macroblade yielded no artifacts, indicating the small area of this site.

Little Dog Cove-2 (DeAk-11) is located on the eastern side of Little Dog Cove. A piece of European pottery was found in a test pit placed near the beach below the rotting remains of a small cabin. This early twentieth-century site appears to have served as a work camp for an individual or a small party cutting wood, trapping, or conducting other business in the area. It does not appear to have been a fishing camp.

Three sites were found in Big Dog Cove which is less than one km from Little Dog Cove (Figure 1). Big Dog Cove-1

(DeAl-13) refers to non-diagnostic flakes collected on the surface near a stream mouth on the north side of Big Dog Cove (Figure 1). Big Dog Cove-2 (DeAl-14) is a small Beothuk Indian site represented by one test pit that contained a wrought nail fragment and stone flakes. This site is located on a low-lying grassy bank near the bottom of Big Dog Cove. Other test pits dug within a six m radius of these artifacts were sterile, indicating the small area of the site.

An approximately 100 m long well-worn path leads inland from the Beothuk site at Big Dog Cove-2 to a 75 x 50 m clearing in the forest. The rusting remains of a kitchen chrome set and a wood burning stove lay at one end of the clearing. A test pit dug in the center of the open area produced a fragment of European pearl ware pottery. The author subsequently learned that a number of families lived along this section of coastline until recently, but relocated to nearby Hare Bay during the 1960s when modern roads were established throughout rural Newfoundland. These families felt that a road would never be built to the Big Dog Cove region in view of its remote location.

The final site found on the September 19 survey was located on the Little Content Peninsula which is two km by boat from Big Dog Cove (Figure 1). Six cabins are presently located along the peninsula's tip and Dorset Eskimo artifacts were found eroding from the earth along a foot

path connecting two of the buildings. A resident of one of the cabins expressed surprise at learning that an archaeological site was located nearby and indicated that there should be no problem conducting excavations there. This is a small site with no apparent surface features and it would be wise to consider salvage excavations there in the near future.

BURNSIDE HERITAGE PROJECT: 1992 CATALOGUING ACTIVITIES

The 1992 BHP archaeological schedule provided one week for cataloguing artifacts at the field laboratory. If a large number of artifacts are catalogued during the field season, the chief archaeologist can direct his energy to interpretation and report writing at the earliest possible time after the end of excavations. Cataloguing artifacts also introduces student workers, tourists, and other witnesses to an important archaeological activity. This experience helps to convince young workers of the need to keep explicit records in the field.

Cataloguing took place on three rainy days on which it was too wet to work and on four other days when the chief archaeologist chose to reduce the artifact backlog. This was sufficient time to process all of the Beaches' 1406 artifacts, 7479 flakes, and 3100 bone fragments. Artifacts obtained from Bloody Bay Cove and the surveys had to be catalogued after the chief archaeologist returned to St.

John's in late September. This has been standard procedure in the previous two BHP field seasons. At the writing of this preliminary report, the chief archaeologist has not completed cataloguing last summer's artifacts. There should be no problem in finishing this task in time to release a complete report of the 1992 season by the spring of 1993.

The metal objects found in 1992 have been delivered to Memorial University's Conservation Lab where they will remain for three years while undergoing treatment that will guarantee their long-term survival. At the end of this period, the metal artifacts will be brought to the Newfoundland Museum in St. John's for storage. It is anticipated that some artifacts will be returned to Burnside for display in the interpretation centre after it is built.

CONCLUSIONS

The 1992 BHP archaeological field season provided important new information about Aboriginal and European heritage in Bonavista Bay, Newfoundland. The 1992 field season also helped to disseminate regional heritage information by using local residents in the work crews and informing the public about the progress of the excavations.

Preliminary analysis of the 1992 results indicate that the Beothuk Housepit 5 at the Beaches contained many more artifacts than two other housepits that have been partially dug at that site. Housepit 5 may have been occupied for a

longer period than the others were, or its artifact assemblage could have been protected from natural and cultural forces that may have disturbed other parts of the Beaches. Other, presently unknown cultural factors could have contributed to the accumulation of Housepit 5's large assemblage.

Despite the presence of modified iron in Housepits 4, 5, and 6, the Beothuk occupants of these structures mostly used stone tools, with iron serving a supplementary role. Housepit 5 produced modified wrought iron nails that are similar to artifacts from Housepit 6 at the Beaches and other Beothuk sites located in Notre Dame Bay. The Beothuk-modified iron from the Beaches site pre-dates that from Notre Dame Bay which suggests that the Bonavista Bay site may have played a role in the transmission of Beothuk ironworking technology along Newfoundland's north coast.

Area B provided a sample of prehistoric occupations that had been the subject of previous archaeological excavations during the 1960s and 1970s. The early researchers mostly dug along the southern bank of the site and Area B appears to be the northern limit of cultural strata uncovered then. Partial excavation of Area B suggested that it represents a Palaeo-Eskimo component with a small intrusive Beaches Indian deposit. Closer examination of the 692 stone artifacts collected from Area B in 1992 may reveal more evidence for Beaches Indians, but

charcoal and bone fragments, which suggest a hearth may be nearby, are tentatively attributed to Palaeo Eskimos. The latter people extensively utilized Area B and other sections of the Beaches before the return of Indians to the site over two millennia after the departure of the Maritime Archaic.

Seven days of the 1992 field season were spent testing a large Native rhyolite quarry discovered in Bloody Bay Cove in the 1989 and 1990 BHP surveys. The 1992 tests identified new deposits of lithic debitage that are associated with Native quarrying along the stream which runs along the southeast base of the rhyolite outcrops. This stream was undoubtedly a source of fresh water for people who visited the quarry and its banks may have contained a foot trail to preferred rhyolite outcrops at the back and top of the Bloody Bay Cove hills.

Three 1 x 1 m test squares were dug at the Bloody Bay Cove Summit site (DeA1-9) which is located on top of the hills overlooking the stream and Bloody Bay Cove. Worked outcrops and quarrying byproducts are visible on the surface over 4600 square metres encompassed by this site. The three test pits contained 70 kg of lithic debitage that are awaiting final analysis. In two of the three pits this debris had accumulated over worked outcrops that were uncovered at the base of the test units. Hopefully, further examination of these artifacts will produce diagnostic cultural evidence of who used the site and answer other

relevant questions.

The BHP conducted four days of surveying during 1992 that produced six new archaeological sites. A number of other areas were also surveyed, with negative results, and two previously known prehistoric localities were visited and found to be secure. The four new Native sites and one European occupation were small, while the second European locality appears to have been a single family homestead of a more permanent nature.

In 1992, three high school students and a fisherman from the Burnside area assisted archaeologist Laurie McLean. Since its beginning in 1989, the BHP has utilized field crews consisting of local residents. By hiring local people for its field crews the BHP is spreading heritage information, in addition to reducing unemployment, throughout the region. In the future, the BHP hopes to continue the progress it has made managing its cultural resources.

Tables

TABLE 1a: BEACHES (DeAk-1), HOUSEPIT 5 STONE ARTIFACTS

Artifact	Square #											Sub-total
	N25 W21	N25 W22	N26 W18	N26 W19	N26 W20	N26 W21	N26 W22	N26 W23	N27 W20	N27 W21	N27 W22	
B	-	-	-	-	1	1	-	-	-	-	-	2
BF	-	5	-	2	2	1	1	1	5	-	2	19
BLF	3	5	-	2	3	-	-	-	2	-	-	15
BC	-	-	-	1	1	-	-	-	-	-	-	2
BuF	-	-	-	1	-	1	-	-	-	-	1	3
BTF	-	1	-	-	-	-	-	-	1	-	-	2
C	5	12	2	-	1	4	-	2	7	1	1	35
E	1	-	-	1	1	-	-	-	-	-	2	5
EP												
FS	7	15	-	9	7	3	7	2	16	4	1	71
H	-	-	-	-	-	-	-	-	-	-	1	1
LF	-	7	-	1	1	-	-	1	2	1	-	13
M	-	-	-	1	-	-	-	-	-	-	-	1
MF	-	-	-	-	-	-	-	-	-	-	-	-
OB	-	-	-	-	-	-	-	-	-	-	-	-
P	-	-	-	-	-	-	-	-	-	-	-	-
PP	-	1	-	1	3	1	1	-	-	3	-	10
PPF	2	4	-	1	-	-	-	-	1	-	-	8
PPP	2	-	-	1	-	-	-	-	-	-	-	3
PTF	-	-	-	-	-	-	-	-	-	-	-	-
QC	-	-	-	-	4	3	-	-	-	-	-	7
QF	-	-	-	-	-	-	-	-	-	-	-	-
QCF	-	-	-	-	1	-	-	-	-	-	-	1
Ra	-	-	-	-	-	-	-	-	-	-	-	-
RF	10	6	-	11	11	7	2	5	10	2	1	65
R/U	5	6	-	3	12	3	3	1	4	4	-	41
S	-	1	-	-	-	-	-	-	1	-	1	3
SF	-	-	-	-	-	-	-	-	-	-	-	-
SNF	-	-	-	-	-	-	-	-	-	-	-	-
TFS	1	1	-	-	-	-	1	-	-	-	-	3
TB	1	1	-	-	1	-	-	1	1	-	-	5
TBF	1	1	-	2	1	-	-	-	1	-	-	6
UT	1	2	-	6	1	2	1	2	6	-	-	21
Total	39	68	2	43	51	26	16	15	57	15	10	342

TABLE 1b: BEACHES (DeAk-1), HOUSEPIT 5, STONE ARTIFACTS

Artifact	N27 W23	N28 W20	N28 W21	N28 W22	N29 W20	N29 W21	N29 W22	Back Dirt	Sub- Total	Total (a + b)
B	1	-	-	-	-	2	1	-	4	6
BF	1	4	1	-	5	1	1	1	14	33
BLF	-	-	-	-	2	2	1	2	7	22
BTF	-	-	-	-	-	-	-	1	1	3
BC	-	-	-	-	-	-	-	-	-	2
BuF	-	-	-	-	-	-	-	-	-	3
C	1	11	4	-	11	2	2	1	32	67
E	-	-	-	-	1	1	1	-	3	8
EP	-	-	-	-	-	1	-	-	1	1
FS	1	11	7	-	13	8	6	7	53	124
H	1	-	-	-	-	-	-	-	1	2
LF	1	5	2	-	3	2	-	-	13	26
M	-	-	-	-	1	-	-	-	1	2
MF	-	-	-	-	-	-	-	-	-	-
OB	-	-	-	-	-	1	-	-	1	1
P	-	-	-	-	1	-	-	-	1	1
PP	-	1	1	1	1	2	1	1	8	18
PPF	1	-	-	1	-	1	-	-	3	11
PPP	-	-	-	-	-	-	-	-	-	3
PTF	-	-	-	-	1	-	-	-	1	1
QC	3	2	1	-	5	7	1	-	19	26
QF	-	-	-	-	-	1	-	-	1	1
QCF	-	1	2	1	2	1	-	-	7	8
RA	-	-	-	-	-	1	-	-	1	1
RF	-	12	2	1	22	13	3	8	61	126
RU	2	6	4	4	8	7	9	6	46	87
S	-	2	-	-	4	-	3	-	9	12
SNF	1	-	-	-	-	1	-	-	2	2
SS	-	-	-	-	2	-	-	-	2	2
TB	-	-	-	-	-	1	1	-	2	7
TBF	-	-	-	-	-	-	-	-	-	6
TFS	-	-	-	-	-	-	1	-	1	4
UF	2	4	-	-	4	6	1	1	18	39
TOTAL	15	59	24	8	86	61	32	28	313	655

KEY TO TABLE 1

B	Biface
BF	" Fragment
BLF	Blade-like Flake
BC	Burned Core
BuF	" Flake
BTF	Biface Thinning Flake
C	Core
E	Endscraper
EP	" Preform
FS	Flake Scraper
H	Hammerstone
LF	Linear Flake
M	Microblade
MF	" Fragment
OB	Ovate Biface
P	Pyrite
PP	Projectile Point
PPF	" " Fragment
PPP	" " Preform
PTF	Primary Thinning Flake
QC	Quartz Crystal Fragment
QCF	" Crystal Flake
QF	" Flake
Ra	Ramah Chert Flake
RF	Retouched Flake
R/U	" /Utilized Flake
S	Scraper
SF	Scraper Fragment
SNF	Side-Notched Flake
TFS	Tip Flute Spall
TB	Triangular Biface
TBF	" " Fragment
UT	Utilized Flake

TABLE 2: BEACHES HOUSEPIT 5: IRON ARTIFACTS

Square	NF	N	MNF	IF	MIF	KF	RF	PP	MR	RoF	TOTAL
N25 W21	-	1	-	-	-	-	-	-	-	-	1
N25 W22	-	-	-	3	1	1	-	-	-	-	5
N26 W19	-	-	-	2	1	-	-	-	-	-	3
N26 W20	1	-	-	1	-	-	-	-	-	-	2
N26 W21	1	-	-	-	-	-	-	-	-	-	1
N26 W22	-	-	1	1	-	-	1	-	-	-	3
N26 W23	-	-	-	1	-	-	-	-	-	-	1
N27 W20	-	-	-	1	-	-	-	-	-	-	1
N27 W21	1	-	-	1	-	-	-	-	1	1	4
N27 W22	1	-	-	-	-	-	-	-	-	-	1
N27 W23	1	-	-	-	-	-	-	-	-	-	1
N28 W20	-	-	-	2	-	-	-	1	-	-	3
N28 W22	-	-	-	2	-	-	-	-	-	-	2
N29 W20	3	-	-	1	-	-	-	-	-	-	4
N29 W21	-	-	-	1	-	-	-	1	-	-	2
N29 W22	2	-	-	4	-	-	-	-	-	-	6
TOTAL	10	1	1	20	2	1	1	2	1	1	40

KEY

NF Wrought Nail Fragment
 N Wrought Nail
 MNF Modified Nail Fragment
 IF Iron Fragment
 MIF Modified Iron Fragment
 KF Knife Fragment
 RF Rim Fragment
 PP Projectile Point
 MR Modified Rod Fragment
 RoF Rod Fragment

TABLE 3: OTHER HOUSEPIT 5 ARTIFACTS

	N28 W20	N29 W20	N29 W22	Total
Fish Line Weight (Lead)	-	1	-	1
Glass Fragments	-	-	8	8
Modified Bone	1	1	-	2
Total	1	2	8	11

TABLE 4: BEACHES (DeAk-1): AREA B ARTIFACTS

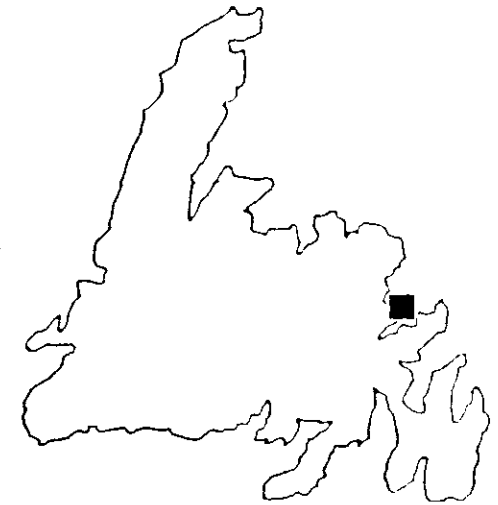
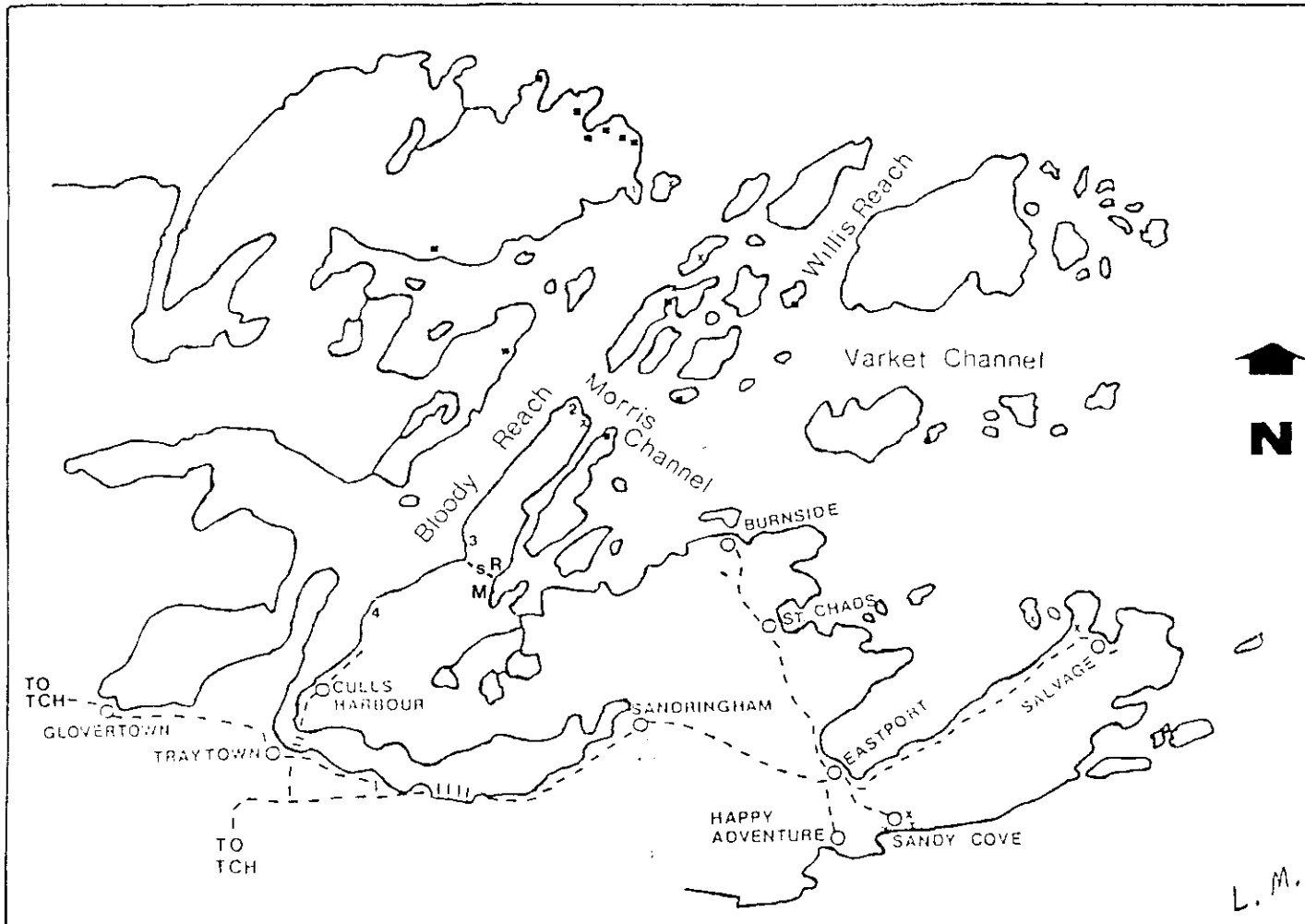
	SQUARE #											BACK	TOTAL
	N7 W50	N8 W47	N8 W48	N8 W49	N8 W50	N9 W46	N9 W47	N9 W48	N9 W49	N10 W48	DIRT		
PP	-	-	1	-	-	-	-	-	-	-	-	-	1
PPf	-	-	-	-	-	3	-	1	-	-	-	-	4
S	-	1	-	-	-	-	-	-	-	-	-	-	1
C	-	13	31	22	-	33	1	7	1	-	1	108	
R/U	1	33	55	30	-	81	2	18	-	-	12	232	
LF	-	-	1	-	-	5	-	2	-	-	-	8	
FS	-	14	1	6	-	61	1	13	-	-	5	101	
UF	-	-	10	6	-	23	-	6	-	1	-	47	
TS	-	-	-	-	-	-	-	-	-	-	1	1	
BF	-	-	4	1	-	8	-	7	-	-	1	21	
M	-	1	1	-	-	7	-	6	-	-	-	15	
Mf	-	-	-	-	-	2	-	1	-	-	-	3	
RF	-	5	10	11	-	35	1	6	-	-	-	68	
PTF	-	-	-	-	-	4	-	-	-	-	-	4	
LC	-	-	-	-	-	1	-	-	-	-	-	1	
TB	-	1	-	-	-	-	-	1	-	-	-	2	
BLF	-	4	10	-	-	20	-	5	-	-	-	39	
BF1	-	-	-	-	-	1	-	-	-	-	-	1	
FE	-	1	2	-	-	-	-	1	-	-	-	4	
QCF	-	-	1	-	-	-	-	-	-	-	-	1	
OB	-	-	1	1	-	-	-	-	-	-	-	2	
E	-	-	1	-	-	1	-	-	-	-	-	2	
FSS	-	-	1	-	-	1	-	-	-	-	-	2	
BTF	-	1	1	-	-	1	-	-	-	-	-	3	
So	-	-	1	-	-	-	-	-	-	-	-	1	
FCR	-	-	-	-	1	-	-	-	-	-	-	1	
RaF	-	-	-	-	-	1	-	-	-	-	-	1	
SUM	1	73	143	85	1	288	5	74	1	1	20	692	

KEY

- | | | | |
|-----|--------------------------|-----|-----------------------|
| PP | Projectile Point | QC | Quartz Crystal Flake |
| PPf | " " fragment | OB | Ovate Biface |
| S | Scraper | E | Endscraper |
| C | Core | FSS | Flake Endscraper |
| R/U | Retouched/utilized Flake | BTF | Biface Thinning Flake |
| LF | Linear Flake | So | Soapstone fragment |
| FS | Flake Scraper | FCR | Fire-Cracked Rock |
| UF | Utilized Flake | RaF | Ramah Chert Flake |
| TS | Thumbnail Scraper | BF1 | Burned flake |
| FE | Flake Endscraper | BLF | Blade-Like Flake |
| BF | Biface Fragment | | |
| M | Microblade | | |
| Mf | " fragment | | |
| RF | Retouched Flake | | |
| PTF | Primary Thinning Flake | | |
| LC | Linear Core | | |
| TB | Triangular Biface | | |

Figures

FIG 1 **BURNSIDE HERITAGE PROJECT: STUDY AREA**



KEY

- | | | | |
|----|--|-----|-----------------|
| -- | HIGHWAY | 3 | CARY'S COVE |
| X | ARCHAEOLOGICAL SITES FOUND BEFORE 1989 | 4 | BROWN'S BEACH |
| ■ | " " " " BY BHP SURVEYS | R | RUM ISLAND COVE |
| 1 | THE BEACHES | M | MISHES COVE |
| 2 | BLOODY BAY COVE QUARRY | -S- | WALKING SURVEY |

FIG 2 THE BEACHES (DEAK:1)
AREAS A-C

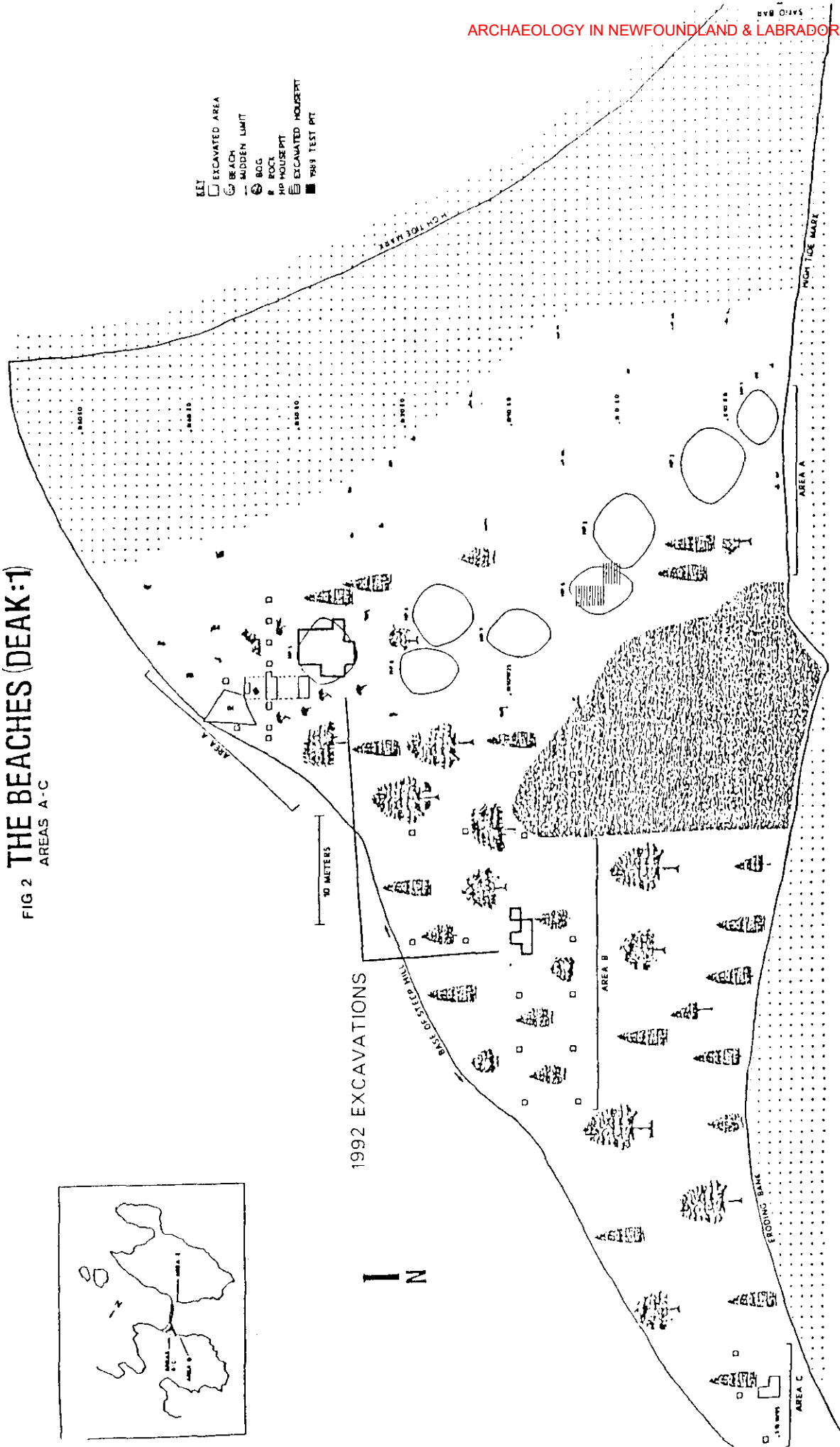
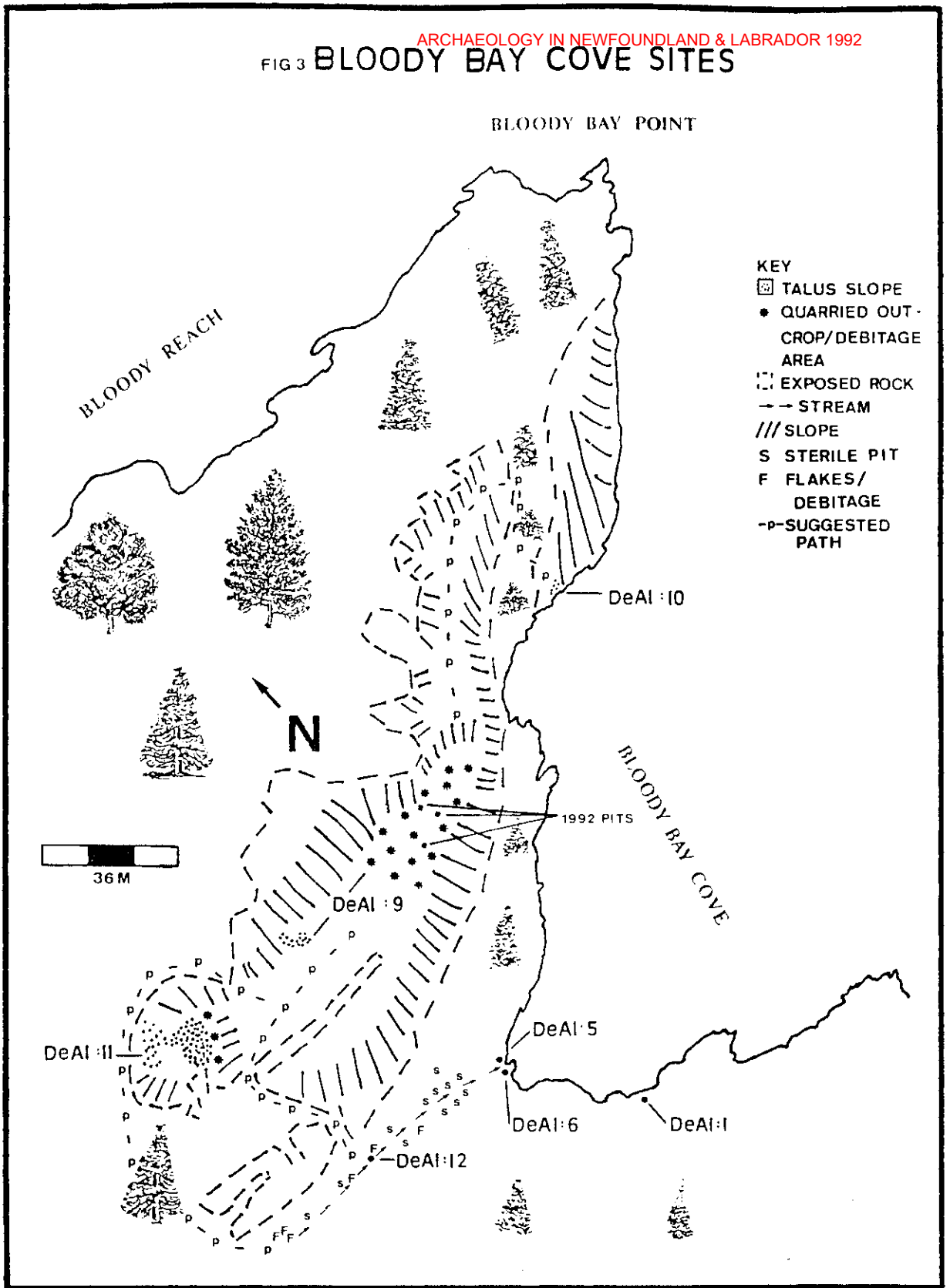


FIG 3 BLOODY BAY COVE SITES



L. M.

FIG 4 THE BEACHES (DeAk-1): HOUSEPIT 5 CONTOUR MAP,
SHOWING BOTTOM OF CULTURE LAYER*

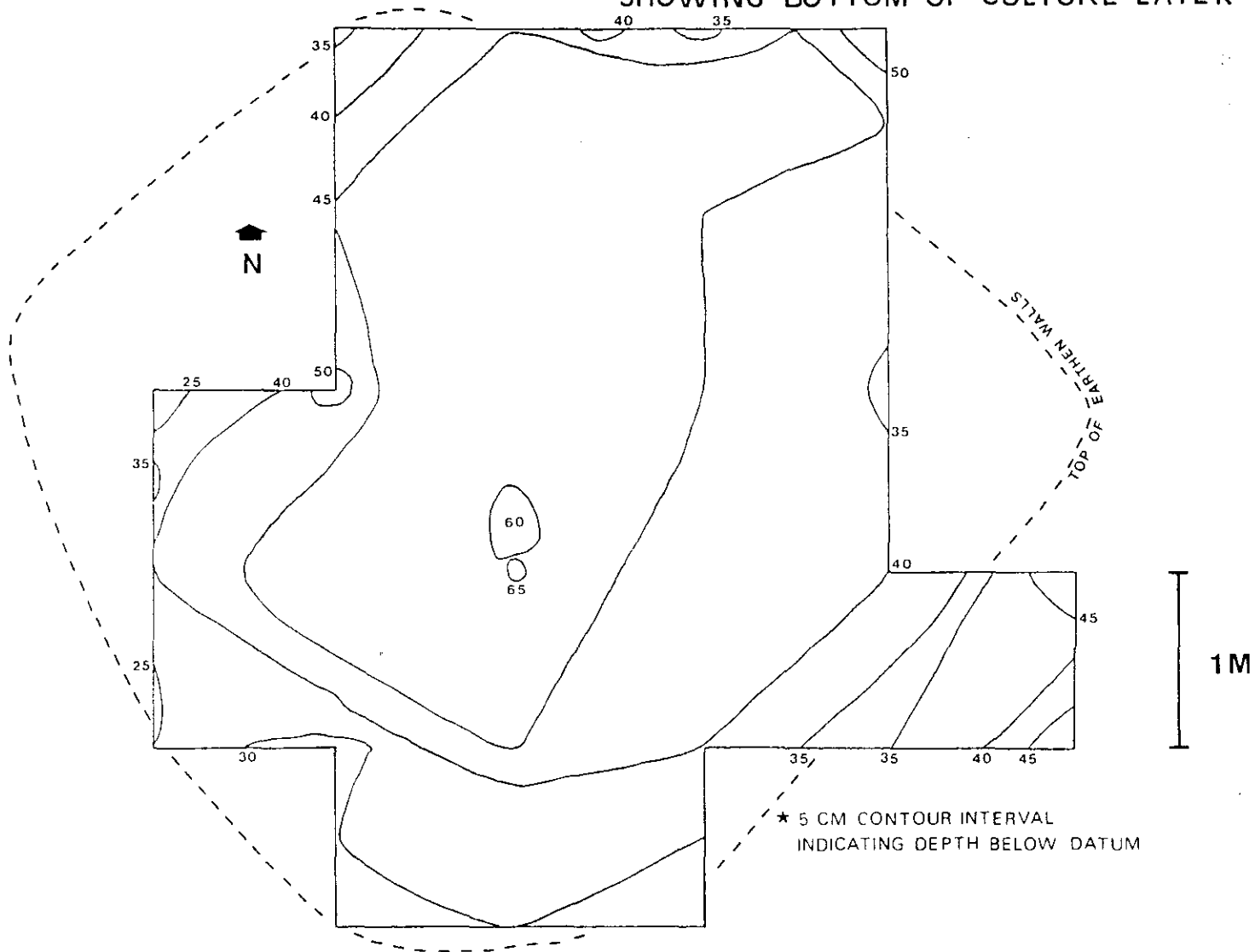
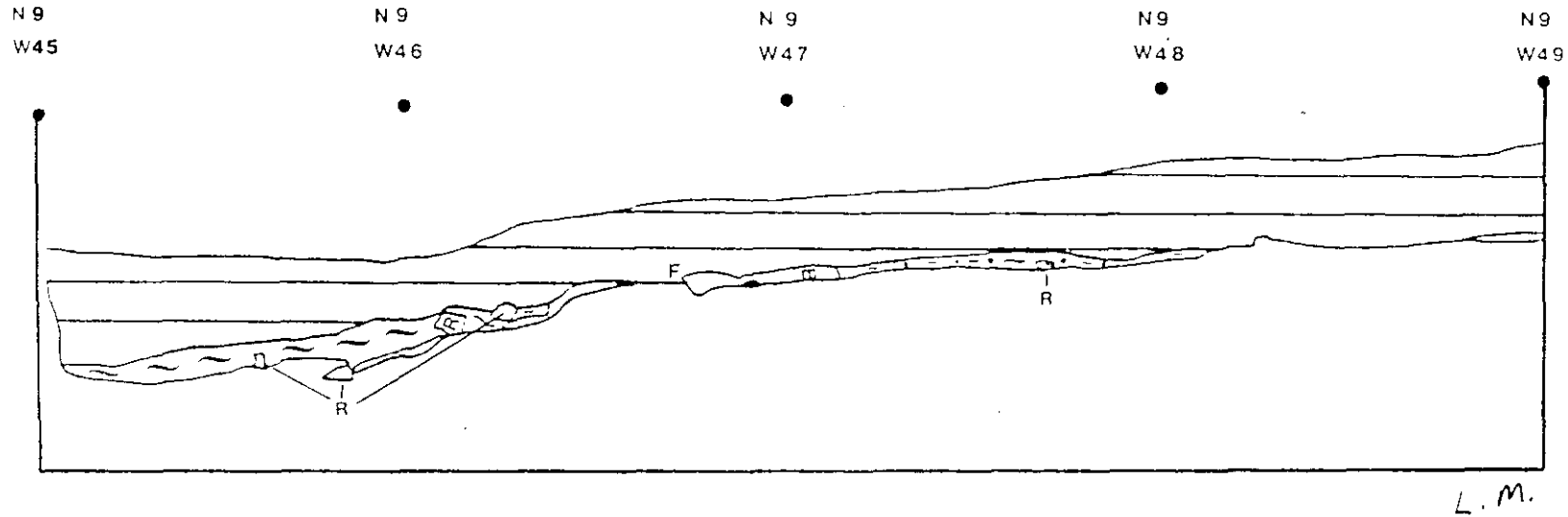


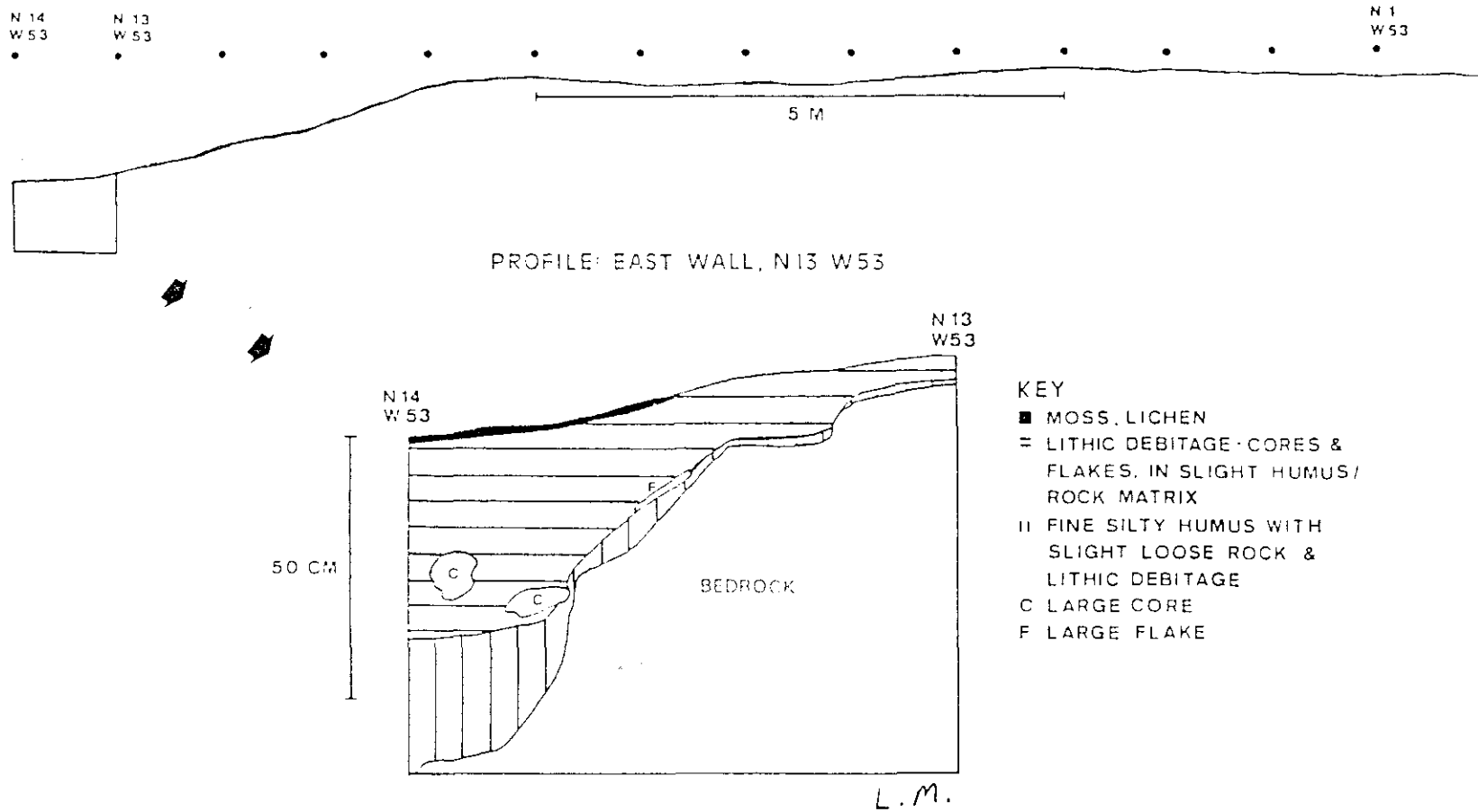
FIG 5 THE BEACHES (DeAk-1): AREA B. SOUTH PROFILE



KEY

- = BROWN PEAT
- GREASY BLACK CULTURE LAYER WITH SMALL ROCKS AND MANY FLAKES
- R ROCK
- GREY CULTURAL
- CHARCOAL
- ⊙ BONE
- GREASY CULTURAL WITH COARSE SAND

FIG 6 BLOODY BAY COVE SUMMIT (DeAI-9), SURFACE CONTOUR



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**REPORT OF A STAGE 1 HISTORIC RESOURCES OVERVIEW ASSESSMENT
NORTHWEST BROOK, GARIA BAY . 1992
NEWFOUNDLAND**

SUBMITTED TO:

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DEPARTMENT OF TOURISM AND CULTURE
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FEBRUARY 25, 1994

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Appendix 1: Proposed Garia Bay Development.

1.0 INTRODUCTION

Genergy Inc. is proposing to construct a small hydro-electric plant on Northwest Brook, Garia Bay. The site selected for development is located 13 km northeast of Rose Blanch in the District of La Poile (Figure 1). The complex will be comprised of an upstream rock fill dam, a headpond, control and intake structures, a spillway, a power tunnel and powerhouse, a transmission line, a local access road, a wharf and a temporary construction camp (Figure 2). If approved, activities for the plant will commence in February, 1993, with construction staged over three seasons. Plant startup is tentatively scheduled for October 1995 (Appendix 1).

2.0 STUDY RATIONAL

Information regarding wildlife activity in the Garia Bay area indicated that the high-ground to the northwest of Northwest Brook is presently a preferred calving location for caribou, and presumably has been for some time (R. Boychuck and S. Mahoney: pers. comm.). This information suggested that because large game gather at that location in the spring, native and European hunters may also have been attracted there to exploit the rich resource during the prehistoric and historic period. Further, due to the proximity of the breeding ground to the proposed development area, it was postulated that temporary camps may have been established on the coast by people travelling to and from the interior. The availability of fresh water and fish from Northwest Brook, and the fact that there is a small cobble beach on which to land a light craft, may have provided the incentive for a short stopovers (L. Jefferson: pers. comm.). Therefore, prior to construction of the power plant, a Stage 1 Historic Resources Overview Assessment was required in the proposed construction areas to determine if archaeological remains were in fact present and, if so, the appropriate mitigation measures to follow.

3.0 OBJECTIVES

The primary objectives of the current study were to inspect specific areas in the vicinity of Northwest Brook, Garia Bay that will be impacted by the proposed hydro development. These areas, herein referred to as the Study Area, included:

- the lower section of the proposed local access road;
- the site proposed for construction of the powerhouse;
- the site proposed for the temporary construction camp;
- the proposed wharf site;
- both sides of Northwest Brook, starting at the site of the proposed powerhouse and extending south to the small island located at the mouth of Northwest Brook; and
- the immediate shoreline of Garia Bay to both the east and west of Northwest Brook. The shoreline survey encompassed the terrain between the water's edge and inland for a distance of approximately 50 m (Figure 2).



PENNEY HYDRO INC.
GENERGY INC. - PROJECT MANAGERS
GARIA BAY POWER DEVELOPMENT
LOCATION PLAN





Photo 1: Proposed Powerhouse Site Looking North.

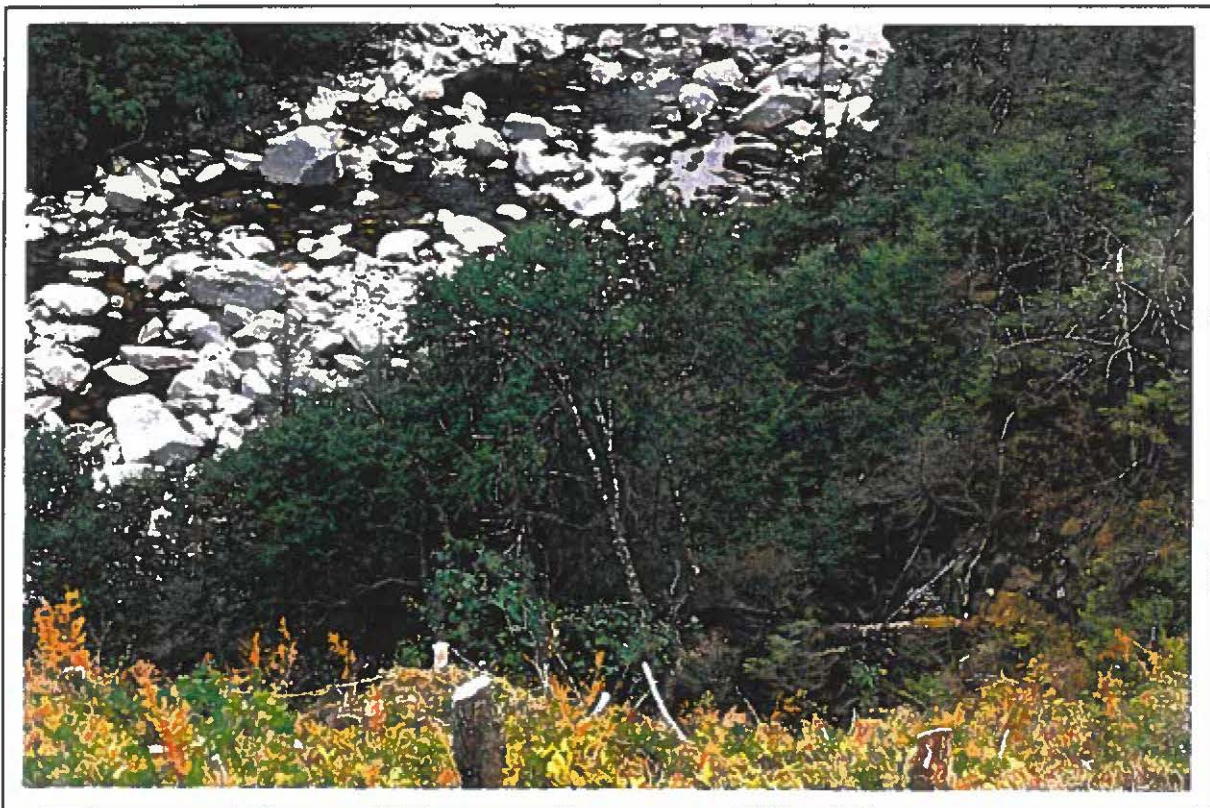


Photo 2: Proposed Powerhouse Site Looking West.

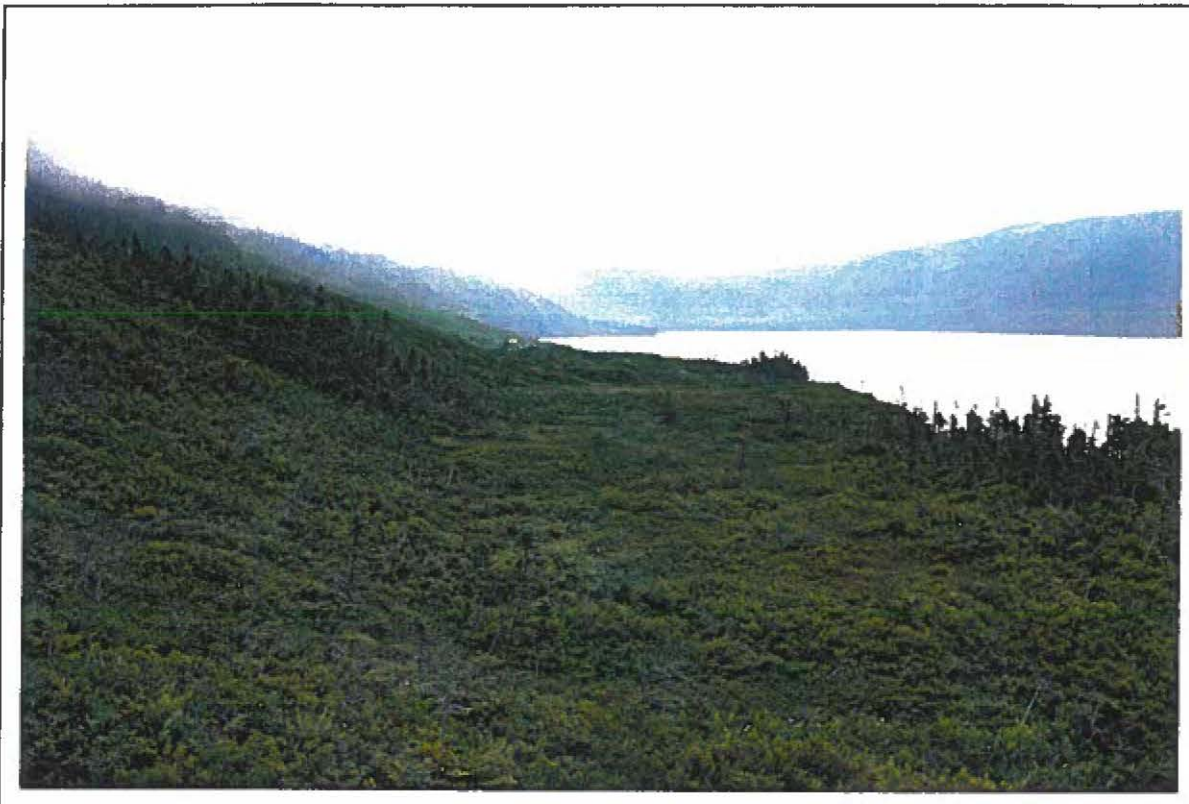


Photo 3: Proposed Route Of Local Access Road Looking East.

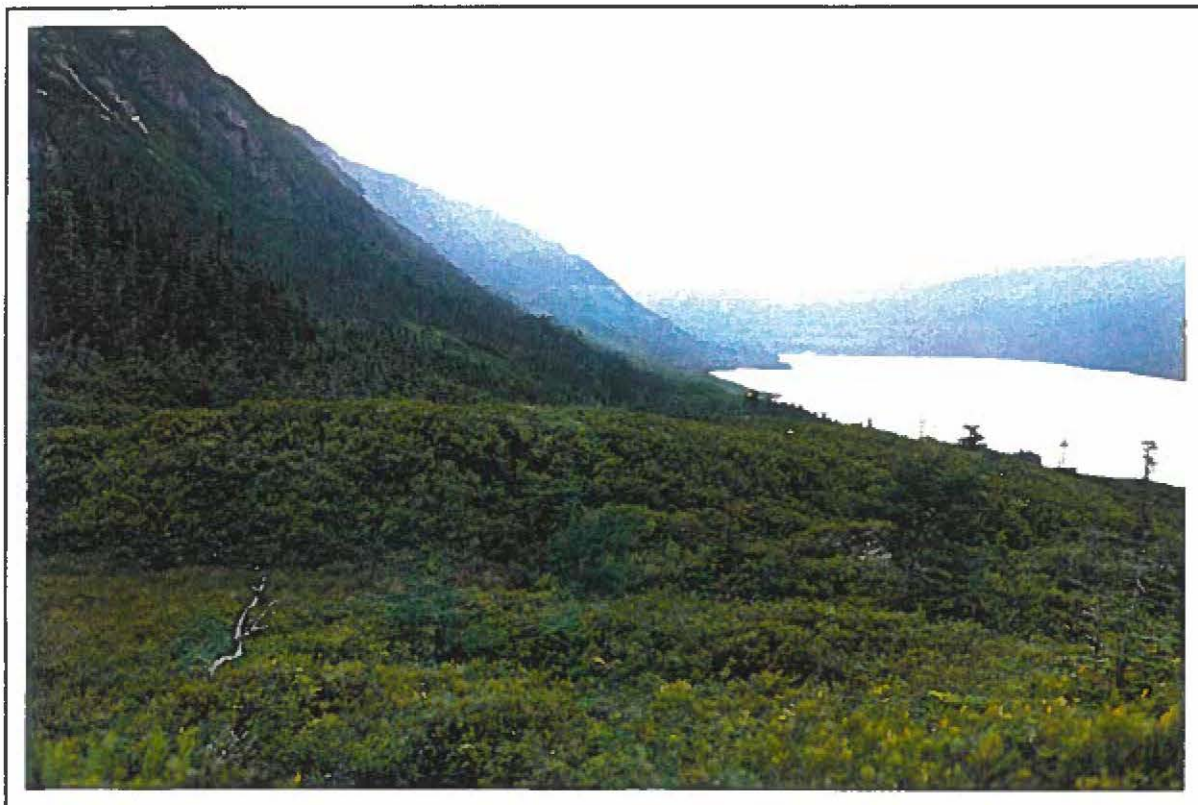


Photo 4: Proposed Route Of Local Access Road Looking East.

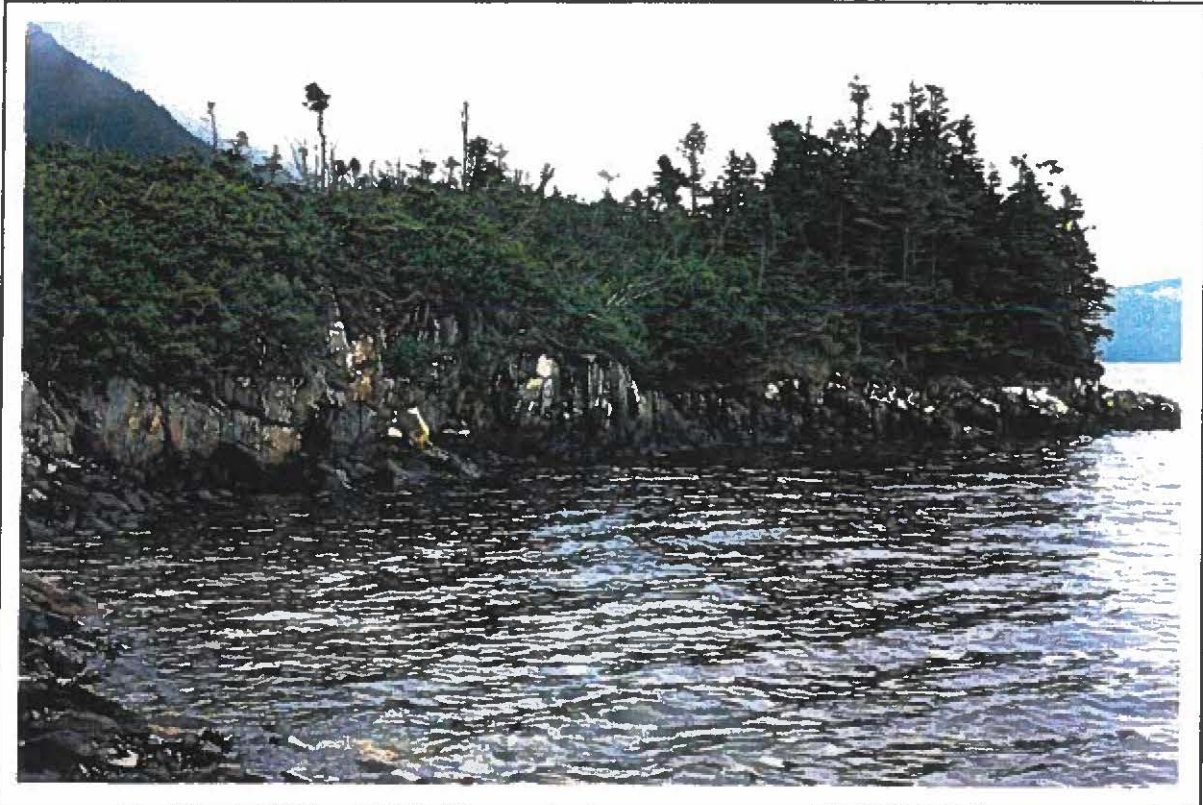


Photo 5: Proposed Wharf Site.



Photo 6: Proposed Temporary Camp Site.

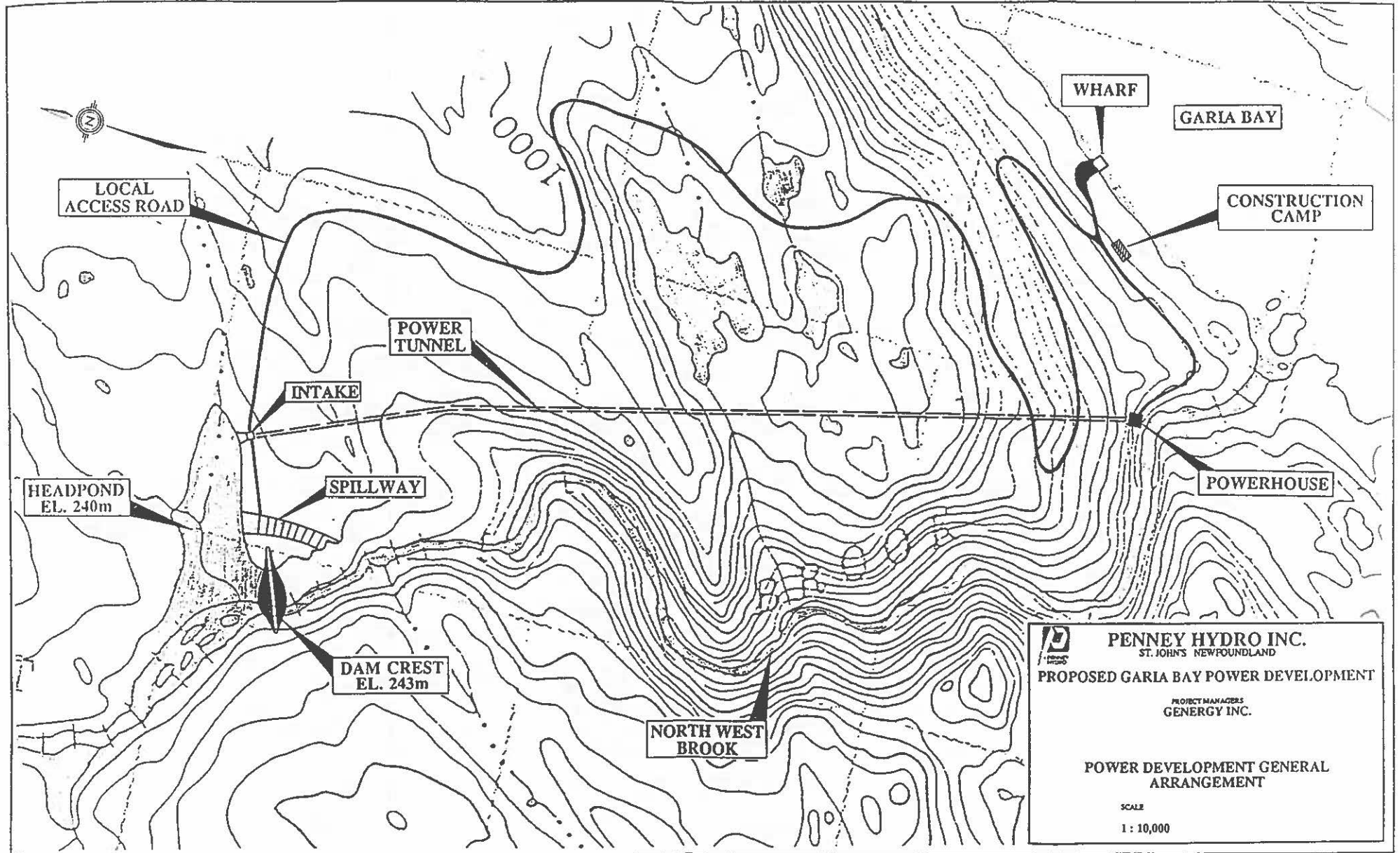




Photo 7: Northwest Brook From Garia Bay.



Photo 8: Mouth Of Northwest Brook Showing Small Island.

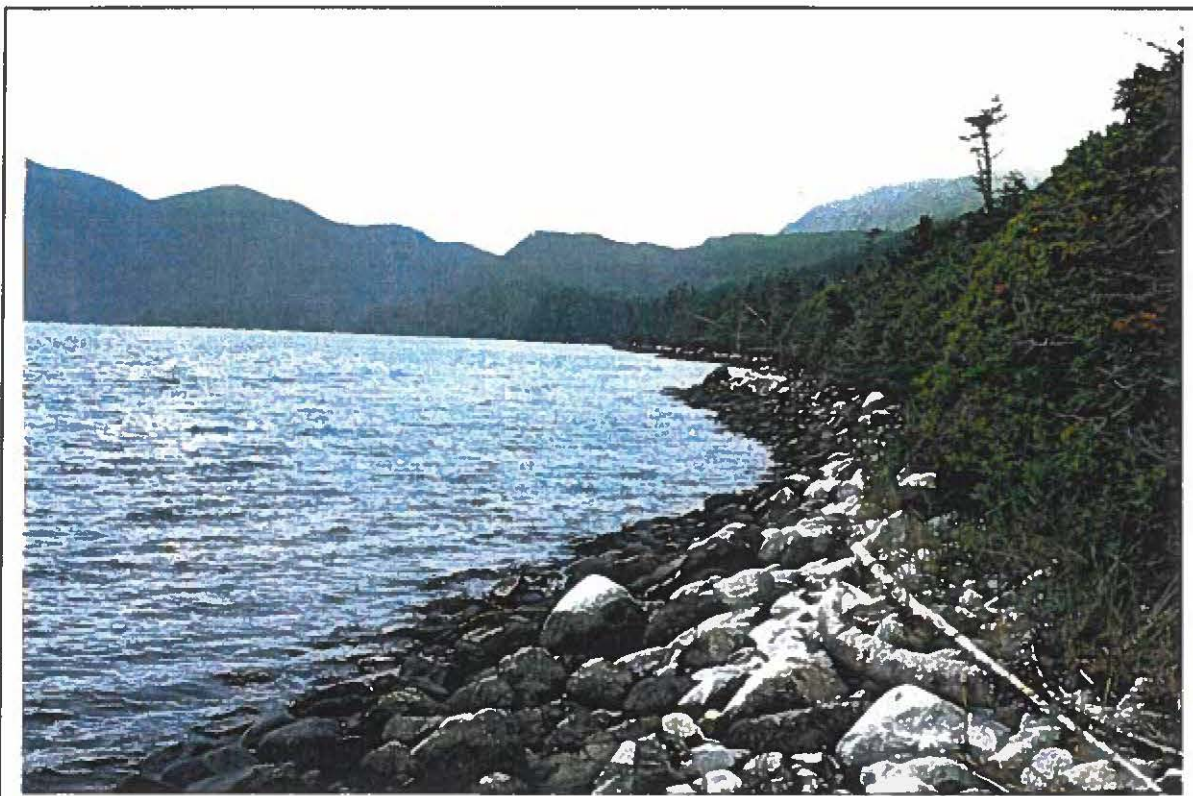


Photo 9: Shoreline East Of Northwest Brook Looking West.



Photo 10: Shoreline West Of Northwest Brook Looking South.

The current research was undertaken in order to identify and assess any archaeological remains that might be present in the above outlined locations and to make recommendations for mitigation if required.

4.0 STUDY TEAM

Preliminary research, the field survey and final report preparation were conducted by Roy Skanes, archaeologist with Jacques, Whitford Environment (JWE). Assistance in the field was provided by Perry Trimper, also of JWE.

5.0 RELATION TO PREVIOUS WORK

Preliminary research indicated that no archaeological studies had previously been undertaken in the vicinity of Northwest Brook, Garia Bay. Several surveys and excavations, however, had been conducted along the south coast of the island to the east and west of the Study Area, all yielding fruitful results (Penny 1982, 1985, 1989 & Linnamae 1975). Therefore, the current survey, even though limited in scope, did hold potential to increase our overall understanding of the prehistoric and historic occupation of the region.

6.0 METHODOLOGY

6.1 Preliminary Research

The following essential tasks were completed prior to commencement of field work:

- a search of the Historic Resources Division Site Record Files to determine if archaeological remains were recorded for the immediate and adjacent areas;
- a review of published and unpublished literature, archival material, maps and aerial photographs relevant to the Study Area; and
- informant interviews with individuals familiar with the Study Area (i.e. fisherman, hunters and wildlife biologists) in order to obtain insight into the natural resources of the region, recent land use patterns and to determine if any archaeological sites or materials had ever been located in the Garia Bay region by residents of the south coast.

6.2 Field Survey

The field survey, conducted over a period of two days, consisted of a thorough walkover of all the components of the Study Area described above. This was undertaken in order to obtain an understanding of the local topography and to identify any areas of archaeological potential that might be obscured by the dense growth of vegetation.

In order to develop an understanding of the nature, depth, lateral extent and state of preservation of any archaeological remains, shovel testing was conducted at various locations along survey routes. In all test locations the upper sod/peat layer was removed with a shovel, with subsequent soil layers excavated to the underlying compact sub-soil with a trowel. A photographic record was obtained of all relevant locations in the Study Area.

7.0 SURVEY RESULTS

7.1 Preliminary Research

A search of the Historic Resources Division Site Record Files indicated that no archaeological sites or materials of any description were recorded for the immediate Study Area or for adjacent regions of Garia Bay. Furthermore, a review of archaeological reports available at that division indicated that no detailed surveys or excavations had been undertaken along that particular stretch of the south coast (Penny 1982, 1985, 1989 & Linnamae 1975). Also, information obtained from an examination of aerial photographs indicated that the topography of the Study Area was generally not conducive to human habitation. In fact, other than the cobble beach situated at the mouth of Northwest Brook, no other location appeared suitable for occupation. All other areas were either inaccessible from the coast or contained a high amount of ground-water.

A review of published materials suggested that the area around Northwest Brook, Garia Bay, was likely not used extensively by Europeans during historic times (Head 1976). It appears as though there were never any permanent or seasonal habitations established in or adjacent to the Study Area. This was almost certainly due to the fact that there are virtually no suitable locations along this stretch of coast to land a fishing boat and because fish stocks are located further southwest towards the mouth of the bay. Other than periodic use during this century by fisherman, hunters and trappers from the south coast (Cecil Hatcher: pers. comm.), the immediate Study Area was probably never intensively exploited by Newfoundlanders of European decent.

7.2 Field Survey

During the survey of the Study Area a total of five areas were investigated for the presence of archaeological remains. The following is a summary of the results obtained from each area.

7.2.1 The Powerhouse

The site selected for construction of the powerhouse is situated 10 m above sea level on the east side of Northwest Brook, 500-600 m up stream from Garia Bay (Figure 2). A thorough walk-over of the site and the shoreline around the small pool located slightly down stream revealed no significant evidence of past human use. Other than recent refuse scattered along the river bank, possibly left there during the last decade by people fishing for trout in the pool, nothing of

archaeological importance was identified. This was not too surprising considering the steep topography of the area where it is proposed that the powerhouse be constructed (Photos 1 & 2).

7.2.2 Proposed Local Access Road

The local access road will extend along the shore of the bay to the construction camp, and up to the east side of Northwest Brook to the powerhouse. From there, it will run up to the high plateau to the headpond area. For the purposes of this study, only the section of road extending from the wharf to the powerhouse was surveyed (Figure 2).

Generally, the route selected for the road will follow a relatively level brush-covered terrace (Photos 3 & 4). Primarily the route is dry, however, in many locations the ground-water is high. The entire stretch of road from the wharf to the powerhouse was walked and inspected for archaeological remains. No evidence of human occupation was noted.

7.2.3 Wharf

The location proposed for construction of the wharf is situated along a stretch of coast in Garia Bay that possesses virtually no beach. In fact, the shoreline at the selected site is extremely narrow being in the order of only 3-4 m from the high-water line to the bank (Photo 5). At the point where the beach intersects the bank, the topography rises sharply 3-4 m to a relatively level but wet terrace. A thorough inspection of the beach and the terrace where the access road will meet the wharf revealed no evidence of past human occupation.

7.2.4 Temporary Construction Camp Site

The site proposed for the temporary construction camp is situated on an elevated terrace along the road leading from the wharf (Figure 2). The camp will consist of a kitchen, recreation facilities and bunkhouse capable of accommodating 50-75 people. The lack of a suitable beach for landing small craft adjacent to the site and the high quantity of ground-water in the immediate area rendered this a relatively unattractive location for human occupation (Photo 6). Several test pits excavated throughout this location failed to reveal any evidence of human occupation.

7.2.5 Additional Areas Surveyed

Additional areas inspected included:

- both sides of Northwest Brook, starting at the site chosen for the powerhouse and extending out to and including the small island located on the coast (Photos 7 & 8); and
- the immediate shoreline of Garia Bay to both the east and west of the mouth of Northwest Brook (Photos 9 & 10, Figure 2).

Despite a thorough walkover and test pitting at various locations, no evidence of past human occupation was identified at either of these areas. This was undoubtedly attributable to the generally unsuitable topography of the area which included an unnavigatable river with extremely steep sides, rocky beaches where vessels could not have easily landed, and wet elevated terraces above the shoreline.

8.0 CONCLUSIONS

During the survey of Northwest Brook, Garia Bay, a number of areas were investigated for the presence of archaeological remains. Despite an thorough walk-over and sub-surface testing at various locations, no archaeological material of any description were identified in the Study Area. Informant interviews indicated that other than hunting trips of short duration, the area around Northwest Brook, Garia Bay, was not used extensively for hunting, fishing, trapping or for the procurement of firewood. Given the extremely rugged nature of the terrain and the unnavigatable river, it appears that the area was likely not exploited by either Native people or Newfoundlanders of European decent in the distant or recent past. As a result of these findings, no mitigation measures are indicated.

9.0 RECOMMENDATION

Even though no physical evidence of past human occupation was discovered in the Study Area it must be kept in mind that a survey of this nature cannot be considered completely reliable, given that only a small percentage of the Study Area was actually tested. Even though remote, there exists the possibility that undiscovered archaeological materials such as butchered animal bones, graves, tools, structures and features may be unearthed during construction. Therefore, it is recommended that all personnel working on the project should be informed of this possibility and of their responsibility to report any suspected findings. In the event of a discovery of a historic or prehistoric artifact or archaeological site, the following procedures should apply:

- a. All historic resources, including archaeological objects and sites of archaeological and/or historic interest or significance discovered in the area will be deemed the property of the Crown, and must not be disturbed. The Contractor will take all reasonable precautions to prevent its employees or other persons from removing or damaging any such articles, artifacts or sites and may be liable for prosecution under Sections 35.1 and 35.2 of *The Historic Resources Act (1985)*, for all contravention.
- b. All work will cease in the immediate area of the discovery until the Provincial Archaeologist of the Historic Resources Division authorizes a resumption of work.
- c. Archaeological materials encountered should be reported with the following information to Martha Drake, Resource Archaeologist with the Historic Resources Division at (709) 729-2462:
 - i. nature of activity resulting in the find;
 - ii. nature of the material discovered; and
 - iii. the precise location of the find.

10.0 REFERENCES

Head, C. Grant

1976 *Eighteenth Century Newfoundland*. McClelland and Steward Limited, Toronto, Ontario.

Linnamae, Urve

1975 *The Dorset Culture: A Comparative Study in Newfoundland and The Arctic*. Technical Papers of the Newfoundland Museum, Number 1, St. John's.

Penny, Gerald

1982 Archaeological Investigations on the South Coast of Newfoundland, 1981. *Archaeology in Newfoundland and Labrador - 1981*. J. Sproull Thomson and C. Thomson eds., Annual Report 2: 226-237.

1985 *The Prehistory of The Southwest Coast of Newfoundland*. Unpublished M.A. thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

1989 Results of Six Historic Resources Overview Assessments in Newfoundland and Labrador - 1986. *Archaeology in Newfoundland and Labrador, 1986*. J. Sproull Thomson and C. Thomson eds., Annual Report 7: 12-26.

11.0 PERSONNEL COMMUNICATIONS

Robert Boychuk: Biologist, Government of Newfoundland and Labrador.

Cecil Hatcher: Fisherman, Rose Blanch, Newfoundland.

Linda Jefferson: Resource Archaeologist, Historic Resources Division, Government of Newfoundland and Labrador.

Shane Mahoney: Wildlife Biologist, Government of Newfoundland and Labrador.

APPENDIX 1
PROPOSED GARIA BAY POWER DEVELOPMENT



NAME OF UNDERTAKING

- (i) GARIA BAY POWER DEVELOPMENT.

PROPONENT

- (i) Name of Corporate Body:
GENERGY INC. (As Project Managers on behalf of
Penney Hydro Inc.)
- (ii) Address:
1289 Topsail Road
P.O. Box 13745, Stn "A"
St. John's, NF
A1B 4G3
- (iii) Chief Executive Officer:
- Name : G.C. Germain
Official Title : President & CEO
Telephone No : (709) 782-0016
- (iv) Principal Contact Person for Purposes of Environmental
Assessment:
- Name : As in (iii) above
Official Title :
Telephone No :

THE UNDERTAKING

- (i) Nature of the Undertaking:

The proposed undertaking consists of a small hydro-electric plant on the Northwest Brook-Garia Bay with an installed capacity of 15 megawatts (MW). The proposed small hydroelectric plant would be comprised of an upstream rock fill dam, headpond, control structures, spillway, intake structure, power tunnel, powerhouse, transmission line, local access road, wharf and temporary construction camp.

(ii) Physical Features:

The principal physical features of the proposed small hydroelectric plant are shown on Figures 3, 4, and 5 and would consist of the following:

A) Rockfill Dam

The Northwest Brook would be dammed by a rockfill structure to be located approximately 3 km upstream of Garia Bay. The proposed dam would be approximately 200 m in length with a maximum height of 20m. The crest elevation of the dam would be 233 m AMSL. It is estimated that 80,000 cubic meters of rockfill and 15,000 cubic meters of core and filter material would be required for the construction of the dam. The rockfill would be derived from the adjacent spillway excavation (See "C" below) and the core and filter from nearby borrow pit(s).

B) Headpond

The proposed dam would form a headpond with a normal water level at EL 230 m AMSL which would provide approximately 500,000 cubic meters of operating storage for regulation of the river discharge. The headpond would have a surface area of 0.25 square km which would extend about 1 km up river from the dam (Figure 6).

C) Spillway

River flow in excess of the power requirements would be discharged through an overflow spillway located on the left (east) bank adjacent to the dam. The spillway would be 70 m wide and would discharge a design flood of 400 cubic meters with a freeboard of 1.0 m on the dam.

D) Intake Structure

Water for power generation would be drawn from the headpond through a concrete intake structure located on the left bank approximately 200 m east of the dam. The intake would be equipped with trash rack, screens, emergency stop logs and a closure gate to control discharge into a vertical shaft in the bedrock leading to the power tunnel about 135 m below the headpond level.

E) Power Tunnel

A 2700 m long power tunnel, 2.8 m wide by 3.0 m high would extend along the east side of the valley from the intake shaft to the powerhouse. The tunnel would be unlined, except for a section of concrete encased steel liner extending upstream from the powerhouse, and would slope downward from the intake with a grade of 3%. The power tunnel would be constructed using one portal adjacent to the powerhouse to permit concurrent construction of the powerhouse and tunnel.

F) Powerhouse

The powerhouse would be situated on the left bank of the river at a bend approximately 600 m up river from the bay. At this point the riverbed is approximately 10 m above sea level thus providing a maximum gross head of 220 m for the power development.

The powerhouse would incorporate one (1) vertical shaft 15 MW Francis turbine with a shut-off valve and a direct coupled generator. Associated equipment such as governor switchgear and control and protection facilities as required for both local and remote control of the plant would also be provided. An alternative concept using two (2), 7.5 MW turbine/generator units would also be considered if the additional costs are justified by the increased efficiency offered by this arrangement.

Access to the powerhouse would be via a road cut into the rock on the left bank, then extending down river approximately 900 m to a wharf located near the head of navigatable water in Garia Bay.

G) Control Structures

Three (3) timber control structures would be erected at the outlet of Eddies Pond (Figure 1) and at two (2) other unnamed ponds to regulate discharge flows.

H) Transmission Lines

Power from the development would be transformed to 25 kV at the powerhouse for transmission to the existing 25 kV line at Rose Blanche (Figure 2). The line from the power development would be a single wood pole line extending through the Bay Le Moine Gulch to the head of Bay Le Moine and thence along the southeast side of the bay to Harry's Knob, near the settlement of Petites. A submarine cable would then extend across the bay to connect to the existing transmission line at Rose Blanche for a total transmission length of approximately 12 km.

I) Local Access

Access for construction of the development would be via water to a wharf to be located near the head of Garia Bay (Figure 7). The local access road would extend westward along the shore of the bay to the construction camp area and up the east side of Northwest Brook to the powerhouse site, the road would also extend eastward up the slope to climb the steep ridge up to the high plateau and to the headpond area.

J) Temporary River Diversion

By-pass of river discharge during construction of the dam and spillway would be achieved using two (2) corrugated metal conduits set on the right bank of the river at the damsite. The diversion conduits would be equipped with inlet cribs, headframe and slide gate for final closure, after the dam is constructed high enough for discharge of river flow through the spillway area.

K) Construction Camp

A temporary construction camp would be erected near the wharf on the shore of Garia Bay. The camp would consist of a kitchen/cafeteria, recreation facilities and bunkhouses to accommodate up to 50/75 persons.

(iii) Construction:

Subject to commencing the final design during the second quarter of 1992, construction activities would begin during February 1993. The construction activities would be staged over three seasons, with start of production scheduled for October 1995.

The first activity in 1993 would be the installation of the transmission line from the 25 kV line at Rose Blanche to the proposed powerhouse site, to provide energy during the construction period. Other construction activities during 1993 would include the wharf, temporary construction camp, phase I excavation of the proposed powerhouse and start of tunneling work on the power tunnel.

During 1994 construction activities would include the continuance of work on the power tunnel, the completion of civil and building works for the proposed powerhouse, installation of the temporary diversion, construction of the dam, spillway and water intake structure. Also, during 1994 the clearing and grubbing of the total headpond area would be completed and timber works for the control structures would be installed.

During 1995 construction activities would include the completion of work on the power tunnel, and the installation of mechanical and electrical equipment. The commissioning of the facility would take place during August and September 1995 and start of production in October 1995. De-mobilization of the temporary construction camp, remedial, clean up and site restoration work would take place between August and October 1995.

Potential Sources of Pollutants:

Potential sources of pollutants during construction would be limited to:

- . introduction of sediment into watercourses;
- . leakage of hydrocarbons (lubricating oil, gasoline and diesel fuel) from temporary fuel storage facilities and construction equipment;
- . noise from right-of-way clearing and camp construction;
- . compaction and vegetation disturbance; and
- . domestic waste from the construction camp.

Sediment in watercourses would be minimized by the use of sediment traps in areas subject to erosion using approved fabrics which would be regularly checked and cleaned as required. All mechanical equipment used during construction would be inspected routinely to ensure no gasoline, oil or hydraulic fluid leaks occur. Vehicle and equipment maintenance would only occur in areas on the construction site that are designated for such purposes. Drilling and blasting would be necessary during the construction of the spillway structure, powerhouse, power tunnel, water intake and in isolated minor cases, along the proposed local access road. The only significant drilling and blasting operation would take place at the spillway structure where approximately 80,000 cubic meters of rock would be excavated and used in the construction of the rockfill dam embankment. All blasting operations would be controlled as to prevent the scatter of blasted materials beyond the cleared working areas. Equipment and vehicles would not be operated outside of designated project areas. All domestic waste would be incinerated or disposed of in approved waste disposal areas.

Potential Resource Conflicts:

Wildlife - The available site specific information regarding wildlife in the vicinity of the proposed project while limited, does not appear to indicate serious concerns regarding this project. Caribou (*Rangifer tarandus*) have been occasionally observed by a local cabin owner (C. Hatcher, pers. comm.) and Genergy personnel ferrying to and from the site. The approximate western boundary of the La Poile Caribou herd is believed to be La Poile Bay (Mahoney et al. 1989) which implies that individuals observed near the study area are isolated aggregations and not part of this herd. Moose (*Alces alces*) have been observed in the area but the habitat appears to be marginal. Bald Eagle (*Haliaeetus leucocephalus*) and Osprey (*Pandion haliaetus*) have been observed east of the site by Genergy personnel and others. (C. Hatcher and I. Hatcher, pers. comm.). Construction activities would be of a scale which is not expected to affect these birds. Other wildlife species probably occur in the study area but with construction activities confined to the site, the possibility of disturbance or displacement would be limited to incidental encounters.

If further assessment is required, Genergy would conduct a general wildlife reconnaissance of the study area (approximately 30 square km) in August 1991. A helicopter would be used to follow transects at 0.8 km apart, 100 m above ground level, and at a speed of 100 kph. Additional transects would run parallel to Northwest Brook. This river valley and other parts of the study area would also be walked by experienced biologists looking for wildlife sign, and recording notes on habitat. Conversations with local residents and Genergy personnel would assist in the description of the seasonal occurrence and abundance of wildlife resources.

Freshwater fish - A series of falls and rapids (barriers to migration) along the Northwest Brook, prevent Atlantic Salmon (*Salmo salar*) from utilizing this stream (Porter et. al. 1974). Brook trout (*Salvelinus fontinalis*) are known to occur in this region (I. Hatcher, pers. comm) and may be found in Northwest Brook. If the examination of fisheries habitat indicates that spawning gravels are present in the vicinity of the control structures, these structures could be of a v-notch design to allow for migratory movements of brook trout, if they are present.

Potential Sources of Pollutants:

With this type of project, the potential source of pollutants during operation would be limited to:

- . minimal leakage of hydrocarbons (lubricating oil, gasoline and diesel fuel) from equipment (i.e. all terrain vehicles) used during inspection;
- . siltation of streams and waterbodies from equipment (i.e. all terrain vehicles) used during occasional inspections; and
- . Potential leaching of substances from the flooded area behind the impoundment.

Activities which could cause pollutants during operation of this project would be limited to occasional maintenance inspections. All mechanical equipment used would be inspected to ensure no gasoline, oils or hydraulic fluid leaks occur. Vehicular movement would be restricted to approved tracks as much as possible. Crossing of water courses would not be necessary during inspection. As much vegetation as possible would be removed from the area to be flooded before flooding occurs. This fact combined with a minimal amount of flooding (250 ha) would reduce the amount of mercury leaching from the newly flooded areas.

Potential Resource Conflicts:

Once the headpond has been filled and the 250 ha area flooded there would be little disturbance at the study area except for occasional maintenance visits. The flooding is not expected to cause serious effects to wildlife species of the area due to the sparseness of the vegetation that does exist within the flooded area (Figure 6). Fresh-water fish that may exist in the headpond would be protected from the turbines by placing screens over the entrance to the water intake. Measurably increased mercury concentrations in the headpond waters and fish are not expected due to the limited extent of flooded area.

Potential Resource Conflicts: (cont'd)

Maintenance activities would involve only the presence of one or two persons using an all terrain vehicle along the access road, at the headpond and at the powerhouse. No displacement or disturbance of fish and wildlife species in the area is expected except for incidental encounters.

(v) Occupations:

The occupations required to construct this undertaking include:

Equipment Operators
 Labourers
 Carpenters
 Welders
 Electricians
 Mechanics/Millwrights
 Boat Operators
 Deckhands
 Painters
 Cooks/Janitors
 Foremen/Supervisors
 Surveyors
 Engineers
 Clerical Staff

(vi) Project-Related Documents:

NONE

Literature Cited:

Mahoney, S.P., B.J. Tucker, S.H. Ferguson, M. Berger, P. Northcott, and J. Lane. 1989. The relationship between the Hope Brook Gold Mine and the La Poile Caribou Herd. Draft No. 2. Prep. for Hope Brook Gold Inc. by the Newfoundland and Labrador Wildlife Division, Dept. of Environment and Lands. 130 pp.

Literature Cited: (cont'd)

Porter, T.R., L.G. Richer and G.R. Traverse. 1974. Catalogue of rivers in insular Newfoundland. Resource Development Branch, Fisheries & Marine Service, Department of the Environment. Data Report Series No. NEW/B-74-9, Vol. C.

SNC=BAE Joint Venture. 1987. 1987 small hydro studies - screening small hydro sites for energy supply to the island grid. Prep. for Newfoundland and Labrador Hydro.

APPROVAL OF THE UNDERTAKING:

The following is a list of permits, approvals and authorizations which may be necessary for the proposed undertaking:

<u>Permit/Approval</u>	<u>Contact</u>
Certificate of Approval for the Undertaking	Minister Dept. Environment & Lands
Certificate of Approval for any Industrial or Processing Works	Industrial Environmental Eng. Division Dept. of Environment & Lands
Permit to Occupy Crown Land	Regional Lands Manager Western Region Dept. of Environment & Lands
Water Use Authorization	Water Resources Engineer Dept. of Environment & Lands
Permit for Alteration to any Body of Water	Water Resources Engineer Dept. of Environment & Lands
Permit for all Watercourse Crossings	Water Resources Engineer Dept. of Environment & Lands
Permit for all Borrow and Quarry Developments	Manager of Quarry Materials Dept. of Mines and Energy
Permit to Cut or Burn	Western Regional Director Dept. Forestry & Agriculture

Permit/Approval

Contact

Certificate of Approval for any Sewage Works	Director Civil Sanitary Eng. Division Dept. of Environment & Lands
Certificate of Approval any Water Withdrawal System	Director Civil Sanitary Eng. Division Dept. of Environment & Lands
Approval for Living Accommodations and eating facilities at any Construction Camp	Assistant Director Public Health Inspection Dept. of Health
Permit to Establish or Alter a Waste Management System	Licensing and Enforcement Supervisor Dept. of Environment & Lands
Certificate of Approval for the Storage and Handling of Gasoline and Associated Products	Licensing and Enforcement Supervisor Dept. of Environment & Lands
Authorization for all Water Course Crossings	Dept. of Fisheries and Oceans Canada
Authorization for Instream Work	Dept. of Fisheries and Oceans Canada

SCHEDULE

In order to commence production during October 1995, we would need to complete the requirements of the Environmental Assessment Act and obtain approval for the undertaking during the first quarter of 1992.

FUNDING

The design and construction of the undertaking would not depend upon a grant or loan of capital funds from a government agency.

Original Signed By
G.C. Germain

July 11, 1991
Date

Signature of Chief Executive Officer

ARCHAEOLOGY AT RED BAY, LABRADOR- 1992

James A. Tuck
Archaeology Unit
Memorial University of Newfoundland

ARCHAEOLOGY AT RED BAY, LABRADOR - 1992

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The 1992 season was the final one for archaeological investigations by Memorial University field crews in and around Red Bay, Labrador, after a continual presence of seventeen years. Objectives for the 1992 season were to complete excavation and recording at the Peters Brook-1 site, a multi-component European occupation area with evidence of habitation beginning in the early eighteenth century and continuing intermittently until the early nineteenth century. A summary of these excavations is found below.

Almost as soon as we arrived at Red Bay, However, our attention was called to a new road built from the main highway to the small settlement on the west side of Red Bay Harbour known as "Tracy". Local residents reported finding flakes and artifacts at a number of locations along the route and a brief inspection of the road bed and spoil dirt on the sides of the road proved this to be true. Therefore, the investigations described briefly below were undertaken.

Peters Brook-1 Ek BC - 29

Excavations at Peters Brook-1 were designed to complete the excavation of the interior of the structure(s), including recording and removing the baulks left there for reference throughout the excavations and completing excavation of the fireplaces and chimney falls in the northeast corner of the structure, as well as continuing explorations

outside the earth and rock walls of the structure to search for refuse deposits that might contribute information about the chronology and functions of the occupations at Peters Brook-1.

Removal of the baulks and other excavated areas within the structure provided few surprises and generally confirmed the vertical distribution of artifact types and classes observed in previous years. The uppermost occupation continues to appear to have taken place during the early nineteenth century and may be a "winter house" of one of the ancestors of the present-day residents of Red Bay. The middle occupation seems to have taken place during the latter half of the eighteenth century, probably in the fourth quarter of that century. It would seem to be too late to be involved with the French regime in southern Labrador, yet too early to be related to the permanent settlement of Red Bay. The origin of the people responsible for the occupation remains uncertain. The earliest occupation still appears to date from the first half of the eighteenth century, probably to the time of Pierre Constantin's establishment of a small year-round *habitation* at Red Bay.

A complete description and analysis of the structural remains and artifacts will begin as soon as conservation has been completed.

The Tracy Road

Several years ago a proposal to construct a road to the small settlement at Tracy, on the west side of Red Bay Harbour and accessible only by boat or on foot. At that time Philip Bridle, Reginald Moores and I conducted a survey of the proposed routes for

the new road. One route followed the high ground not far from the present utility line and the other was proposed to follow the base of the steep hill and would involve extensive filling at the water's edge. The upper route was not recommended since our survey revealed a number of locations where flakes of quartz, Ramah chert and a variety of high quality cherts were recovered from test pits. No further excavation was undertaken at that time or subsequently, for it was not thought that the construction of the road was some time in the future and that either the preferable lower route would be selected or that some time for salvage archaeology would be available.

Unfortunately, neither proved to be the case. During the fall the Red Bay Community Council approved and constructed the road, using the upper route, in an amazingly short time and at an equally amazing low cost. The good news is that the residents of Tracy now have road access to the outside world. The bad news is that at least six archaeological sites were partly or completely destroyed during the construction of the road.

During September and October 1992, as time and weather permitted, we conducted survey and limited excavations along the roadway and in adjacent areas where it appeared likely that in situ deposits might be preserved. In most cases the sites appear to have been so small that they were completely destroyed by the road; only two (see below) repaid any further excavation.

A description of the sites and the objects recovered from them follows.

Tracy Road-1 (EkBc-39)

The Tracy Road-1 site is located on the north side of the Tracy Road, almost exactly 400m by road from the edge of pavement on the main highway, at an elevation of 18.0m above high tide. The area of occupation was exposed by equipment used in road construction. Much of the site was completely destroyed and wound up as sod piles or road fill. A few areas were not scraped to subsoil and it was in these areas where our excavations took place. The stratigraphy, insofar as it could be reconstructed, consisted of a thin (up to 10cm) sod heavily infused by the roots of the tundra vegetation characteristic of this exposed area, a shallow, black, decomposed humus which probably represents the end result of the decomposition of the same vegetal material, and an underlying sand and gravel subsoil. The cultural material--flakes and artifacts--was found on the surface of, and extending a few centimetres into, the sandy subsoil.

For the most part, the flakes consisted of a variety of black to grey and brown to tan cherts, often mottled or banded, and generally of high quality. Flakes and chunks of white quartz also found at the site are thought to represent a scatter, caused at least in part by construction activities, from the nearby Tracy Road-5 site (see below).

No features were encountered during our excavations, although a few fragments of fire-cracked rock were collected. Likewise, no charcoal acceptable for dating purposes was recovered.

Artifacts which were missed by the construction activities include the following:

bifaces

Two bifaces, probably best described as bipointed, were recovered, the larger in

two conjoining fragments. Both are made from banded brownish cherts. The larger, which appears not to have been completely finished, measures 12.5 by 3.2 by 1.0cm, while the smaller, and much more finely finished example measures 6.1 by 3.1 by 0.8cm; in both cases the widest point of the blade is well below the midpoint. A third probable biface fragment appears to be a more or less squared basal fragment of an otherwise unidentifiable implement. A final specimen is a small fragment of a biface tip; given the bipointed nature of the intact specimens, it is impossible to say whether it is a distal or proximal fragment.

unifaces

Unifacially flaked objects include six specimens, four of which are large elongate flakes of high quality grey to brown chert with unifacial retouch around all, or a portion of, their margins. The intact examples range in length from 7.0 to 5.3cm, 3.5 to 2.3cm wide and about 1.3 to 0.5cm thick. A fifth example is a fragment of a much lighter grey chert flake with steep unifacial retouch along one convex edge.

A final example is a flake endscraper, almost square in plan (3.3 by 2.9 by 0.4cm) and with steep unifacial retouch over the distal end and both adjacent edges. It is made from a high quality banded brown chert.

preform

A single rough flake of brownish chert shows evidence of some attempt to reduce it further and probably qualifies as a fragment of a preform broken in the very early stages of reduction.

ground stone

Two ground stone artifacts were recovered from Tracy Road-1. The first is a large spall from what appears to have been a ground stone axe or adze. It appears to have been formed by chipping, pecking and grinding, and measured at least 6.0cm in width, but further observations are impossible. It is made from a hard, grey sedimentary or metamorphosed rock, probably slate.

The second object is unique, as far as I am aware, among collections from the Labrador Straits. It is made from a soft, pinkish rock, probably originally sedimentary in origin.

its entire surface is ground and polished. The "ventral" surface has been ground flat, and the dorsal surface might be described as an "elongate turtleback" or perhaps a "half-tear-drop". One end has a blunt point and the other is rounded. It resembles a "boatstone" from the American Midwest although it clearly has no historical connections to those objects. So-called boatstones are thought to have served as atlatl weights and the Tracy Road specimen may have been such an object.

Tracy Road-2 (EkBc-40)

This site is located on the inside of the Tracy Road about 455 metres from the edge of the pavement of the main highway. No doubt it once also extended beneath what is now the road bed. The living surface is now elevated 14.8 metres above high water. Collecting was limited to looking through the piles of humus and sand removed during road construction and digging a few small test pits in undisturbed areas at the edge of

the disturbed area. Although a few flakes identical to those from the disturbed deposit were found, virtually the entire site had been destroyed by road construction.

No features or datable charcoal were recorded or recovered.

Artifacts

Aside from a number of flakes of grey and brown chert, often banded and mottled and reminiscent of the raw material from Tracy Road-1, only three artifacts were recovered from this badly disturbed site. They include:

what appear to be fragments of a blank for a slate celt, now so badly broken and eroded that no further observations are possible;

a large unfinished projectile point of greyish chert with what appears to have been intended as a tapering stem. The finished shoulder is sharply defined. An irreducible lump near the widest portion of the blade caused the piece to be discarded before it was completed. It measures 8.9 by 3.2 by about 1.3cm;

a fragment of an unusual end scraper, now broken close to the distal (working) end. It appears to have had a concave distal end and both adjacent edges are steeply retouched to form sharp spurs on the two adjacent corners. It is made from high quality brownish chert and measures 2.3cm wide and 0.6cm thick.

Tracy Road-3 (EkBc-41)

Tracy Road-3 is located on the Tracy Road about 480m from the main highway. The site was apparently bisected, and virtually destroyed, by the road construction since flakes were found in the banks on both sides of the road. The site is presently 13.7

metres above high water. No excavation except for a few test pits which proved to be at the margins of the site were possible.

Flakes are largely of the high quality grey to brown cherts that characterize most of the other Tracy Road sites. An exception is a relatively large number of flakes of slate, the same material from which ground stone woodworking tools were manufactured; this activity must have taken place at the Tracy Road-3 site.

Artifacts include two projectile points, a lanceolate biface and a very rough preform.

The projectile points include a small example of dark brown chert and displaying very fine surface flaking and edge retouch. It has markedly convex blade edges, well-defined, almost barbed, shoulders, and an expanding stem. The base of the stem is either unfinished or snapped leaving a virtually flat surface. It measures 4.4 by 2.7 by 0.8cm.

The second projectile point is markedly different and, in fact, differs from all other points in the Tracy Road series. It is manufactured from a very light grey material, apparently a medium-grained chert. It is unique also in its narrow blade with pronounced but sloping shoulders and a long, tapering stem, which must have constituted between one-fourth and one-third of the entire length. Dimensions are an estimated length of greater than 10cm, width of 2.5cm and thickness of 1.1cm.

The third specimen is a lanceolate biface with an irregular (unfinished?) base and its widest point at about midpoint of the blade. It is made from a somewhat granular brown chert(?) and measures 10.7 by 1.9 by 0.8cm.

The "preform" is a lump of high quality banded grey chert which displays a number of flake scars suggesting an attempt to reduce it to some useful form. Its intended form is not apparent.

Tracy Road-4 (EkBc-42)

The Tracy Road-4 site is located about 510 to 530 metres by road from the main highway at an present elevation of about 8.7 metres above sea level. It is on the inside of the Tracy Road and surrounds an old well that once served as a water source for the community at Tracy. As with most of the other sites along the road, this one, too, seems to have been almost totally destroyed by construction.

Artifacts include the bit of a ground slate axe, symmetrical in profile and asymmetrical in plan, a spall from another ground stone tool and a fragment of a water-washed biface of mottled blue/grey chert.

Tracy Road-5 EkBc-43

Tracy Road-5 is located on the opposite side of the road from Tracy Road-1 and about 390 metres from the main highway. It is now about 20 metres above sea level, the highest elevation in the Tracy Road series. Although much of the site had been removed and redistributed for several tens of metres along the new road, a few small areas along the edge of the road escaped destruction. In these places the stratigraphy consisted of:

an uppermost layer of coarse, loosely compacted, root-filled peat ranging between 15 and 20cm thick and essentially devoid of cultural material;

up to about 12cm of cobbles and greyish podzolic sand grading gradually into a layer (of unknown depth) of dark brown compacted and cemented sand and cobbles. In places this lowermost layer almost assumed the consistency of sandstone. The origin of this unusual stratigraphy remains obscure.

Flakes and artifacts were concentrated in the lower part of the podzolic sand and cobbles and cemented in the dark brown deposit beneath.

The thousands of white quartz flakes have not yet been carefully inspected for signs of modification and/or utilization. When this is done it is expected that additional artifacts will be added to the meagre total of three biface or preform fragments. The quality of the quartz raw material is such that it is often impossible to identify formed, or partially formed, artifacts until they have been cleaned and can be inspected in proper light.

The three examples, all made from the quartz typical of Tracy Road-5, include a large ovate-based preform fragment about 6.5cm wide and 2.5cm thick, a somewhat smaller, and presumably more nearly completed example measuring 5.1cm wide and 1.4cm thick, and a small edge fragment of indeterminate form.

Tracy Road-6 (EkBc-44)

Tracy Road-6 is located toward the inside of the Tracy road approximately 435 metres from the edge of the pavement on the main highway at an elevation of 16.10 metres. The site appears to have been destroyed completely by road construction.

Flakes of banded grey chert are virtually identical to the raw materials from Tracy Road-1, but no finished flaked stone tools or weapons were found at this station. The only worked object is a large (22.5 by 8.1 by 3.0cm) preform for an axe or adze made from finely banded grey slate.

SUMMARY

Before their destruction the Tracy Road sites presented a unique opportunity to excavate a series of small, discrete campsites once occupied by the prehistoric residents of Red Bay. The variation in elevation above sea level, from about 20 metres to about 8 metres, offered the possibility for good chronological control; careful excavation of undisturbed deposits may well have produced wood charcoal sufficient for radiometric dating. Although such small sites often do not command the attention of archaeologists, who prefer larger, more productive stations, they are frequently a source of extremely valuable information, particularly as regards culture history, a study still in its infancy in southern Labrador. Such sites represent small, discrete time capsules, horizontally separated from one another, which provide among the best evidence for change and continuity through time. If we had had the opportunity to excavate these sites before they were destroyed a very interesting sequence of occupation would certainly have emerged.

Despite the destruction of most of the deposits, a few inferences about the culture history of the Tracy Road area are still possible. Considering the site elevations, the artifacts and comparisons of both with material recovered elsewhere along the Labrador Straits (see McGhee and Tuck 1975) it is possible to write a tentative summary of the

occupations discovered along the Tracy Road.

The earliest site, by virtue of its elevation (20m) and use of quartz as a raw material, is the Tracy Road-5 site. The almost exclusive use of quartz is a characteristic of the earliest sites known from southern Labrador (the Pinware Hill site, for example; see McGhee and Tuck 1975) and its use was never popular following this early period. It is likely that the Tracy Road-5 site is one of the oldest known sites along the Labrador Straits, having been occupied, perhaps, not long after 9,000 years ago. Other technological elements which should be present among the artifacts from the site include small triangular end blades or projectile points, tiny thumb-nail scrapers and pieces esquillees, or bipolar cores, all of which are common on sites of similar age elsewhere in southern Labrador and adjacent Quebec.

This initial occupation began a continuity of occupation which lasted along the Strait of Belle Isle for nearly 3,000 years and on the central and northern Labrador coasts until about 3,000 years ago. Archaeologists have called this tradition the "northern branch" of the Maritime Archaic tradition. The characteristic narrow stemmed projectile points and other stone tools and weapons of this tradition are the only cultural manifestation along the Strait of Belle Isle, and in fact the entire Labrador coast, for the 3,000 years following their first appearance.

Along the Strait of Belle Isle this distinctive artifact complex disappears sometime around 6,500 years ago and appears to be replaced by a vastly different chipped stone tool and weapon complex using different raw materials and manufacturing tools and weapons in styles previously unknown by northern branch people. Some investigators see

the appearance of this stone tool complex as the arrival of a new people, called the "southern branch". I believe that except for Tracy Road-5, the rest of the Tracy Road sites represent small encampments of southern branch people, about whom, unfortunately, very little is known.

The large and small bipoints and unifaces from Tracy Road-1 are not unlike examples from l'Anse Amour Area 10, radiocarbon dated greater than 6400 BP and thought to represent the first advance of southern branch people into Labrador. The examples from Tracy Road-1, while too few in number to admit statistical comparisons, give the impression of being somewhat more recent in time than the l'Anse Amour examples. They are also reminiscent, in both form and the identical raw materials from which both assemblages are produced, of specimens from Buckle's Point, in Forteau, which have been radiocarbon dated between about 5500 and 5000 BP.

The Tracy Road sites at lower elevations must certainly represent more recent manifestations of the same tradition. The well-flaked expanding stem biface from Tracy Road-3 is not unlike examples from both the south and central Labrador coasts, where they have been dated between about 4,000 and 4,500 years ago.

What is represented at Tracy Road, therefore, is a sample of small sites occupied over a period of as many as 5,000 years and illustrating the arrival of the first Labradorians, their replacement by people known to archaeologists as "southern branch" Maritime Archaic, and the subsequent florescence of these people for at least several millennia.

If the known sites had not been destroyed, and if additional sites that must exist

in the area but have not yet been discovered, are discovered and excavated a unique and impressive picture of prehistoric occupations at Red Bay will emerge.

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**REPORT ON THE RESULTS OF A
STAGE 1 HISTORIC RESOURCES IMPACT ASSESSMENT
OF OLD MAN'S POND, WESTERN NEWFOUNDLAND**

Dr. Frederick A. Schwarz

December 5, 1992

with distinct Ae and Bf horizons indicates that this is not a recent deposit. It was, however, lacking in evidence for cultural material.

SUMMARY OF RESULTS

In all, during the course of the survey, 27 locations along the lakeshore were examined for evidence of cultural materials. Examination included subsurface testing (62 testpits were excavated in total). No evidence for artifacts or deposits of cultural origin was recovered at any of these locations, and it appears that any archaeological resources which may once have existed here have been severely impacted by flooding and roadbuilding associated with logging activities along the lake. It is therefore recommended that Old Man's Pond be approved for development as a remote cottage area.

IMPLICATIONS FOR FUTURE HISTORIC RESOURCES IMPACT ASSESSMENTS IN ADVANCE OF REMOTE COTTAGE DEVELOPMENTS

The goals of pure research in archaeology are to achieve an understanding of the human past; the aims of archaeological mitigation and impact assessment are to ensure that archaeological resources potentially valuable and important to science and to the public interpretation of heritage are not inadvertently destroyed. These appear to be very different objectives from those of clients seeking to fulfill statutory obligations at minimum cost.

Surprisingly, though, the goals of the research archaeologist and the client may be closely related. This is particularly true in the case of impact assessments in advance of remote cottage developments. Archaeologists seek to understand, among other things, the nature of prehistoric settlement patterns in Newfoundland: where prehistoric hunter-gatherers chose to locate their settlements, and by extension, where the archaeological remains of these settlements will be found. Settlement data can reveal much about prehistoric lifeways. At one level, the sort of understanding

archaeologists seek can be construed as a form of predictive model. A statement like, for instance, "prehistoric hunter-gatherer settlements tended to lie on narrow constrictions of lakes within 30 km of the sea" is preliminary to an understanding of how prehistoric hunter-gatherers lived in Newfoundland. It both *describes* where prehistoric sites have been discovered in the past, and *predicts* where they will be discovered in the future. Further surveys allow us to test and alter or refine these predictions. The more precise and accurate our predictions are, of course, the closer we are to understanding the past. However, accurate predictive modelling is more than a goal of pure research, it should also be a goal of mitigative archaeology, for precise and accurate predictive models of site location can also allow us to predict with greater confidence where significant archaeological resources likely exist, and where they are likely to be scarce or absent. Good predictive models should therefore permit more rapid and more cost-effective impact assessments. I should like to conclude this report by briefly outlining the implications of the results from Old Man's Pond for our ability to predict prehistoric site locations. Essentially, this involves comparing the predictions of the Preliminary Assessment with the results achieved in the Field Survey.

Success of Preliminary Assessment: Overall Potential

Field survey at Old Man's Pond was preceded by a preliminary assessment of archaeological potential, based primarily on an examination of air photos and land-use inventory maps. These indicated that in a general sense, the lake held considerable potential for yielding significant archaeological remains. That no such remains were recovered suggests that some modification of the assessment procedure is in order. The nature of the modification depends greatly on the nature of the problem: was the preliminary assessment incorrect in identifying Old Man's Pond as an area of potential aboriginal settlement? Or was the assessment incorrect in suggesting that the material remains of such settlement would be preserved?

I would argue that the latter is the case. The identification of the lake as a possible focus for prehistoric settlement was based on similarities in setting and resource availability to other near-

coastal lakes in Newfoundland, which have yielded abundant evidence for prehistoric settlement. I stand by this assessment. Near-coastal lakes such as Old Man's Pond *have* yielded ample remains, and similar settings should continue to be regarded as areas of high archaeological potential.

The problem on Old Man's Pond may not be one of low aboriginal land-use, but rather, one of poor preservation. Erosional and depositional features related to flooding are conspicuous on the lake. These include gravel bar formations and patches of formerly drowned forest, often in combination. Clearly, the lake has been subject to considerable flooding, as well as a number of other disturbance factors, likely related to logging activities in the area. These have likely dispersed and destroyed any archaeological remains once present along the lakeshore. Although evidence of logging was evident in the air photos, in the form of roads and the dam at the lake outflow, the scope of their impact on the lakeshore itself was not apparent in the preliminary assessment. In future, preliminary assessments should include a consideration of levels of disturbance related to logging. However, I should stress that the assessment of logging disturbance may not be a straightforward matter. It is not enough to determine whether logging, or even flooding, has taken place. It is necessary to determine in addition the frequency of flooding episodes, and the extent of water-level rise. Moreover, until we have a clearer understanding of the precise effects of flooding in varied settings, it is not recommended that evidence for flooding be regarded as evidence for low archaeological potential. These qualifications are based in part on evidence from GamboPond (Schwarz 1992a), a near-coastal lake which yielded evidence for eighteen prehistoric sites and findspots. GamboPond too had been dammed and extensively logged, in fact, GamboPond has one of the longest histories of intensive logging of any Newfoundland lake. Nevertheless, in this particular case, logging failed to obscure or destroy many archaeological sites located along the lake. This may be related to the low levels of flooding required for successful log driving on GamboPond. Clearly, logging can have a great impact on archaeological resources, and should be considered when making preliminary assessments of archaeological potential. Clearly too, the effects of these impacts can vary widely and are presently not well understood.

Success of Preliminary Assessment: Specific Site Locations

Obviously, since the survey failed to encounter any archaeological sites, it is impossible to assess the success of the preliminary assessment in identifying such sites. However, it is possible to assess its success in identifying specific locations of high potential. The preliminary assessment led to the identification of 24 locations of high potential. This assessment was based on results from Gambo Pond. Here, ca. 50% of the lakeshore was surveyed intensively on foot. This survey revealed that sites tended to be situated on areas of level ground, on narrow constrictions of the lake, on small points of land, behind sandy coves, and at the mouths of tributary streams. Survey of the remaining 50% of lakeshore by boat revealed that a more rapid boat-based survey, in which only the above locational types were intensively examined, recovered approximately the same density of sites as an intensive foot-based survey. It was concluded that *for near-coastal lakes* (though not necessarily in other settings) valid surveys could be completed as successfully by boat as on foot, if all locations meeting any of the above locational criteria, were examined intensively. The preliminary assessment of Old Man's Pond, a near-coastal lake, attempted to identify all of the locations meeting the above locational criteria. This must be considered a success. Only three of the locations deemed worthy of intensive examination in the field were not first identified in the preliminary assessment. One location (Location 12) was deemed to be of high potential not merely because of locational criteria but because of possible structural remains visible in the air photos. With ground-checking these proved ultimately to be of natural origin, but this will not always be the case. Patterns of vegetation or topography suggestive of structural or other archaeological remains should always be investigated in more detail.

Clearly, preliminary assessments are a valuable tool for assessing archaeological potential. On near-coastal lakes, where we have a clearer picture of the determinants of prehistoric settlement, preliminary assessments can aid in speeding up field survey, and in time, as our predictive models become more accurate and precise, may themselves be adequate tools for assessing archaeological potential. In other settings, such as deep-interior lakes, and rivers, they may also be helpful, though at present we understand less about the nature of prehistoric site locations in such settings. Continued

use of both remote assessments (based on maps and photos) combined with ground-checking in these settings will increase their effectiveness.

It is in the interest of the Land Management Division to see that the effectiveness of remote assessments is improved, as these can be done more cost-effectively than field surveys. While it is unlikely that remote assessments will ever replace field surveys, they can effectively reduce the number and extent of field surveys required. It is therefore recommended that historic resources impact assessments in advance of remote cottage developments invariably include a "preliminary" or remote assessment, even when fieldwork is already known to be needed. Preferably, remote assessments should be completed and submitted prior to commencing field operations. Comparison of the results of remote and field assessments will allow both archaeologists and Land Management officers to monitor the (hopefully increasing) effectiveness of remote assessment as a tool in both archaeological survey and in land management. Both the effectiveness and the efficiency of remote assessments may be improved if variables relevant to archaeological resources are incorporated into any existing GIS program employed by the province. One goal of remote and field assessments of archaeological resources should be to identify and refine the variables appropriate to this task.

With regard to the future conduct of historic impact assessments in advance of remote cottage developments, then, the principal recommendations may be summarized as follows:

- Field survey and ground-checking are still an essential part of the historic impact assessment process.
- Field assessments should always be preceded by a remote assessment.
- The impact of logging and possibly other disturbance factors should be considered, along with land-use maps and air photo examination, when conducting remote assessments.

- One goal of combining remote and field assessments should be to improve our ability to predict archaeological potential using remote assessments alone. Though it is unlikely that remote assessment will ever entirely replace field assessment, it may be possible to reduce our reliance on field survey as the sole assessment technique at our disposal.

- The Land Management Division should aim to incorporate predictive modelling of archaeological potential as an element in its use of GIS as a land management and planning tool.

- Finally, with regard to our present ability to predict archaeological potential, we may note the following:
 - 1) coastal regions are of generally high potential. Archaeologists have some ability to predict specific site locations, though our "predictive models" are implicit and have not been adequately tested;
 - 2) near-coastal interior lakes are of generally high potential, though we are unable to predict at present which lakes will have rich archaeological remains and which none. Predictions of specific site locations have been tested with some success, though some more testing is required;
 - 3) Rivers and deep interior lakes have yielded archaeological remains but their potential relative to other settings is unknown. As for predicting specific site locations, the criteria developed for near-coastal lakes may apply, but this is uncertain at present.

Continued assessment using both remote and field-survey methods should progressively enhance the prediction of archaeological potential in all three settings. Obviously, we are closer to accurate prediction for coastal and near-coastal settings than for the deep interior.

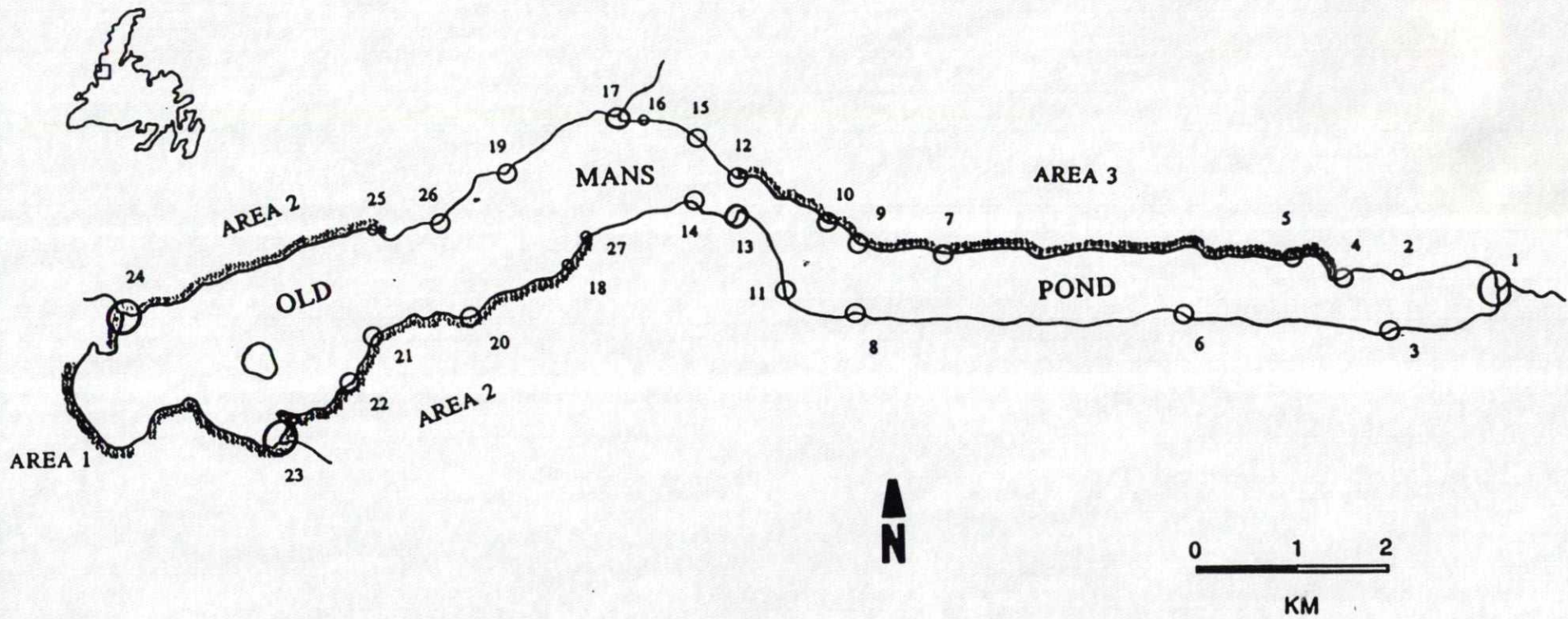


Figure 1. Map of Old Man's Pond, indicating Development Areas and archaeological testing locations.

ST. ANDREW'S CHURCH CEMETERY

CjAh-12

SEPTEMBER 18, 1992

PERMIT NUMBER 92.17

Martha Drake

On September 17, 1992 the Historic Resources Division was informed by the RCMP in Harbour Grace that human skeletal remains had been uncovered by a backhoe operator in the cemetery grounds of St. Andrew's church at Bishop's Cove, Spaniard's Bay. The backhoe is owned and operated by the Dept. of Works, Services and Transportation who had planned to remove a cement retaining wall that delimited the south side of St. Andrew's Church Cemetery. The wall had been built in 1972 and is now deteriorating. Further, the western corner of the wall obscured the view of motorists who were trying to exit a laneway beside the cemetery. When the wall was constructed, 4 graves had been relocated to an area further up in the graveyard. It is not surprising therefore that additional burials were present even though tombstones were absent.

On Sept. 16, 1992 the backhoe operator began to remove soil behind the wall and almost immediately uncovered bones. He contacted Tom Porter, Assistant Superintendent with the Dept. of Works, Services and Transportation in Bay Roberts, who in turn contacted Corporal Fowler of the Harbour Grace detachment of the RCMP. Corporal Fowler phoned the Historic Resources Division on Sept. 17, 1992 to inform this office of the situation.

Dr. Sonja Jerkic, a physical anthropologist at Memorial University agreed to accompany me to the site, to investigate and if necessary, excavate the disturbed burials. Todd Garlie, an archaeology student at MUN also came along to assist.

We left St. John's on the morning of Sept. 18 and met with Mr. Tom Porter at his office in Bay Roberts. Mr. Porter informed the RCMP of our arrival and we left for the site. Upon our arrival we examined the trench that had been excavated behind the cement wall. A couple of bone and bone fragments were collected from this area. The west end of the trench revealed 2 burials as evidenced by the remains of a left scapula (Burial #2) and a skull (Burial #3). Burial #1 has been assigned to the small collection of bones which was collected from the trench. These bones may or may not be associated with Burials #1 and #2. Two other disturbances were evident in the north wall of the trench and if these were indeed burials, the scatter of bone may have come from here. However, given the degree of disturbances it was impossible to determine the original location.

Since there were at least 2 burials exposed in the trench and the probability being very high that further burials would be encountered if excavation of the trench continued, Mr. Porter was advised and readily agreed that the best solution would be to backfill the trench and repair and cap the existing wall. The trench has since been filled in.

The western corner of the wall was apparently constructed over an area where the gate to the cemetery has once been located. If this was the case then we could expect to find no burials. The backhoe was monitored as it stripped the earth. The exposed area was shovel shined to see if any grave outlines were discernable.

Nothing was noted. Since there were no indications that further burials would be encountered, the go ahead was given for the removal of the corner on the understanding that the work would stop immediately if any burials were disturbed and that the Historic Resources Division would be notified at once. If excavation is confined to that area which has been examined, it is unlikely that further graves will be encountered.

Contact People:

Corporal Fowler

Harbour Grace RCMP
596-5014

Tom Porter

Dept. of Works, Services &
Transportation, Bay Roberts
786-6431

Rev. Courage

St. Andrew's Church
Bishop's Cove
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Archaeological Reconnaissance of the Torrent River Site 1C Hydro-Electric Development

1. Reconnaissance Purpose

To assess the archaeological potential of the area impacted by the proposed development project on the Torrent River.

2. Study Area

This study area encompasses much of the upper half of the Torrent River near Hawkes Bay, on the Northern Peninsula of the Island of Newfoundland (Figure). Approximately 14.5 km of transmission line and road will extend upstream from the River's mouth to a proposed power house at the extreme east end of Pikes Feeder Pond near its inlet (Torrent River). The transmission line and road will flank the Pond on its south and north sides, respectively. Five Mile Pond, located a further 4.0 km upstream (eastward), will be the reservoir for a proposed tunnel bringing water down to the power house. Water will also be funnelled into Five Mile Pond via a proposed dam and diversion canal at the south end of Chambers Pond, 3.25 km further north.

3. Survey Overview

Prior to fieldwork, the Historic Resources Division archaeological site inventory was investigated, but no sites have been recorded in the study area. As Port aux Choix (P.A.C.) is adjacent to the study area and is rich in heritage resources, archaeology research reports for the P.A.C. area were also reviewed. This review included a Northern Peninsula caribou study prepared by consultants employed by Newfoundland Hydro, and a report prepared by Tana Green, a former member of the 1992 Port aux Choix archaeology research project. Green, under supervision by Dr. M.A.P. Renouf of Memorial University, interviewed P.A.C. residents about their use of animal and fish resources in the area, which included the Torrent River basin.

The helicopter reconnaissance of the study area was conducted on October 21 and 22 out of Hawkes Bay under partially sunny conditions. During the overflight, the riverbank and shoreline of all the ponds directly effected by the proposed development were photographed. Following the overflight certain areas were surveyed from the ground, along with shovel testing and more photography. This work was limited to a cursory survey only because of the relatively short fieldwork period, and because other environmental consultants shared in the helicopter flying.

The areas surveyed and shovel tested included the north side of the outlet of Pikes Feeder Pond; the sandy beach at the northeast end of Pikes Feeder Pond; the south bank of the Torrent River at the power house location upstream from Pikes Feeder Pond; the dam site at the outlet of Five Mile Pond; the dam site at the west outlet of Chambers Pond; and the diversion canal area south of Chambers Pond (Figure).

Two archaeological sites were recorded, a prehistoric one at the sandy beach at the northeast end of Pikes Feeder Pond, and a

recent/historic site in the hills between Five Mile and Chambers Ponds (Figure). The prehistoric site is poorly defined by a single rough piece of quartz debitage (Photo B&W R1#3:34), while the recent/historic site is the wreckage of a WW II aircraft (Photos B&W R1#3:22-24/Clr R1#3:23,24). The weak provenience of the quartz piece and its poor quality make it insufficient to determine cultural affiliation, or to date the site. The aircraft is the remains of an American B-24 bomber that crashed in 1943 during a coastal surveillance patrol.

4. Evaluation Criteria

A number of standard site location factors were considered in rating the study area's potential. These included local terrain, geology, wildlife resource base, vegetation cover, proximity to water, historic use and the archaeological record of adjacent areas ie. P.A.C. Based on various combinations of these factors, a rating of high, medium or low was given to the study area locations directly effected by the proposed development.

For example, a sandy beach near a river-pond confluence known today for its salmon fishing and large mammal game trails would fall in the high potential category. In contrast, a low rating would be given to a stretch of steep, heavily treed hill slope with a narrow shingle beach pondshore. The underlying assumption for these evaluations is that past living sites and travel route locations are heavily influenced by environmental factors, and therefore the sites are distributed non-randomly.

5. Archaeological Site Classification

Given present knowledge of the prehistory and history near the study area, certain types of sites might be expected there. Prehistoric sites would be caribou hunting camps (ie. barrens hunting blinds); fishing camps (ie. lake shores, river banks); camps for small mammal trapping (ie. game trail spots in woods); camps for birding (ie. pond islands, marsh edges); and camps along travel routes up to and possibly over the Long Range Mountains (ie. river/lake portage points, river valley ridges).

Historic and recent sites would include all of the above plus camps and activity areas reflecting industrial activity, such as logging operations. The prehistoric sites in particular might be quite small, but given the three to four thousand year time period of occupation at P.A.C., their use could span that period. Moreover, small, seasonally occupied camps comprise the bulk of the prehistoric record of the Island of Newfoundland.

6. Study Area

The area as a whole is given a medium rating. First, in terms of prehistory, it is assumed that the contemporary environment closely reflects the ancient one. Based on this assumption, the study area's animal and fish resources could have supported considerable prehistoric and historic use and occupancy. In fact, the reasonable abundance of animals and fish today was probably equalled if not excelled during prehistory. The one exception may be salmon which could probably not have

made it past the falls approximately 2.25 km upstream from the mouth. The Torrent River fish ladder is now located here (Photos B&W R1#2:30A,31A;Clr R1#2:36-38).

The medium rating is also reinforced by consideration of potential travel routes. The numerous large ponds in the River basin are navigable by small boats, though much of the Torrent River itself appears unnavigable. However, the relatively barren ridges bordering the River basin provide good walking conditions. Thirdly, the terrain and lack of vegetation facilitates spotting game and finding raw material sources for stone tools.

Finally, it appears that the study area's paleoenvironment could have enhanced prehistoric use and occupancy, especially camp spot locations and raw material sources for stone tools. For example, a raised beach has been recorded at approximately 130 m above sea level at the south end of the Highlands of St. John, about 10 km north of the Torrent River (Knight 1991:3). The Early Cambrian age of the beach precludes the possibility of an active shoreline at that elevation during the Northern Peninsula's known prehistory, beginning around 4500 years before present (B.P.). Yet the beach could have served as a campsite during prehistory, while its cobbles and boulders of quartz, a known stone tool raw material, may have been collected there. Similar beaches, if present in the study area, could have served similar functions. 130 m elevations in the study area are found approximately ten kilometres inland north of and southeast of Middle Pond (Figure).

Recommendation

A thorough and detailed literature review covering all environmental and historical aspects of the study area should be undertaken. This review should include oral history, a valuable source of information about animal and fish resources in the study area. These reviews should be followed by the development of a research design which includes all survey and test excavation recommendations.

7. Hydro-electric Facilities Sites

7.1 Power House

This location has a medium rating (Figure). The relatively small bay here is covered in thick tuckamore and spruce and the shore is fairly steep on both sides. However, just upstream on the north side of the Torrent River there is a grassy shallow-sloping bog plain bordered by bedrock, with similar terrain on the south side. This area appears suitable for prehistoric and historic camping and travel. Moreover, the rough quartz piece found on the Pikes Feeder Pond beach is approximately 1.5 km south of this area.

Recommendation

Ground survey and shovel testing of both sides of the riverbank at the power house site and within a 1.5 km radius.

7.2 Transmission Line

Most of this corridor has a low rating (Figure). The proposed line will run along the heavily treed south shore of Pikes Feeder Pond, and much of the shore is a very narrow shingle beach. Below (southwest of) Pikes Feeder Pond, the transmission line crosses the Torrent over to the north shore of Middle and Western Brook Ponds. This latter terrain is fairly steep and sloping and has been heavily logged. From Western Brook Pond the transmission line follows the logging road to Hawkes Bay, another fairly disturbed corridor. These characteristics, plus road construction into the logged area, reduces the possibility of locating intact archaeological deposits.

The few medium rating spots along the transmission line are near water courses. One is just below the outlet of Pikes Feeder Pond and above Middle Pond where the transmission line crosses the Torrent River (Figure). This area, close to the mouth of Black Stag Pond Brook, is reportedly ice free or only thinly covered during the winter (Provincial Wildlife staff, Port Saunders). An ice-free spot on the river would probably have attracted animals and fish, as well as people.

Another medium rated spot is the transmission line crossing of the Indian Steady Pond outlet stream northeast of Middle Pond. The streambanks may have been used as a travel route for people, just as large mammals use them.

Recommendation

Ground survey and shovel testing of all transmission line River, stream and pond crossings. Ground survey and shovel testing of any prominent points of land or sandy beaches along the Pikes Feeder Pond south shore. Ground survey and shovel testing of at least one quarter of the transmission line corridor, including both wooded and logged areas.

7.3 Road

The four kilometre extension of the logging road mentioned above gets a low rating for the most part, as it passes through fairly steep sloping, forested terrain (Figure). A few medium rated spots are where the road cuts across or passes close to streams and ponds, especially the power house location upstream from Pikes Feeder Pond.

Recommendation

Ground survey and shovel testing of both sides of the road's stream and pond crossings, within a radius of at least .5 km. Ground survey of at least one quarter of the road corridor, including areas from all types of vegetation cover through which it passes.

7.4 Five Mile Pond Dam

This location has medium potential as it appears suitable for a fish camp and as part of a travel route (Figure).

Recommendation

Ground survey and shovel testing of both sides of the dam/intake tunnel sites, within a radius of at least .5 km.

7.5 Tunnel from Five Mile Pond to Power House

The tunnel intake and exit get a medium rating as they are in close proximity to the dam and power house, respectively. The tunnel route itself has a low potential as it passes under thickly wooded and boggy terrain.

Recommendation

Ground survey and shovel testing of both sides of the tunnel intake and exit, within a radius of at least .5 km. No work need be done along the tunnel route assuming the terrain through which it passes is not disturbed in any way.

7.6 Chambers Pond Dam

This location has medium potential as it appears suitable for camping, as part of a travel route and perhaps for fishing.

Recommendation

Ground survey and shovel testing of both sides of the dam site, within a radius of at least .5 km.

7.7 Chambers Pond Diversion Canal

This treeless location has a low to medium potential as it appears suitable as part of a travel route for both animals and people.

Recommendation

Ground survey and limited shovel testing along the channel and within a radius of at least 1.0 km. This radius is recommended given the effects of the blasting assumed necessary during channel construction.

8. Summary

The study area is adjacent to some of the richest archaeological sites in the province. It is likely that the Torrent River Basin was used by the Maritime Archaic Indians, the Paleo-Eskimos, and the later aboriginal groups, yet virtually nothing is known of this use. Early Europeans and Euro-Canadians also used parts the shoreline near the study area, and probably made at least occasional forays up the River, yet little is known of this activity. Some of the proposed hydro-electric facility locations are likely to have been occupied by some or all of these peoples. Therefore, prior to any development, a comprehensive program of archaeological investigation should be undertaken within the study area.

PROJECT NO: 8515/L562

FINAL REPORT TO

**COMMANDING OFFICER
DEPARTMENT OF NATIONAL DEFENCE
CFB GOOSE BAY
LABRADOR**

ON

**HISTORIC RESOURCES OVERVIEW ASSESSMENT
OF THE MINIPI LAKE PRACTICE TARGET AREA,
SOUTHERN LABRADOR**

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January 19, 1994



MANAGEMENT SUMMARY

A Stage 1 historic resources overview assessment was conducted of the Minipi Lake Practice Target Area south of Goose Bay, Labrador, to assess the potential for the presence of archaeological or other sensitive historic resources and to provide recommendations for further study and/or mitigation. The centre of the Practice Target Area, around two parallel mock runways, was thoroughly investigated with negative results. Although the lateness of the year and difficulties with snow cover and ground frost prevented complete assessment of archaeological potential outside of the central area, it is considered that minor potential exists for the presence of archaeological or ethnological remains elsewhere within the study area resulting from use of the region for hunting, fishing and trapping by Innu and their prehistoric ancestors. Impacts from practice bombing and clean up activities outside of the present runway area are relatively rare and are unlikely, in a 177 km² area, to coincide with and therefore affect any archaeological resources which may be present. In the event that practice bombing and related activities did coincide with an archaeological or other historic resource, considerable disturbance and loss of information could occur.

No published or unpublished sources were found which describe archaeological or ethnological studies in the PTA in any useful detail; anthropologists and officials of the Innu Nation were reluctant to provide information on traditional or recent land use in the area. Recommendations following conclusion of this study include a renewed attempt to access land use information from Innu residents in Labrador and on the Quebec North Shore to augment the findings; if information is received on specific archaeological, traditional or recent site locations or other significant land use in the PTA, an extension to this Stage 1 assessment may be necessary to more completely assess the potential for disturbance and to evaluate the need for further study or mitigation. Pending the result of this recommended program, no additional field assessment is required for existing activities in the PTA. In the event that any expansion or alteration of the location of the runways take place within the PTA, more intensive archaeological survey will be required in the new areas of disturbance.



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1.0 INTRODUCTION

As required by the *Guidelines for the Preparation of An Environmental Impact Statement on Military Flying Activities in Labrador and Quebec* (DND 1987) and as committed to in the subsequent Environmental Impact Statement (DND 1989a), potential impacts on historic resources from military flying activities are a prime concern and must be addressed. The Department of National Defence (DND) required a Stage 1 Historic Resources Overview Assessment as specified in the Request For Proposal (DSS 1992) of the Practice Target Area (PTA) situated south of Minipi Lake, southern Labrador. This work was performed on behalf of DND by Jacques Whitford Environment (JWE), including a field reconnaissance between November 3-4, 1992, for which a permit was acquired from the Historic Resources Division, Department of Tourism and Culture.

The stated objectives of the Historic Resources Overview Assessment were to identify and assess Historic Resources potential or sensitivity within the study area, and to recommend the appropriate methodology and scope for detailed impact assessment studies in Stage 2, if necessary. Although this could involve some ground reconnaissance, area coverage will usually be quite small relative to the overall size of the study area at this stage.

The specific methodology required by the Historic Resources Division in the Stage 1 Historic Resources Overview Assessment/Detailed Guidelines (DSS 1992) included a documentary search, direct consultation and preliminary field reconnaissance. The field reconnaissance was cited as an optional activity involving either a simple overflight of the study area or, if greater intensity was demanded because of the presence of known archaeological sites or high potential for their presence, a field survey to supplement background research or where many alternatives are under consideration for location of project facilities. Although some snow cover and frost-hardened ground prevented full assessment of historic resources potential, the flyovers and foot surveys conducted provided an overview-level impression of the area's potential and did result in the finding of two camps of ethnological interest south of the study area. Clearly, the centre of the PTA receives most of the project impacts; this area was thoroughly assessed.

The primary intent of such work, as stated in the Historic Resources Division guidelines, is to provide sufficient indication of Historic Resources potential in the study area and to identify both the needs and the appropriate scope for further field studies; the recommended survey serves as a useful preliminary for designing and subsequently implementing a more effective and efficient site inventory survey in Stage 2, where necessary. Discussions with the Base Environmental Officer (pers. comm.) indicated that, despite the breadth of the study area, the primary focus of attention should be on the active target area around the runways, where most environmental impacts are experienced.



A preliminary draft copy of this report was submitted for review to the Base Environmental Office, CFB Goose Bay on December 23, 1992. This report includes revisions to the original draft, additional information and supporting graphics and supersedes the preliminary report (JWE 1992a).

The archaeological investigations were conducted under Permit 92.19 from the Historic Resources Division by Callum Thomson, Senior Archaeologist, Jacques Whitford Environment. Callum Thomson was also responsible for project direction, client liaison, report preparation and some background research. Roy Skanes, Archaeologist, Jacques Whitford Environment, undertook informant interviews and documentary research.

2.0 PROPOSED DEVELOPMENT

DND selected the PTA south of Minipi Lake after considering several criteria, including a low potential for the presence of historic resources. Two parallel runways and related features such as mock airplanes and buildings were constructed at the centre of the target area. The target is a simulated air base, which has been subjected to the release of a variety of inert weapons since the mid-1980s. Regular clean-up operations have been conducted to remove surface debris, groom the range and to minimize ricochet hazards to aircraft. Clean-up is performed with the aid of a bulldozer. There has been, therefore, considerable potential for impact on any heritage resources present in the PTA, if they occur, from construction of the range, weapons, fires started as a result of target activities, clean-up operations and vandalism involving unauthorized removal of artifacts or disturbance of archaeological site features.

Although no evidence of bombs or their impacts was found outside of the central target area during the survey, some weapons have been accidentally discharged into areas outside of the runway zone (e.g. Wadden 1991: 100; P. Trimper, pers. comm.). This produces potential for impacts on historic resources, if they occur, in adjacent areas from some of the same activities as described above.

3.0 STUDY AREA

3.1 Biophysical Resources

The study area is a 15 km (8 nautical miles) diameter circular area with its centre approximately 17 km (9.5 nautical miles) southwest of Minipi Lake, Labrador (Figure 3.1). Most of the 177 km² area (50 square nautical miles) is relatively flat and forested with spruce (*Picea mariana*) and some hardwoods (*Populus* sp.) over sandy, lichen-covered soil. Bedrock in the area, exposed only on hill tops, is mostly granitic gneiss. Thin till and glaciofluvial soils dominate elsewhere (DND 1989a). No lithic materials suitable for prehistoric stone tool manufacturing are available closer than the Churchill River area (R. Wardle, pers. comm.).

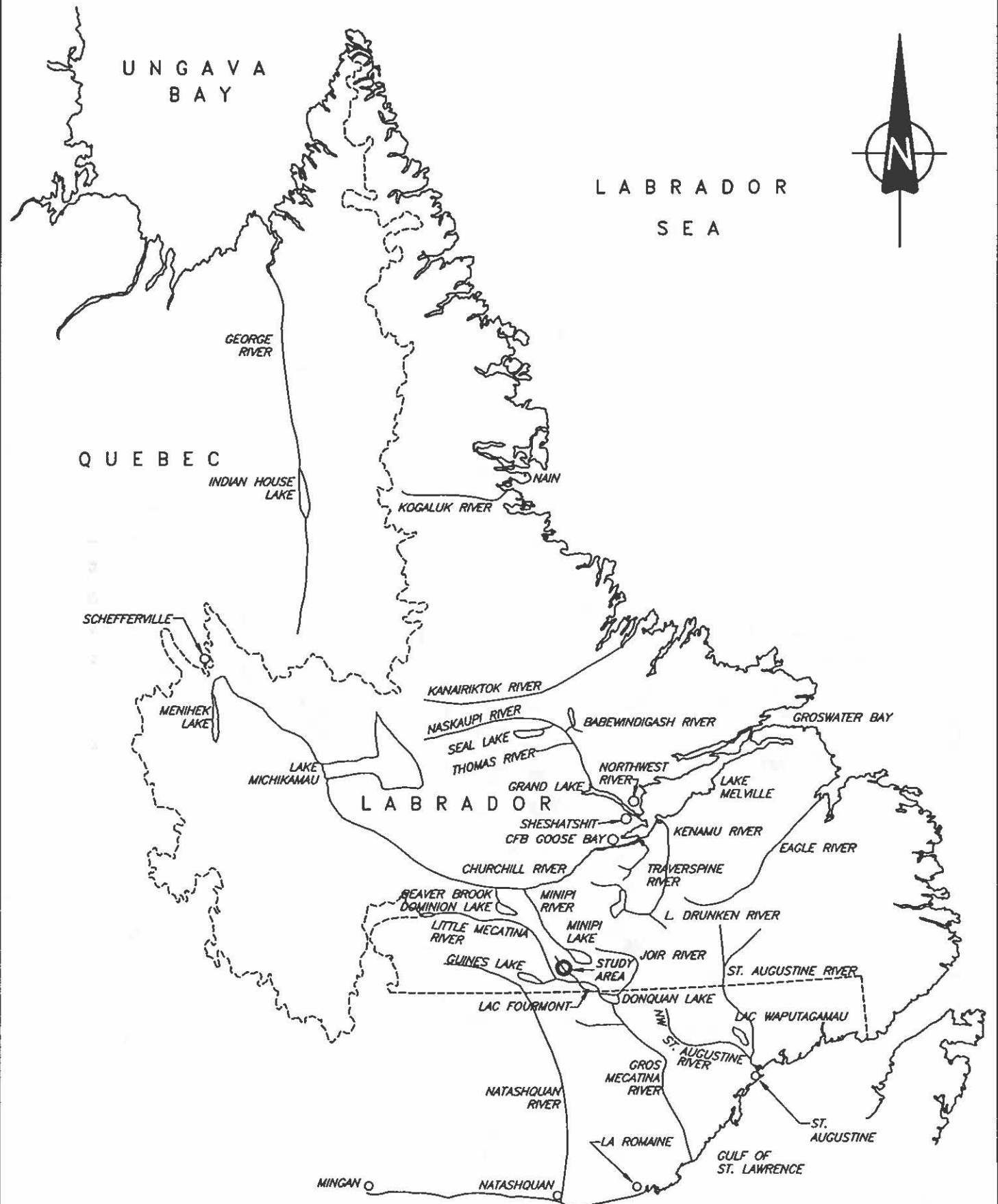


FIGURE 3.1 SKETCH OF STUDY AREA AND FEATURES REFERRED TO IN TEXT
SCALE 1 : 5 000 000



An aerial survey of the study area in July 1992 to monitor the integrity of known raptor populations in the vicinity of the study area (JWE 1992b) resulted in observations of the following wildlife:

- Osprey (*Pandion haliaetus*)
- American Black Duck (*Anas rubripes*)
- Merganser (*Mergus* sp.)
- Common Loon (*Gavia immer*)
- Loon (*Gavia* sp.)
- Canada Goose (*Branta canadensis*)
- Common Goldeneye (*Bucephala clangula*)
- Great Horned Owl (*Bubo virginianus*)
- Goshawk (*Accipiter gentilis*)
- Ring-necked Duck (*Aythya collaris*)
- Red-tailed Hawk (*Buteo jamaicensis*)
- Otter (*Lontra canadensis*)
- Black Bear (*Ursus Americanus*)
- Moose (*Alces alces*)

These observations were made over a period of five days during which 85 individuals were noted, including one Osprey carrying a fish, a group of 17 American Black Ducks, and a group of 11 moulting American Black Ducks. While some may be the same individuals or groups noted on different days, the variety and density suggests that wildlife is abundant in and around the study area, at least in early summer, and species present earlier and later in the year (see below) may therefore have been sought in the study area by Native people. JWE (1992b) also noted a flock of about 100 moulting American Black Ducks at the east end of Lac Fourmont.

Biophysical studies conducted for the EIS (DND 1989a) indicated that caribou (*Rangifer tarandus*) and moose (*Alces alces*) were present in this region in low densities; moose have moved into this region in recent decades and may not have been available in the early historic or prehistoric periods. Concentrations of moose are present in the Little Mecatina and Churchill river valleys and at the headwaters of the Kenamu River, i.e. within 20-80 km on all sides of the study area. JWE (1992b) noted one male moose on the Little Mecatina River and moose tracks were noted in approximately the same location during the archaeological survey.

Caribou in the region are thought to belong to the Dominion Lake herd which was estimated to number less than 200 individuals in 1979 (DND 1989a). This species may have been more numerous in past centuries. The herd identified as belonging to the Dominion Lake area may in fact have been part of a larger, but low density, continuous distribution of caribou across southern Labrador and the Quebec North Shore.

Most of the common furbearers in eastern Canada are present in southern Labrador and probably in the study area (DND 1989a). Some species such as beaver (*Castor canadensis*) and varying hare (*Lepus americanus*) are sources of meat as well as fur. Upland birds such as the Ptarmigan (*Lagopus* sp.) and Spruce Grouse (*Dendragapus canadensis*) are also present (DND 1989a). A wide range of geese, dabbling ducks, diving ducks and loons frequent the study area and are particularly abundant during



spring and fall staging periods. Some, such as those recorded by JWE (1992b), also remain in the area through the late spring and early summer to nest, moult and prepare for southern migration. Fish such as salmon (*Salmo salar*), arctic char (*Salvelinus alpinus*), brook trout (*S. fontinalis*), lake trout (*S. namaycush*) and lake whitefish (*Coregonus clupeatorinus*) are among the more abundant fish available in and immediately adjacent to the study area (DND 1989a).

3.2 Land Use

The study area is on the narrow height of land between the headwaters of rivers that flow north into the Churchill River and Lake Melville and those that flow south to the Gulf of St. Lawrence. This presents the opportunity for encounters on the height of land during the fall, winter and spring months of Innu families who traditionally spent their summers on the North Shore of Quebec or on the coast of Labrador and returned to the interior to fish, hunt and trap during winter. This traditional practice is again gaining cultural importance among many Innu families in Sheshatshit (Wadden 1991), although it is not known whether the PTA is within contemporary land use boundaries for people from that community.

A branch of the Little Mecatina River bisects the plateau from northwest to southeast, providing a connection from the study area through the Little Mecatina River, Lac Fourmont and Riviere du Gros Mecatina to the Quebec North Shore. However, more efficient travel routes north from the study area between the Little Mecatina watershed and the Churchill River (and ultimately Sheshatshit and northern Labrador) exist to the west and east of the study area. Alternative routes include the Joir, Little Drunken and Kenamu rivers; a system of small ponds and rivers from Lac Fourmont to Minipi Lake, then another system of lakes to the Kenamu River; or the main branch of the Little Mecatina River to Dominion Lake and Beaver Brook to the Churchill River.

Native people in the early European contact period of the sixteenth and seventeenth centuries may have passed through or close to the study area or at least may have exploited resources in the study area *en route* to trade with the early European visitors and settlers on the North Shore of Quebec or when returning north. As trading posts were established in the interior through the eighteenth and nineteenth centuries, Native people were encouraged to move away from coastal areas to trade at the interior posts (Rogers and Leacock 1981).

The PTA has been previously disturbed by the preparation of simulated targets, bombing and cleanup operations and has been burned over several times in the last few decades, a fact which contributed to its initial selection. The wide variety of resources described above suggested that there is some potential for the presence of archaeological sites in the study area. These sites would be related to the occupation and use of the area by Innu for subsistence and trapping for trade, and by their prehistoric ancestors for subsistence. Based on previous experience in similar areas (Thomson 1985) and reports by other

authors on interior surveys (McAleese 1992; McCaffrey 1989; McCaffrey *et al.* 1989; Samson 1978), locations of potential interest in the study area, keeping in mind the rationale for selection of the PTA, which included low potential for historic resources, were considered to include:

- the confluence of several streams with the tributary of the Little Mecatina River in the western, central and southeastern sectors, where moose, fish, beaver, waterfowl and furbearers would be abundant;
- the many ponds scattered throughout the area, at which beaver could be trapped and waterfowl and fish may be obtained;
- eskers in the southeast and northern sectors, which offer good vantage points and travel routes, where wolf (*Canis lupus*) and fox (*Vulpes vulpes*) are most likely to den, and where the different soil conditions encourage a wider range of trees and other vegetation (which attract a wider variety of animal and bird species); and
- the confluences of rivers and lakes throughout the area, which are often selected as camp sites by Native peoples because of the relative abundance of resources and the presence of alternative travel directions.

Although the river through the study area does not present the easiest travel route north or south in the region, the above discussion indicates that it is possible that resources such as ungulates, waterfowl, fish, beaver and other small furbearers might have been sought in the study area by people using other routes for travel to or through the region and then taking advantage of the smaller waterways in the study area for access to the hinterland. In winter, the open nature of the forest, generally flat terrain, concealment of tangled, low vegetation beneath snow cover and large burned over areas offer relatively easy travel; at other times of year, the area has been characterized as "the worst bush I have ever seen" (Father Jim Roche in Wadden 1991: 99).

4.0 METHODOLOGY

The primary objective of the proposed Stage 1 work was to identify and assess the historic resources potential or sensitivity within the study area and to recommend the appropriate methodology and scope for detailed impact assessment studies in Stage 2 (DSS 1992), if required. Preliminary work was directed at evaluating the area's potential prior to conducting preliminary field work, in order to gain a full appreciation of the likelihood of historic sites being present. Accumulation of this knowledge was intended to allow a cost-effective field reconnaissance strategy to be developed. It was anticipated that the difficulties experienced in accumulating land use data during preparation of the Goose Bay EIS (DND 1989b: S16) would be overcome by access to information on local resources previously collected



by other JWE field teams and by development of a good working relationship with Innu informants. The resultant overview assessment was intended to provide information required to evaluate the necessity for additional investigation, mitigation or other action. In the subsequent absence of a cooperative relationship with the Innu Nation, other avenues of research were given additional prominence.

The overview assessment was conducted in three stages: background research, field research and report preparation. The guidelines provided by the Historic Resources Division, Department of Tourism and Culture, as the Statement of Work in the RFP (DSS 1992) were followed.

4.1 Background Research

Review of the sources cited in Section 3 above presented an outline of the natural resources available currently and in the historic period (and, by extension, the prehistoric period) to Native people. This, together with an analysis of the navigability of water bodies, potential for overland travel, and suitability of the topography for habitation, indicated that the study area contained sufficient attributes to attract at least resource exploitation activities, although perhaps not seasonal settlement.

Compilation of background information on archaeological/ethnological resources in the study area was approached from several different directions. Direct access to knowledge of traditional Innu use of the area would have been of great interest and importance in an evaluation of the area's potential to contain archaeological and ethnological sites. It was anticipated, during preparation of the proposal to conduct this work, that members of the Innu Nation in Sheshatshit would cooperate with the study team by providing land use information prior to the field reconnaissance, and taking part in the field work. However, written contact prior to award of contract and subsequent phone calls to officials at the Innu Nation office in Sheshatshit (P. Penashue, D. Ashini, pers. comm.) immediately following verbal award of the contract resulted in a polite but firm refusal to cooperate in any way. In addition, information supplied by the Base Environmental Officer resulting from his conversations with Joe Goudie, Native Liaison Officer, confirmed that the Innu policy on non-cooperation experienced by other researchers on DND projects persisted. Anthropologists P. Armitage, A. Tanner and J. Mailhot (pers. comm.) advised that contact with residents in the adjacent communities on the Quebec North Shore and officials of CAM would meet with the same result. As a consequence, no attempt was made by JWE to obtain land use information directly from CAM.

In an attempt to acquire the required information from other sources, in the absence of direct input from Innu informants, research strategies and the results of previous research were discussed with anthropologists who have accumulated land use data from members of the Innu Nation and a review was conducted of several reports on archaeological surveys, impact assessments and anthropological studies pertaining to the region surrounding the study area. In general, the anthropologists contacted were

reluctant to provide information in view of the potential conflict of interest with their Innu informants; written reports were found to be helpful but few made specific reference to the study area (Armitage 1990; Conrad 1970; Gerald Penney Associates Limited 1988; McAleese 1992; McCaffrey 1989; McCaffrey *et al.* 1989; Pintal 1986; Samson 1978; Thomson 1985, 1987).

Archaeological site records at the Historic Resources Division office in St. John's (M. Drake, pers. comm.) were consulted to identify any sites currently known in or adjacent to the study area and in similar areas in the region, which might provide insights into site locations in the study area; no archaeological sites in the study area are on record. No surveys have previously been conducted in the study area; no major surveys have been conducted anywhere in Labrador closer than North West River in Hamilton Inlet (Fitzhugh 1972), 125 km to the north. Archaeologists who have worked in similar or adjacent areas were interviewed (K. McAleese, J.-Y. Pintal, pers. comm.). In view of the proximity of the Quebec border and the likelihood that some traditional travel through the study area would have originated on the North Shore (Tanner in Armitage 1990), contact was made with authorities and archaeologists in Quebec to gather information on archaeological sites and surveys on the Little Mecatina River and other river systems in the region. The closest site records were from the St. Augustine River, where eleven archaeological sites (C. Thibeault, J.-Y. Pintal, pers. comm.) were recorded during a survey of the lower and middle reaches of the river (Pintal 1986).

The results of the background study would be enhanced by acquisition of land use information from Innu hunting and trapping families who have travelled through and/or exploited resources in the study area or, conversely, who have avoided the area because of its difficult travel or other negative attributes. Recommendations are provided in Section 7 below to address this situation.

4.2 Field Research

The advanced season required some deviations in the planned field approach. The contract was awarded on October 27, by which time several centimetres of new snow had fallen which prevented full inspection of the ground surface in much of the study area. This made it difficult to search for any prehistoric evidence such as stone tools which might otherwise have been visible eroding from the river bank, on beaches and on other exposed soil. The presence and depth of snow were not consistent, however. In some areas the surface was exposed or lightly covered and features such as tent frames, storage platforms and cut tree stumps were clearly visible and the exposed, vegetation-free runway area was practically devoid of snow. Conversely, the slopes of eskers were covered by as much as 20 cm. Frost in the ground made the digging of test pits difficult to impossible in places, although the nature of the soil at the mock runways, at the centre of the PTA, did allow shallow subsurface work. Finally, as stated above, officials of the Innu Nation would not cooperate with DND or its consultants (including JWE) in providing information for the historic resources assessment. The result of these events was that some adjustments were required to the planned research strategies in order to still meet the Terms



of Reference. No informant interviews were conducted in Sheshatshit; attempts were made to compensate for this loss of information by more intensive documentary review. No Innu guide could be hired and the planned base camp was not established in the study area; instead of the planned three-to-four person days in the field, additional time was spent by a single investigator during the two days in the field conducting a helicopter survey of the study area and landing at areas considered to be of high potential.

Helicopter surveys of the study area were conducted over two days. Following an overview flight to gain some familiarity with the terrain, a visit was made to the main branch of the Little Mecatina River where it seemed likely, from the environmental attributes, that a recent Innu camp would be present. Two such camps were found; their situation and appearance were noted as a reference for sites in the study area. On completion of the overflight, foot surveys were made in locations within the study area considered to have highest potential for the presence of heritage resources and, where possible, test pits were dug.

The centre of the PTA, where the principal terrestrial disturbance is concentrated, was thoroughly assessed for its potential. Features walked included the entire length of both runways, the bunker at the centre of the complex and some of the surrounding terrain. Due to the amount of disturbance caused by construction and grooming, which revealed extensive areas of soil which could be closely inspected, and the general absence of snow and vegetation in the runway area, subsurface testing was not considered to be necessary as any subsurface deposits of archaeological material would most likely have been exposed by previous activities. However, some random test pits were dug to a shallow depth.

4.3 Report Preparation

Following completion of the field survey and the preliminary draft report, additional information was received from archaeologists, anthropologists and others who have knowledge of cultural activities in the region. This information has been incorporated in this report, including amendments to the evaluation of archaeological potential of the study area and the recommendations for mitigation and further work.

5.0 RESULTS

5.1 Background Research

In recent years, several surveys have been conducted in Labrador on interior river courses and elevated areas distant from the outer coast where most archaeological work has traditionally been undertaken. William Fitzhugh's (1972) work at North West River demonstrated that Innu residents at this short river

between Grand Lake and the marine inlet Lake Melville moved about the country at specified times of year in response to the needs of subsistence, trapping for trade items, travel between one resource area and another, and for social gatherings. Archaeological sites and recent Innu camps were identified at North West River and recent and traditional Innu camps were reported at North West River, at the mouth of the Kenamu and Traverspine rivers and many other locations on the shore of Lake Melville, on the river systems which flow into Lake Melville, and in their hinterlands. Fitzhugh describes an early twentieth century Innu seasonal round as consisting of:

- in summer, fishing and small game hunting was conducted at the coast (many fish were dried for fall and winter use), and berries were collected in late summer;
- in fall, families moved upstream by canoe for berry collecting, trout fishing, and small game hunting, and geese and ducks were obtained as they staged for migration south;
- in late fall trapping began and continued through early winter (habitation structures included conical skin or bark tents and earth-covered lodges, canoes were cached after freeze up and transportation thereafter was by foot, snowshoe and sled);
- in early winter caribou hunting would be conducted, involving driving caribou into deep snow where they would founder and be easily speared or shot and small game were snared and fish caught through the ice (caribou obtained at this time of year were an important source of meat for caching for future use); camps were temporary, shifted constantly in the search for caribou;
- in late winter, the same resources as early winter would be sought and a move would be made to the canoe cache with the first sign of break-up, to be ready to descend the rivers back to the coast or to other spring gathering places;
- in spring, after break-up, a wide variety of resources was available, including fish, returning migratory birds and bears (long trips might be made by canoe to trade or seek other resources); and
- in early summer, families dispersed to their preferred fishing locations and the round began again.

At North West River, Fitzhugh (1972) found many prehistoric sites which indicated that people had exploited the resources at this location for at least the past three thousand years. Fish and small game were probably the main resources sought, most likely for a period of from a few days to a few weeks during the summer. The lack of any evidence of substantial structures at North West River, which might have been occupied in seasons other than summer, suggests that the Innu settlement-subsistence



model summarized above was probably followed to some degree. However, many of the prehistoric sites investigated had seasonal correlates in the outer part of the Hamilton Inlet system (at the Narrows or in Groswater Bay) which are not occupied today by Innu, suggesting a wider-ranging and more diversified settlement pattern and subsistence system than in the historic period.

Surveys by Scott Biggin (Ryan and Biggin 1989; S. Biggin pers. comm.) on the Labrador-Quebec border west of Nain, by Kevin McAleese (1992; pers. comm) in 1991 on the Kanairiktok River and by McCaffrey *et al.* (1989) at Seal Lake, both north of Lake Melville, and by Moira McCaffrey (1989) in the Schefferville - Menihék Lake area in western Labrador, have demonstrated that many prehistoric sites dating to the past 3,000 or more years are present in the far interior as well, hundreds of kilometres from the outer marine coast. Most of these sites have been found in association with rivers and lakes. Sites from the early historic period were less frequently discovered. This is probably due to the difficulty of identifying small campsites, particularly where lithic materials are not present and organic materials have not been preserved. More recent Innu camps from the past 50 years were commonly found.

Biggin's (Ryan and Biggin 1989) 1987 work, which involved recording sites encountered during a geological mapping project at the head of the Kogaluk River, identified at least fourteen prehistoric sites, eleven or more historic sites, two sites with both prehistoric and historic components, four sites of indeterminate age, and eighteen isolated stone cairns or *inuksuit*. Most of the sites appeared to have been associated with caribou hunting. Many contained tent rings, mounded earth walls, blinds and butchered caribou bone, and often occurred in locations which provided a strategic view at caribou crossings on rivers and lakes. Sites were highly visible because of the slow development of soils and sparse nature of the alpine and tundra vegetation.

McCaffrey *et al.*'s (1989) survey of the Seal Lake area on the Naskaupi River system was surprisingly unproductive of prehistoric and early historic period sites. The area has been known for its trapping, caribou and moose hunting, and fishing potential, but only one small prehistoric site and seven Innu camps dating to between very recent times and the late nineteenth century were found. This anomaly was explained by the probability that other prehistoric sites may have been "small winter season encampments or habitations located far from shore in densely forested areas. Also, the rate of erosion along the banks of the Babewendigash and Thomas rivers suggests that some sites may have been destroyed" (McCaffrey *et al.* 1989: 132). In addition, it was thought "that the practice of placing summer camps on the exposed, low water beaches of river and lake shores may have contributed to the lack of archaeological remains. Shoreside camps would be open to the wind and breezes, providing relief from the swarms of mosquitoes and blackflies" (McCaffrey *et al.* 1989: 132).

McCaffrey's (1989) survey on waterways north and south of Schefferville located several prehistoric sites related to the exploitation of local lithic materials (and, presumably, hunting and fishing), Fort

Nascopie, a Hudson's Bay Co. trading post dating to 1838-1870, and many contemporary Innu camps. McCaffrey suggests that other sites from the earlier historic period were not located "almost certainly due more to poor conservation of organic materials, and the difficulty of identifying small campsites, than to an actual lack of Historic period occupation" (McCaffrey 1989: 89).

Rogers and Leacock (1981) and Speck and Eiseley (1942) portray the Montagnais-Naskapi of the St. Lawrence region as living in an environment that offered them a wide variety of food resources. Bands would leave settlements on the Quebec North Shore in late fall, ascend one of the main rivers, including the Little Mecatina, and spend the winter and early spring in small family groups in the interior hunting moose, trapping beaver at frozen ponds, and fishing. In late spring, groups would congregate at a central meeting place prior to the return to the coast, which was made downriver after break-up.

A report by Jean-Yves Pintal (1986) on a survey of the St. Augustine River, described the finding of eleven archaeological sites on the lower and middle sections of the river and at Lac Wapustagatau, approximately 150-200 km to the southeast of the study area. Among these sites were five prehistoric sites, two with both prehistoric and historic Innu components, and four recent to contemporary Innu camps. The prehistoric sites were not positively identified in terms of age but appeared to range from the Maritime Archaic period prior to 3000 years ago to the Point Revenge Complex (Fitzhugh 1978) which dates on the coast of Labrador between 1000-300 B.P. (before present) or the ancestral Daniel Rattle Complex, which dates between 1750-1000 B.P. (Loring 1989). The historic components generally dated to the mid-late nineteenth century; one was of contemporary age. Most of the sites found shared several characteristics:

- location near the river or lake edge, often on dry terraces above the reach of flooding and ice rafting, usually close to a good vantage point, and invariably sheltered from prevailing winds by selection of the appropriate bank, the presence of the camp in among thick woods, or the position in the lee of rising ground;
- location at or near a notable geographic feature such as a tributary, highly visible sandy beach, a set of rapids, or a bare rock outcrop, possibly for ease of relocation; and
- for the most part, sites appear to have been occupied only briefly, though sometimes repeatedly, suggesting that the principal function was as a travel camp *en route* between the interior and the coast, rather than as a local resource exploitation camp. Most sites featured large amounts of charcoal and, often, stone hearth structures, evidence of the provision of wood fires for cooking, warmth and, most likely, the means for drying clothing and gear.

A report prepared by Peter Armitage (1990) for the Innu Nation on Innu land use and occupancy illustrated a pattern of movement by Innu throughout the headwaters of rivers flowing down to the



Quebec North Shore and Churchill River/Lake Melville. The study area for this assessment is on the height of land between these two watersheds. It is likely that Innu travelling between resource areas, trading posts and settlements at Lake Michikamau, Sheshatshit and the Quebec North Shore would have used Minipi Lake and the Little Mecatina River on occasion, depending on their destination (e.g. Armitage 1990: 98). Armitage (pers. comm.) confirmed that people from La Romaine regard the Minipi Lake area as the northern limit of their hunting grounds; Lac Fourmont, during the early part of this century, was a prime focus for beaver. The Atlas appended to Armitage's report (1990) documents land use and occupancy between 1979 and 1987; with the exception of one overview map which includes the study area within the extent of historic land use and occupancy by Innu, the maps do not extend as far south as Minipi Lake. While this suggests that Innu from Sheshatshit did not habitually exploit resources in the study area during this period of time, an analysis of the maps indicates that berries, migratory waterfowl, furbearers, small game, fish and caribou were sought in the headwaters of the Kenamu, Traverspine and Eagle rivers and in pond and stream systems between these areas, all within 100 km of the PTA.

Adrian Tanner (in Armitage 1990) identified six subregions occupied by Innu, including one in the Minipi Lake area, described as "the region around Minipi Lake...and the headwaters of the Petit Mecatina River...Prior to settlement, users of this region would trade at Sheshatshit, Mingan and Natashquan...". Armitage has some problems with Tanner's subregion boundaries and indicates that the Minipi Lake area was primarily used by Innu from the North Shore and was marginal to territory used by the Sheshatshit Innu. In any event, both anthropologists agree that the Minipi/Mecatina region was used and occupied by Innu. Armitage (1990: 98) also describes the travel of a family in 1946 from Lake Michikamau to La Romaine via the Traverspine River, Minipi Lake and the Petit Mecatina River.

Consultation with Dr. Jose Mailhot (pers. comm.) was not productive. Dr. Mailhot has worked extensively with Innu from Sheshatshit and the Quebec North Shore and apparently has recent documentation on land use and travel routes obtained from research in both areas. Regrettably, she was not willing to provide the results of this research.

Information in a book on the Innu opposition to military activities in Labrador (Wadden 1991) shows that Innu camped in the vicinity of the runways at the centre of the PTA and on Minipi Lake between 1987 and 1989 as a protest against the existing, and proposed intensification for the planned NATO base, of military flying from CFB Goose Bay. Innu informants related to Wadden the level of impacts caused by practice bombs as big as 450 kg and the finding of such bombs and associated craters some distance from the centre of the PTA.

A review of topographic maps of the region indicated that the study area would not have been favoured as a primary travel route between land use areas and settlements to the north and to the south. Other river and lake systems to the east and west offered better opportunities for travel. However, both the

main branch of the Little Mecatina River to the south and Minipi Lake to the north were used as travel routes (Armitage 1990) and it is likely that people using these routes sought resources in the study area between the two water bodies.

In summary, it is known that there has been a pattern of movement of prehistoric and historic Native peoples between coastal areas and the interior through or at least close to the PTA. Resources in the study area, on the height of land, can be expected to have been at least sporadically exploited by people fishing, hunting or trapping in the height of land region. Nevertheless, the lack of major navigable rivers and lakes indicate that the area was not on a principal fall or spring travel route, at least in the warmer months, or used for a winter base where fishing through lake ice could help sustain hunting groups. In fact, Innu protesters from Sheshatshit walking 30 km into the PTA from a lake experienced great difficulty reaching the area because of the "incredibly rough terrain...rivers and...bogs" (Wadden 1991: 99).

5.2 Field Research

5.2.1 Study Area

The 177 km² study area was overflown by helicopter. Several areas of potential for the presence of archaeological or ethnological resources were inspected on foot. Special attention was given to the central part of the PTA, where most practice bombing and clean up occur.

The small branch of the Little Mecatina River which meanders through the centre of the study area is navigable on the southernmost stretch but long calm steadies in the western part of the area are interspersed by rapids (Figure 5.1). Several of the small ponds in the eastern sector were noted to have beaver dams and beaver cut trees, but no lodges were seen (Figure 5.1, No.4). The eskers which form prominent landmarks in the northern and southeastern sectors were sparsely covered with standing and fallen spruce and rose to knife edge ridge tops (Figure 5.1, Nos.5, 6, 8). The ridge tops offered a broad view of the landscape and may have been used by hunters as lookout stations while travelling.

The centre of the PTA (Figure 5.1, No.1) is a flat, burned over plain with little vegetation, surrounded by gently rising, forested hills. The branch of the Little Mecatina flows east a few hundred metres southwest of the main target area; a minor tributary curves around the north and east sides. The area has been extensively disturbed by several years of target practice and clean-up grooming in addition to the preparation of the mock runways and other facilities (Plate 5.1). Both runways and the area between and adjacent on both sides were walked and surface inspected. The disturbance and the lack of snow in this open, exposed area provided abundant soil exposures (Plate 5.2). No archaeological material and no sign of any recent or older Innu use of the area was found. The proximity of streams on three sides of the target area offered some minor potential for the presence of camp sites associated



Key

- 1 Runways
- 2 Little Mecatina River Camp
- 3 Lac Fourmont Camp
- 4 Beaver dam
- 5 Esker crossing pond
- 6 Esker
- 7 Confluence
- 8 Esker
- 9 Confluence
- 10 Ponds

Source: NTS Minipi Lake Map 13C

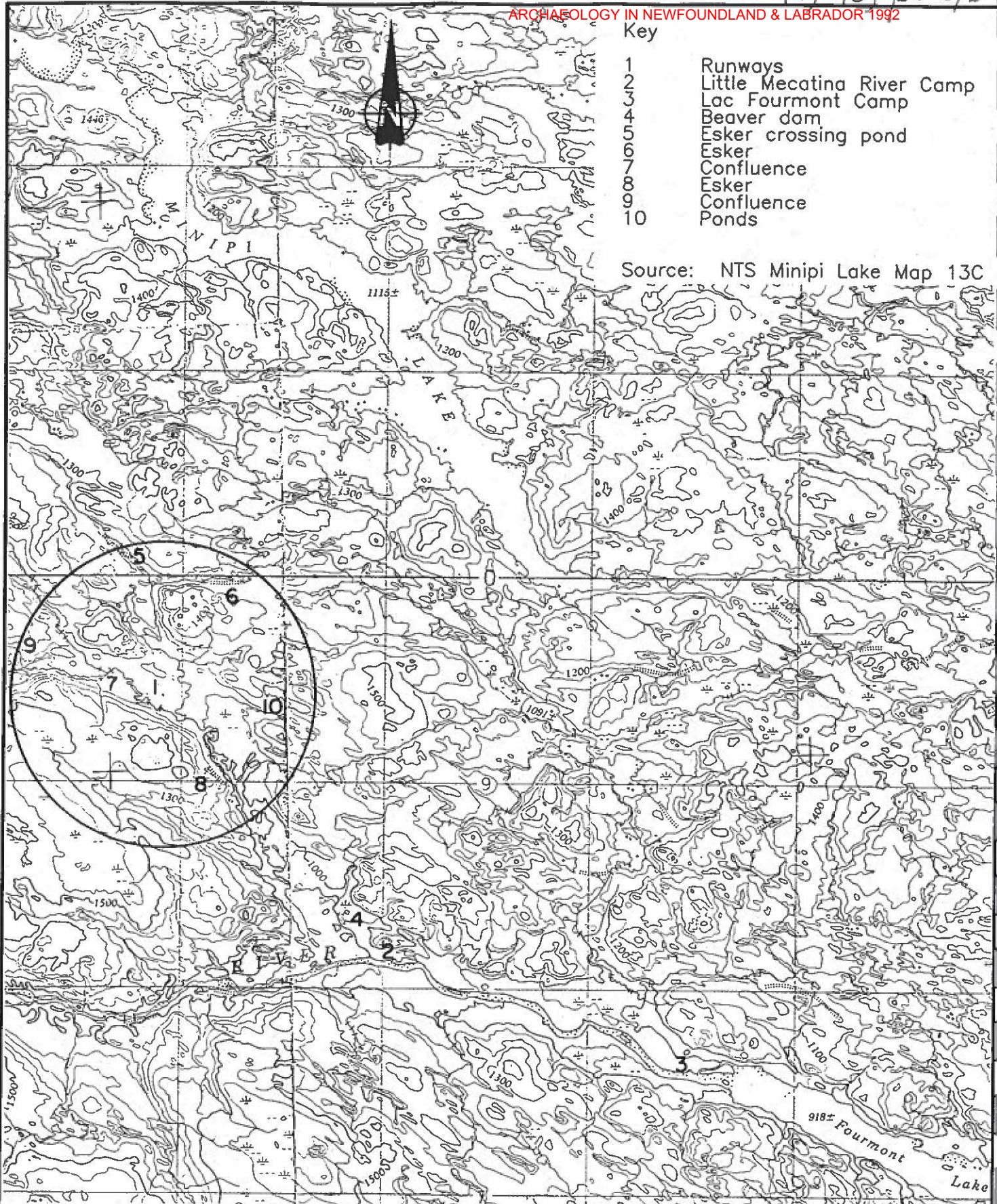


FIGURE 5.1 MINIPI LAKE PRACTICE TARGET AREA

Scale: 1:250,000



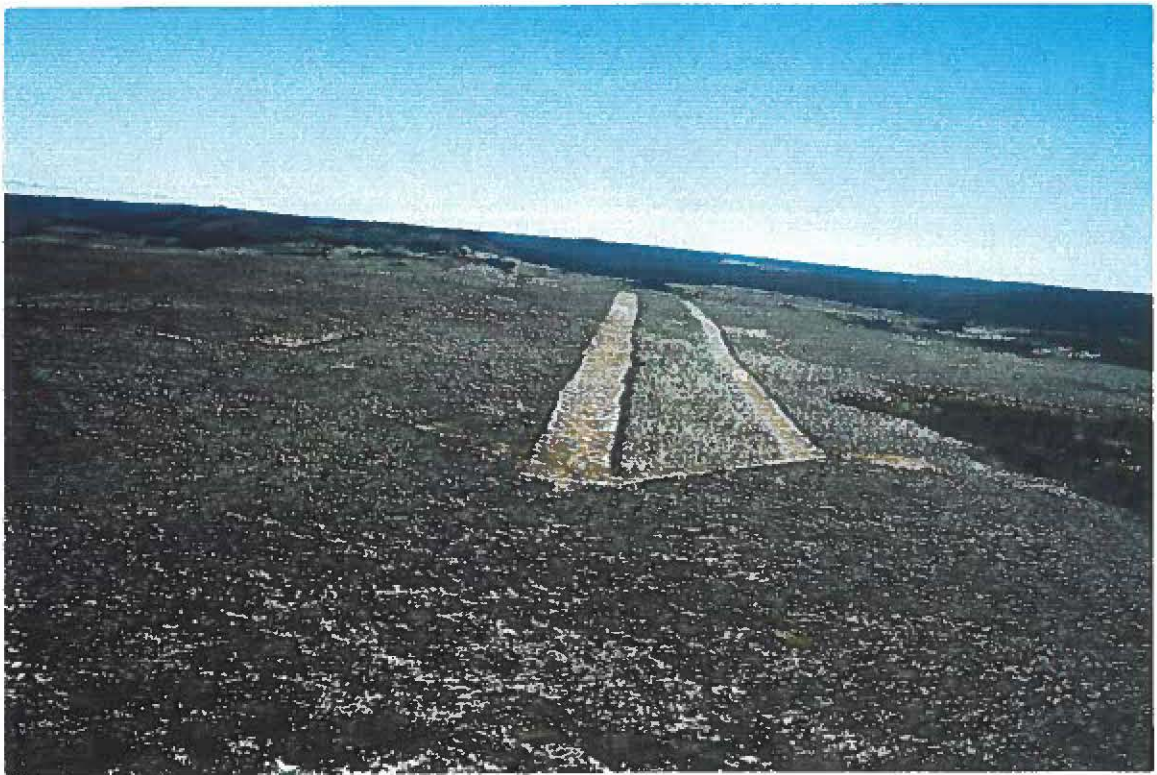


Plate 5.1: Mock Runways (Figure 5.1, No.1)

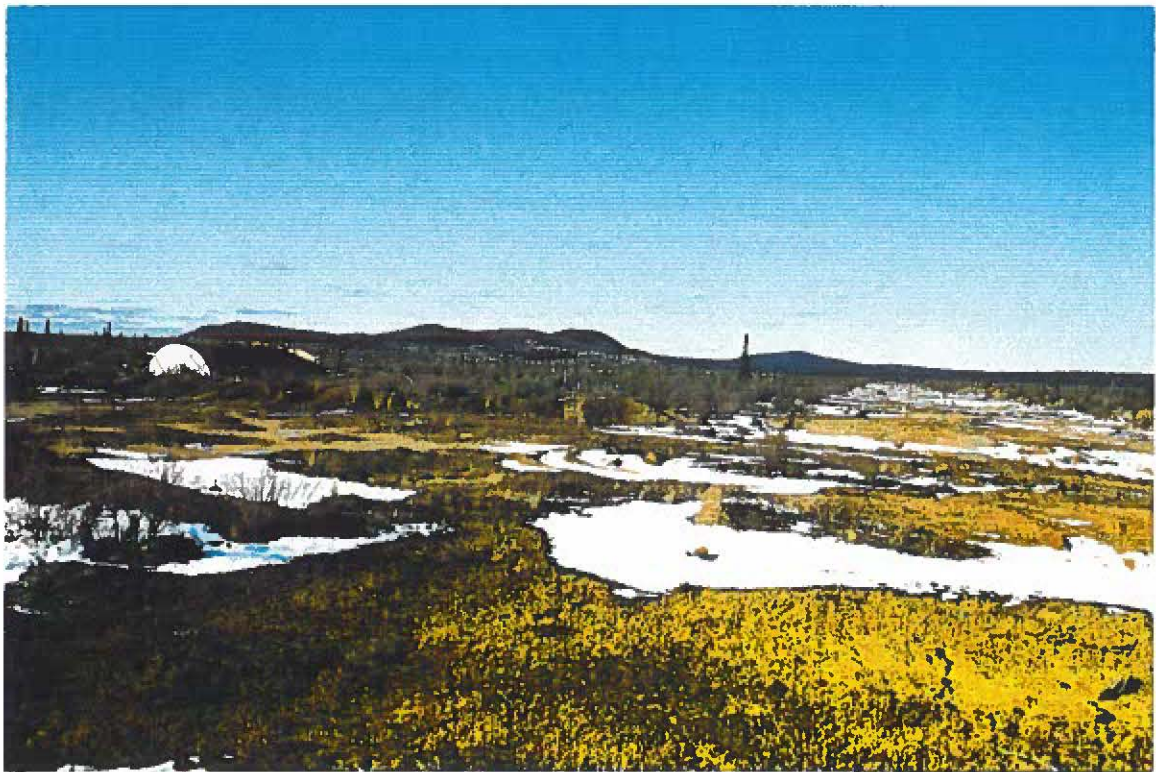


Plate 5.2: Mock Runway and Hangar at Centre of PTA (Figure 5.1, No.1)



with travel or exploitation of terrestrial and riverine resources; however, if any such sites occurred, it is unlikely that any durable or significant traces would have been left or preserved. No evidence was found of the camp sites occupied by protesting Innu (Wadden 1991) in the late 1980s.

The confluence of two branches of the Little Mecatina (Figure 5.1, No.7), 2 km west of the target runways, was inspected for cultural remains. This area was thickly wooded, although a forest fire had burned over the area within the past fifty years. Several flat areas within an otherwise undulating terrain presented potential camp sites, but the latest fire would have destroyed any previous camp evidence which might have been present. The bank to the river was steep and the river shallow; rapids made it unnavigable in either direction. The area has minimal potential for the presence of archaeological or recent Innu cultural remains. A small cabin, shed, fuel dump and helicopter pad were noted *en route* to this area from the runways, presumably related to military use of the target area.

At the extreme western edge of the study area the minor branch of the Little Mecatina River opened out into a wider steady. The area between this steady and a long, narrow pond was walked (Figure 5.1, No.9). As noted elsewhere, there were several flat, dry areas upon which to camp and from which, presumably, fish, beaver and other terrestrial mammals and waterfowl could be obtained. However, there were no obvious reasons for anyone to camp at this location in preference to other places which might have offered better travel routes, locations for base camps and other attributes.

A long esker which trends northwest-southeast across the northwest arc of the study area (Figure 5.1, No.5) seemed to offer some potential as it crossed a long pond and was intersected by a stream between the two parts of the pond (Plate 5.3). Although intermittent fresh snow cover prevented complete inspection of the area for habitual animal trails, it is possible that the esker was used by moose or caribou as a travel route. A pile of boulders which straddled the summit of the esker presented an opportunity for hunters to ambush such game (Plate 5.4). However, no evidence was found to suggest that the natural placement of the boulders had been culturally modified or that the natural blind had been used by hunters. The 2 m wide breach in the esker, where water flowed from the northern part of the lake to the southern, may have presented an opportunity to net fish or beaver and possibly an opportunity to intercept large game. No evidence was found of any such activities, although the snow cover at the time could have obscured any features such as cobble hearths or abandoned camp equipment.

Another system of eskers was located in the northeastern sector of the study area, running parallel west-east courses on either side of a pond (Figure 5.1, No.6). A route was walked through deep snow from the east end of the northern esker round the west end of the pond and back to the starting point via the southern esker. The west end of the pond was flat, dry and suitable for habitation; traces of beaver activity in the form of an old dam on the stream draining the west end of the pond and some beaver-cut trees suggest that this species may have been trapped. Areas between the eskers and the lake, and





Plate 5.3: Esker Between Two Ponds (Figure 5.1, No. 5)



Plate 5.4: Boulders Straddling Esker (Figure 5.1, No. 5)



another lake to the east, were also inspected. The eskers did not offer any advantage for travel due to the presence of fallen trees and some thick undergrowth, whereas the forest floor at the foot of the eskers was more open and easily traversed. This area is difficult to access in open water seasons as it is not connected with any larger rivers or lakes via navigable waterways or short portages.

The lakes on the east side of the study area were overflowed. No evidence was noted of any camp sites or other traces of cultural activity. A foot survey was conducted around a small pond on a minor stream which flowed into the branch of the Little Mecatina River southeast of the target area runways (Figure 5.1, No.10). More evidence of beaver activity was noted but deep snow cover could have obscured most traces of any possible camp sites related to trapping of this species.

5.2.2 Little Mecatina River Camp

In order to gain some familiarity with the type of sites which might be present in the study area, the author visited two locations to the southeast of the study area where it was felt likely that Innu camp sites would be situated. Recent camp sites were found at both of these locations; because of their recent nature it is not considered appropriate to record them as archaeological sites. However, a brief description is provided.

The Little Mecatina River Camp (Figure 5.1, No.2) was located at the confluence of the branch of the river which flows through the study area and the main branch of the Little Mecatina, 9 km southeast of the study area, 19 km northwest of Lac Fourmont. The camp was on the north bank of the Mecatina, 100 m east of the confluence of the two rivers. The main river was about 150 m wide at this point, with a clear, fast flow. The narrow but highly visible shore was formed of sand (Plate 5.5); the bank rose steeply to the level terrace approximately 5 m above the present level of the river. The camp was set in a small clearing which had been cut out of the spruce woods. Several features were noted (Figure 5.2).

The single habitation feature was a cleared, flat area about 4 x 4 m delimited by a square of cut saplings set 50-70 cm apart (Plate 5.6). These poles supported the wall of the tent which was placed over the frame. A doorway was present at the front centre, overlooking the river. Trees have been left in place around the perimeter of this frame, presumably to hold guy ropes which keep the tent roof up. A stack of cut stove wood was present immediately to the left of the entrance and a beaver trap was suspended from one of the trees.

Several metres to the west of the tent frame three tree stumps had been cut about 1 m above the ground, forming a three cornered support for a triangular frame which in turn supported a flat platform of cut logs on which a canoe box, snowmobile drive belt, a gasoline drum and a can of stove fuel had been stored (McCaffrey *et al.* [1989] describing a similar site at Seal Lake, suggested that these logs doubled





Plate 5.5: Little Mecatina River Camp (Figure 5.1, No. 2), Above Right End of Sand Beach

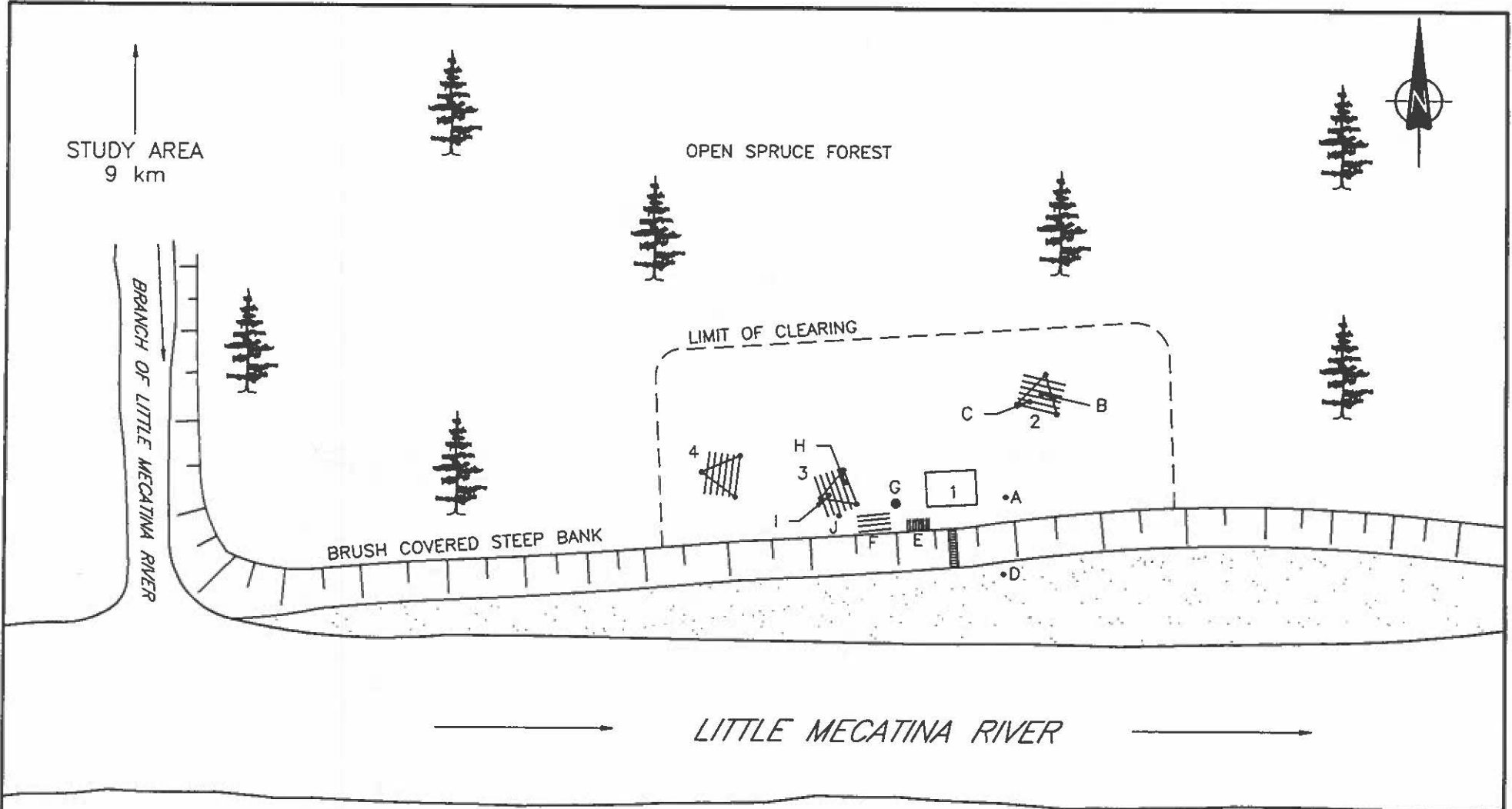


Plate 5.6: Tent Frame (Figure 5.1, No. 1) and Canoe Platform (Figure 5.2, No. 2), Little Mecatina River Camp



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LEGEND :

- 1 TENT FRAME
- 2 STORAGE PLATFORM
- 3 STORAGE PLATFORM
- 4 STORAGE PLATFORM

- A BEAVER TRAP HANGING ON TREE
- B CANOE
- C TIN STOVE
- D BOULDER (ANCHOR STONE?)
- E CUT FIREWOOD

- F CUT LOGS
- G PIT (ASH?)
- H STORAGE BOX
- I FUEL DRUM
- J BEAVER PELT STRETCHING FRAME

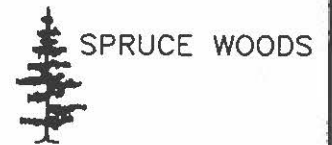


FIGURE 5.2 FIELD SKETCH OF RECENT INNU CAMP,
LITTLE MECATINA RIVER, LABRADOR



as firewood drying for later use, as well as being a temporary platform). A beaver pelt stretching frame was leaning against the platform.

Several metres further west was a similar platform set 2 m above the ground. A few metres northeast of the tent frame was another triangular platform, also 2 m high, on which was stored a canoe, wood stove and some snowmobile parts.

Discarded domestic material such as a kettle, oil cans, batteries, rubber boots, Northwest Company plastic bags and beverage containers bearing labels signifying a Quebec origin were present around the camp and on the bank leading down to the beach. Fresh tracks in the new snow were noted, including moose, bear and rabbit. A beaver femur was found on the bank.

The presence of material which originated in Quebec and both a canoe and snowmobile parts suggested that this camp was occupied by Innu from the Quebec North Shore probably some time in fall and early winter. Travel to the camp would have been effected in early fall, prior to freeze-up. Movement around the region in late fall would be by canoe and, later in the year, snowshoe and snowmobile (at similar camps in earlier times, sled). Travel to the coast, trading post or other destination would be in mid-winter, over the snow. A return might be made to the camp through the winter to continue trapping and hunting along the river systems until spring, when the journey back to the coast would be by canoe or snowmobile. The location of the camp at the confluence of the minor branch of the Little Mecatina River suggested that resources in the study area may have been accessed and exploited from this camp.

No prehistoric materials such as stone tools or flakes were seen in the eroding face of the bank; because of the frozen ground conditions no test-pitting was possible. However, this site may well have been occupied prehistorically as well as historically, as was noted at several of the St. Augustine River sites (Pintal 1986). The situation of the camp presents some similarities to those recorded by Pintal: shelter among spruce woods, location on a dry sandy terrace above a highly visible sand beach, proximity to a major confluence, and aspect up and down the river. The major difference is the semi-permanent and multi-season nature of the Little Mecatina camp, implying local resource exploitation rather than *en route* travel may be or may have been the major function of the camp.

5.2.3 Lac Fourmont Camp

A second camp was noted from the air on the north side of the Little Mecatina River about 1 km west of where the Little Mecatina River flows into Lac Fourmont (Figure 5.1, No.3). A smaller tributary of the Little Mecatina River flows into the lake immediately north of the main branch and provides a route via a system of rivers, lakes and short portages to the south end of Minipi Lake. This camp may have been selected for its proximity to the terminus or start of this potential travel route (which covers



a distance of 24 km between Fourmont and Minipi lakes). It is also situated close to the location on Lac Fourmont where over 100 moulting American Black Ducks were observed during the JWE biophysical survey (JWE 1992b). In a brief overflight of the camp it was evident that two substantial features were present, including the possible remains of a cabin and a tent frame or two rectangular tent frames. A canoe was also stored at the camp.

5.2.4 Other Areas

While *en route* to the study area, four modern fishing lodges were noted on lakes northeast of Minipi Lake. With the exception of one or two short portages, there is a good water connection between the north end of Minipi Lake and the Kenamu River, which drains into the opposite side of Lake Melville from the communities of Sheshatshit and North West River. Two of the lodges were situated on this system and a third, now abandoned, formerly was operated at the exit of the river into Minipi Lake. According to the helicopter pilot (P. Garrett, pers. comm.), an Innu camp was established on a promontory west of the abandoned lodge (near the northern tip of the lake) in the late 1980s when Innu were actively protesting the military use of the PTA.

Several other locations on Minipi Lake, particularly prominent points of land and river mouths, were noted from the air as having some archaeological potential. Additional locations on the Little Mecatina River, especially the confluence of the Joir River, the short stretch between Donquan and Fourmont lakes, Lac Fourmont itself, the tributary between the Little Mecatina River and Guines Lake and two potential portage routes between the Mecatina and Dominion Lake also seem from an analysis of environmental attributes to offer good potential.

5.3 Summary of Results

It is evident both from the background research and the results of the field investigation that the study area is surrounded by travel routes and areas which were exploited for a variety of resources by Innu and, most likely, their prehistoric predecessors. No evidence was located that definitively identified the study area as the subject of any intensive exploitation. However, the environmental similarity between the study area and areas within a 50 km radius to the north used and occupied by Innu within the past fifteen years (Armitage 1990) suggests that the study area may have been part of the territory traditionally used by Innu from Sheshatshit prior to 1979. The presence of one river through the study area which, at least for part of its length, is navigable and connects with the Little Mecatina and the Quebec North Shore, several ponds where beaver sign is present, the proximity (less than 25 km) of two recent Innu sites on the Little Mecatina River southeast of the study area, and informant data from Adrian Tanner (in Armitage 1990) suggest that the area may also have seen sporadic use in fall, winter and spring for hunting, fishing and trapping by Innu from the North Shore, but probably not for direct travel east-west or north-south. In spite of the potential, no archaeological sites, Innu camp sites or

other signs of traditional land use were found in the study area. Several factors may be considered as explanations for this: *

- snow cover as deep as 20 cm, where drifts had gathered, and intermittent cover elsewhere may have concealed surface evidence of any sites which are present, such as hearths and stone tools. The high visibility of the camps on the Little Mecatina River suggests that recent Innu camp sites, if present and if still intact, should have been visible in the areas surveyed;
- frost in the ground may have prevented the interception of traces of prehistoric archaeological components in areas subjected to attempted test-pitting;
- camp sites occupied in the PTA by protesting Innu in the late 1980s may have been disturbed during annual clean up and grooming operations at the runway or, more likely, were situated near water at some distance from the runways in an area not investigated;
- recent and older forest fires may have destroyed surface evidence of land use and camp sites such as cut trees, tent frames, storage platforms and hide stretching frames, features which, in addition to providing evidence of contemporary land use, might indicate potential for prior use of the same location;
- the nature of the forest podsols in this region (Fitzhugh 1972; McCaffrey *et al.* 1989) results in the destruction of all organic materials within a few decades. Thus the remains of tent frames, snares, caribou fences, tools and utensils made of bone, wood or antler, iron or other metal objects and virtually anything except stone tools and flakes, charcoal, burned bone, fire-cracked rock, earth-walled foundations and features such as hearths and caches made of cobbles or boulders would not normally be preserved in the archaeological record;
- some of the lakes and streams in the study area were at least partially frozen during the field visit which prevented a full evaluation of navigability or potential for substantial populations of fish and, thus, their historic resources potential;
- the branch of the Little Mecatina River which flows through the study area is not a good travel route north or south to the height of land or between the Lake Melville area and the North Shore as compared to alternative routes to the east and west; and
- knowledge of evidence of any camp sites which were formerly present in the study area and have since been destroyed, or sites which are present in areas which were not surveyed was not available due to the policy on non-cooperation adopted by the Innu Nation.



- X It is considered likely that the study area was used peripherally by Innu, and may also have been exploited by their prehistoric predecessors, for hunting, fishing, trapping and gathering of food and other resources. However, most camp sites in the headwaters region related to these activities are more likely to have been located in areas with more advantageous attributes. If camps were located within the study area they were probably occupied very briefly and few traces of their presence would remain. The negative findings of this study should not be interpreted as diminishing the importance to the Innu of any tradition of land use and occupancy of the study area and the significance to archaeological studies of knowledge of such activities.

6.0 EVALUATION AND DISCUSSION

It has been established through background research and the field survey that extensive use has been and continues to be made by Innu of the river and lake travel routes to the north and south of the study area and that resources such as caribou, moose, beaver, fish and waterfowl are available in the study area. It can be hypothesized, therefore, that potential exists for Native people to have exploited resources present in the study area and therefore to have travelled through the area. A review of the findings of archaeological surveys in similar interior areas and data contained in Armitage's (1990) report suggest that the greatest density of archaeological sites in the region would be found on major rivers and lakes and clusters of linked ponds, especially where confluences exist in combination with other attributes (such as a good landing beach, south facing aspect, caribou crossing route, fish resting pool or overwintering lake, portage route, or proximity to lithic resources). Few clusters of these attributes exist in the study area. In winter, features such as a good landing beach, caribou crossing route and portage would not be considerations; proximity to fur-bearers, game, ice-fishing and shelter from the elements would be the primary objectives in selection of a camp site.

- This study has been affected by the inability to obtain land use information directly from representatives of the Innu Nation. Details on contemporary and traditional hunting, trapping, travel and other activities are normally of great importance in any assessment of the potential for the presence of archaeological sites, and recent camps from which ethnological data could be derived, and in an evaluation of their significance and mitigation needs. In addition, the time constraints, the presence of snow on parts of the study area and frost-hardened ground prevented a thorough inspection of areas considered to possess cultural resources potential. The presence of snow cover, the forecast for additional snow, rain and sleet late on the second day of the survey and the inability to obtain the services in the field of an Innu guide as planned also resulted in the reassessment of the plan to spend more time in the field conducting foot surveys from a base camp. However, the central part of the PTA around the runways was thoroughly inspected with negative results and it is considered that sufficient information has been gathered to provide an overview assessment of the historic resources potential elsewhere in the PTA, as required by the project Terms of Reference.

Accurate predictions on the number and type of sites which might be expected to be present in the study area are difficult to assess in the absence of Native land use information. However, based on the results of other aspects of the overview assessment and comparison of the study area with other environmentally similar areas previously surveyed, it is considered likely that resources in the study area have been exploited by native peoples, at least over the past three or four centuries or so and possibly for much longer. The intensity of this exploitation was probably not great at any one time and any camp sites, caches, blinds and other hunting or trapping devices or other cultural features would have been temporary in nature and difficult or in some cases impossible to detect archaeologically because of poor conservation conditions. It is unlikely that any major habitation sites are present but, extrapolating from Armitage's (1990) land use and occupancy atlas and using information from Wadden's (1991) account of Innu visits to the PTA, some temporary camp sites may have been situated in the study area in recent decades. It should be noted that the protest camps were not situated for subsistence or other traditional purposes. There is minimal potential for any sites, other than the 1980s Innu protest camps, to be or to have been located or to have been preserved in the immediate area of the runways, which receives most of the impacts from activities in the PTA.

If the study area has been the subject of prehistoric and historic land use, any archaeological sites or locations of significance to contemporary Innu found in the study area would contribute significantly to our understanding of prehistoric or historic land use and occupancy in this part of southern Labrador. Each archaeological site is unique and would have some new information to impart, especially if supported by information on seasonality, activity, social organization and other aspects which could be supplied by Innu hunters and their families. Any sites which are present are probably associated with a navigable water body or portage route between navigable water bodies, plentiful furbearers, winter ice-fishing, either shelter from the elements or exposure to wind, depending on the season, or some other environmental feature which would contribute in some way to subsistence activities, trapping or travel.

If any archaeological or recent Innu sites are present in areas considered for future disturbance within the PTA, they could be impacted by a variety of activities related to military use of the study area. These include:

- a direct hit and subsequent destruction of all or part of an archaeological site or feature;
- clean-up and grooming operations;
- vandalism such as the deliberate dismantling of a site or the collection of material from a site; and
- the destruction of a site by fire caused by military activities.



Mitigation to prevent any such disturbance could include:

- an archaeological survey of the vicinity of proposed disturbance in appropriate weather and ground conditions. Ideally, this should be preceded by an agreement with representatives of the Innu Nation and CAM to collaborate on the study;
- a complete assessment of the significance of any sites present and an evaluation of mitigation needs, which might include marking and avoidance, capping and avoidance for the duration of military activities in the area, or partial or complete archaeological excavation; and
- an education program designed to instruct military personnel in the recognition of archaeological or recent Innu sites, features and artifacts, and procedures to follow in the event that any such sites are encountered.

Until information is received from Native groups that may have occupied and used the study area it is difficult to assess the local public attitude toward the military activities from a historic resources perspective. However, it is evident that the Innu regard the study area as part of their traditional sphere of activities and, as a consequence, it can be expected that disturbance of any archaeological or recent Innu sites which are present would not be favourably viewed by Innu, by Provincial and Federal regulators, or by military authorities responsible for the practice target activities.

7.0 RECOMMENDATIONS

The Stage 1 historic resources overview assessment and background review of environmental conditions in the study area suggest that **the potential is minimal for archaeological or historic resources to be present in the active target area, i.e. in close proximity to the mock runways.** The Stage 1 study suggests that there is no requirement to recommend any alteration in activities in the central part of the PTA; *i.e.*, from a historic resources viewpoint, there is no apparent reason to modify existing forms of practice target bombing and cleanup in the near vicinity of the mock runway complex at the centre of the study area. Because of the recent age (< 10 years) and purpose of the Innu protest camp, it is not considered to be of importance as a historic resource, if it still exists, and does not, therefore, require any form of mitigation. It is our professional opinion that, because of the remoteness of other areas of historic resources potential such as the branch of the Little Mecatina River, eskers and ponds from the active centre of the PTA, no additional field assessments are necessary unless project activities expand from the central area.

In view of the lack of success of the informant interview program for the present project, it is recommended that, at some point in the near future, a renewed effort be attempted to gather land use information in Sheshatshit and on the Quebec North Shore to better understand any traditional

travel, occupancy and resource use patterns in the PTA. Depending on the results of this program and future plans for military use of the PTA, additional field research may be required.

Under present conditions, there remains some minor potential for any sites present outside of the central runway target to be affected by misguided missiles and their impacts (Wadden 1991) and resultant cleanup activities, fires, or vandalism, although the chance of such coincidental occurrences must be regarded as slight. **No additional field assessment is required outside of the centre of the PTA under present conditions.**

To comply fully with the commitments vis-a-vis historic resources made in the Guidelines for the preparation of the EIS, and in view of the conditions under which the Stage 1 overview assessment was conducted, **in the event that the focus of activities shifts from the present runway target area it is recommended that additional studies at a Stage 1 level be carried out to evaluate more completely the heritage resources potential of other parts of the study area.** Additional studies, in the event of expansion of core activities outside of the present runway target area, would meet the intent of the Guidelines and would also allow any necessary mitigation measures to be implemented and provide the public, military authorities and regulators with a higher degree of confidence that military activities are not likely to cause major impacts on historic resources. These studies would include, at a minimum:

- renewed attempts to access information on traditional land use in the study area by informant interviews with members of the Innu Nation and CAM. Depending on the results of the informant research, it would be beneficial for a representative of the Innu Nation or CAM to work with the archaeologist to develop a research strategy to identify site locations and/or land use practices in the study area;
- archaeological surveys and travel conducted in the company of an Innu guide throughout the study area in locations identified by informant interviews or judgementally by the archaeologist to document and understand land use and occupancy; and
- in the event that sites of archaeological or cultural significance are identified within the study area, mitigation requirements might include partial or complete data recovery by mapping, recording and archaeological excavation, or protection and avoidance.

The assessment would involve a foot survey, supported by canoe where appropriate and helicopter otherwise, of the area proposed for disturbance and a suitable buffer zone around the perimeter. Prior to the field survey, a more complete helicopter survey could be conducted to cover all parts of the study area. Any locations which appear to have heritage resources potential would be inspected on the ground or identified for later assessment on foot. During foot and canoe surveys, the banks of streams and any beaches where material eroding from adjacent banks may be present would be inspected for



archaeological evidence. Locations judged to be suitable for habitation or other activities which might have left archaeological traces would be closely inspected and test-pitted.

In order to minimize disruption of military activities it is suggested that the intensive survey be carried out following completion of practice target bombing in the fall, prior to the presence of snow cover or ground frost. If the survey could be coordinated to take place at the same time as construction, clean-up and grooming activities, the archaeological assessment could include a period of monitoring to provide mitigation requirements should any heritage resources be encountered.

In the event that an archaeological or recent Innu site is encountered during any future Stage 1 surveys, the significance of the site would be assessed, potential impacts evaluated and suitable mitigation measures devised. Following the implementation of any required mitigation, periodic monitoring may be necessary to ensure the continued integrity of the site. If no sites are located, any information gathered on land use in the area, such as favoured hunting, fishing and trapping locations, travel routes and portages would be of value both to the study of the effect of military activities in this PTA and for comparison during studies of other interior regions.

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9.0 PERSONAL COMMUNICATIONS

Peter Armitage, anthropologist, St. John's.

Daniel Ashini, Director of Innu Rights and Environment, Innu Nation, Sheshatshit.

Scott Biggin, archaeologist, Daniels Harbour.

Martha Drake, archaeologist. Historic Resources Division, Department of Municipal and Provincial Affairs, St. John's.

Paul Garrett, pilot, Universal Helicopters, Happy Valley-Goose Bay.

Michael Hanrahan, Biophysical Effects Coordination Officer (formerly Environmental Officer), CFB Goose Bay.

Lawrence Jackson, journalist, St. John's (formerly Happy Valley-Goose Bay).

Albert Jones, Native Policy Division, Intergovernmental Affairs Secretariat, Government of Newfoundland and Labrador, St. John's.

Kevin McAleese, archaeologist, St. John's.

Dr. Jose Mailhot, anthropologist, Montreal.

Peter Penashue, President, Innu Nation, Sheshatshit.

Frank Phillips, trapper, Happy Valley-Goose Bay.

Jean-Yves Pinal, archaeologist, Quebec.

Dr. Bernard Ransom, Chief of Historic Sites, Historic Resources Division, Department of Tourism and Culture, St. John's.

Dr. Adrian Tanner, anthropologist, Memorial University of Newfoundland, St. John's.

Carole Thibeault, Inventaire des sites archeologiques de Quebec, Ministere des affaires culturelles, Gouvernement du Quebec, Quebec.

Perry Trimper, Biologist, Jacques Whitford Environment, St. John's.

Major Pierre Verville, Access to Information Section, Department of National Defence, Ottawa.

Marie Wadden, journalist, St. John's.

Richard Wardle, geologist, Department of Mines and Energy, St. John's.



APPENDIX A
TERMS OF REFERENCE





Supply and Services Canada / Approvisionnement et Services Canada

SUPPLY & SERVICES CANADA
NEWFOUNDLAND REGION
BLDG. 302, CHURCHILL AVENUE,
PLEASANTVILLE,
ST. JOHN'S, NFLD. A1A 1N4

709-772-4603

CONTRACT - CONTRAT

RECEIVED OCT 30 1992 RESULTS	
<input type="checkbox"/>	ACCOUNTS
<input type="checkbox"/>	CLIENTS
<input type="checkbox"/>	GENERAL
<input type="checkbox"/>	LAB
<input type="checkbox"/>	PROJECTS
<input type="checkbox"/>	PROPOSAL
<input type="checkbox"/>	

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SSC No. - N° de référence d'ASC XAQ92-00061-(025)		
Date of Contract - Date du contrat 27 Oct 1992		
Contract No. - N° du contrat W0123-2-CE82/01-XAQ		
Regulation No. - N° de la demande		
Order office Bureau demandeur	Yr An	Serial No. N° de série
W0123	2	CE82
Financial Code(s) - Code(s) financier(s) 0123CE 05FA 06101		
Duty - Droits Included		
F.O.B. - F.A.B. Destination		
Goods and Services Tax - Taxe sur les produits et services Included		
Destination COMMANDING OFFICER DEPT. OF NATIONAL OFFICE CFB GOOSE BAY GOOSE BAY LABRADOR NFLD.		
Invoices - original and two copies are to be made out and sent to: Factures - remplir et envoyer l'original et deux copies à: COMMANDING OFFICER DEPT. OF NATIONAL OFFICE CFB GOOSE BAY GOOSE BAY LABRADOR NFLD. AOP 1S0		
Address enquiries to: - Adresser toute demande de renseignements à: B. G. Tarrant		
Area code code régional	Telephone No. N° de téléphone	Extension Poste
709	772-5117	
		Telex No. N° de télex
		N/A

Your proposal is accepted to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the supplies listed herein and on any attached sheets at the price or prices set out therefor.

L-562
Send copy of contract to Allison
Original to ACCTS file L-562
B

Nous acceptons votre proposition de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou indiquées par référence dans les présentes, et aux annexes ci-jointes, les articles énumérés dans les présentes, et sur toute feuille ci-jointe, au(x) prix indiqué(s).

JACQUES WHITFORD ENVIRONMENT
LIMITED
607 TORBAY ROAD
P.O. BOX 9370, STN "B"
ST. JOHN'S,
NFLD

@607

A1A 2Y3

Total est. cost - Coût total est.
\$10,700.00

For the Minister - Pour le Ministre

700

Canada

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Supply and Services
Canada

Approvisionnement et Services
Canada

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001

TITLE: HISTORIC RESOURCES OVERVIEW ASSESSMENT/DETAILED GUIDELINES. STAGE 1.

REQUIREMENT:

TO PROVIDE A HISTORIC RESOURCES OVERVIEW ASSESSMENT DETAILED GUIDELINES, AS PER THE ATTACHED STATEMENT OF WORK.

BASIS OF PAYMENT:

Subject as hereinafter provided, you will be paid the cost reasonably and properly incurred in performance of the work; Goods and Services Tax is be shown as a separate item on all claims for payment; in accordance with the following:

LABOUR:

Bev. R. Ledrew at a firm \$700.00/day for an estimated
1/2 day.....EST: \$350.00

J. Callum Thompson at a firm \$500.00/day for an estimated
9 1/2 days.....EST: \$4,750.00

Roy Skanes at a firm \$400.00/day for an estimated
2 days.....EST: \$800.00

Secretarial at a firm \$200.00/day for an estimated
2 days.....EST: \$400.00

DIRECT CHARGES: at actual laid-down cost with no mark-up,
supported by invoices.

Equipment/Field Assistant.....EST: \$450.00

Communications.....EST: \$100.00

Helicopter.....EST: \$2,250.00

NOU-09-1992 11:01 FROM NGL & LFA ST. JOHN'S TO JWA HLL IFAX P.03



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AUTHORIZED TRAVEL AND LIVING: at actual laid-down cost, with no mark-up not to exceed Treasury Board Guidelines attached as Appendix B.

Travel/accomodations.....EST: \$900.00

LIMITATION OF EXPENDITURE.....\$10,000.00

GST ESTIMATED AT.....\$700.00

Total Estimated GST: \$ 700.00

A0000D 01/06/92 Standard Instructions and Conditions

The Standard Instructions and Conditions DSS-MAS 9403 effective 08/92 set out in the Standard Acquisition Clauses and Conditions (SACC) manual, issued on 1 June 1991, Section 1, are hereby incorporated by reference and form part of this Contract. Submission of a bid constitutes acknowledgement that the Contractor has read and agrees to be bound by such instructions.

GENERAL CONDITIONS

The general conditions set out in DSS-MAS 9076 Services effective 04/92, as well as those conditions and clauses otherwise identified herein by number, date and title, all of which are set out in the SACC manual, are hereby incorporated by reference, pursuant to the Department of Supply and Services Act and to the Ministerial Order dated 22 May 1991 published in the Canada Gazette.

These general conditions and clauses form part of this Contract as though expressly set out herein, and are subject to any other express terms and conditions contained herein.

The SACC manual may be obtained from the Canada Communication Group - Publishing, telephone (819) 956-4802.

Clauses and conditions referenced may also be viewed on the Open Bidding Service (OBS) electronic bulletin board.

K0012C 01/06/91

Priority of Documents

The documents listed below form part of and are incorporated into this Contract. If there is a discrepancy between the wording of one document and the wording of any other document which appears on the list, the wording of the document which first appears on the list shall prevail over the wording of any document which subsequently appears on

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the list:

- 1) these articles of agreement
- 2) General Conditions Services, DSS-MAS 9076.
- 3) Your Proposal dated October 6, 1992.

A9008C 01/06/91
 Period of Contract
 The Service(s) will be provided during the period from October 27, 1992 to June 30, 1993 inclusive.

A1002C 01/06/91.
 Science Contracting Officer
 Bert G. Tarrant
 Supply and Services Canada
 Bldg. 302, Churchill Ave.
 Pleasantville, St. John's,
 Nfld

TELEPHONE: 709-772-5117
 FACSIMILE: 709-772-4603

The Science Contracting Officer named above is responsible for the management of this Contract and any changes to the Contract must be authorized by a formal contract amendment issued by that Officer. The Contractor is not to perform work in excess of or outside the scope of this Contract based on verbal or written requests or instructions from any government personnel other than the aforementioned Officer.

PROJECT AUTHORITY:

M. Hanrahan
 Acting Base Environmental Officer
 Department of National Defence
 CFB Goose Bay,
 Goose Bay, Labrador

Telephone Number: (709)896-7592

The Project Authority is responsible for all matters concerning the technical content of the work under this contract. Any proposed changes to the scope of work are to be discussed with the Project Authority but any resultant changes can only be authorized by a contract amendment issued by the Regional Contracting Officer.
 scsc01

K0018C 01/06/91
 General Conditions, DSS-MAS 9076

A9012C 01/06/91
 Subcontracting
 (1) Unless otherwise provided in the Contract, the Contractor shall obtain the consent of the Minister, in writing, prior to the subcontracting of any portion of the Work. Where consent is required and should the Contractor propose to solicit bids from other than Canadian sources, then consent shall be obtained in writing prior to the solicitation. Any consent to a subcontract shall not relieve the Contractor from its obligations under the Contract or be construed as authorizing the establishment of

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Supply and Services
Canada

Approvisionnement et Services
Canada

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any liability whatsoever on the part of Canada or the Minister to a subcontractor.

(2) In any subcontract, other than a subcontract referred to in subparagraph (3) (b), the Contractor agrees to bind the subcontractor by the terms and conditions similar to and, in the opinion of the Minister, not less favourable to Canada than the Contract, to the extent they are applicable to the Work subcontracted unless the Minister otherwise consents.

(3) Notwithstanding paragraph (1), the Contractor may, without prior consent of the Minister:

(a) purchase "off the shelf" items and such standard articles and materials as are ordinarily manufactured or produced by mills and manufacturers in the normal course of business;

(b) subcontract any of the Work, to any one or more subcontractors, up to a total value of:

(i) for contracts valued up to \$100,000 - 50 percent of the contract value,

(ii) for contracts valued over \$100,000 - \$50,000 plus 10 percent of the value of the Contract in excess of \$100,000 up to a total value of \$100,000;

(c) authorize its first and subsequent tier subcontractors to make purchases or subcontract as permitted in subparagraphs (a) and (b).

(4) Unless otherwise stated in the agreement, the Contractor is not obliged to seek consent to subcontracts referenced in the Contract.

(5) When consent is required, the Contractor shall submit to the Science Contracting Officer a completed "Application for Permission to Sublet a Portion of Contract", form DSS-MAS 1137, a copy of the proposed subcontract, and any additional information required by the Science Contracting Officer.

DSS-MAS 1137 - APPLICATION FOR PERMISSION TO SUBLET A PORTION OF CONTRACT is modified as follows: In the APPROVAL block, after the wording General Conditions (Research and Development), add DSS-MAS 9224.

A9013C 09/08/91
Replacement of Personnel
The Contractor shall provide the services of J. Callum Thomson and Roy Skanes and any additional employees necessary to perform the Work and provide the services required under this Contract, unless the Contractor is unable to do so for reasons beyond the control of the Contractor.

Should the Contractor, at any time, be unable to provide the employees named above, the

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Item Article	Description	Quantity Quantité	U of 1 U de 0	Unit Price Prix Unitaire	Extended Total Item Cost Coût unitaire total reporté
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Contractor shall be responsible for providing replacements who shall be of similar ability and attainment and who shall be acceptable to the Scientific Authority and the Science Contracting Officer. In such cases, the Contractor shall notify in writing both the Scientific Authority and the Science Contracting Officer and provide:

1. the reason for the removal of the named employee(s) from the Work;
2. the name of the proposed replacement(s);
3. an outline of the qualifications and experience of the candidate(s); and
4. accepted security clearance certification(s), as applicable.

Such notice shall be sent at least thirty (30) days in advance of the date on which any replacement is to commence work. Any change to the terms and conditions of this Contract which results from a replacement of personnel shall be effected by a contract amendment.

Notwithstanding the foregoing, the Contractor is required to perform the Work and provide the services in accordance with the terms of this Contract.

DELIVERABLES:

A final report outlining the work performed. The deliverables shall be subject to

inspection by the Scientific Authority prior to acceptance. Should the deliverables not be in accordance with the requirements of the work under this contract, the Scientific Authority shall have the right to reject them or require their correction.
ar112

H3007C 01/07/91
Method of Payment

1. Monthly progress payments will be made up to 90 percent of the costs and charges incurred in accordance with the Basis of Payment, but not in excess of 90 percent of the value of the Contract, provided that:

(a) the Contractor submits promptly after the first day of each month to the Science Contracting Officer a fully completed Claim for Progress Payment, form DSS-MAS 1111. The following details must be included:

- (i) expenditures in accordance with the Basis of Payment for the work for the preceding month;
- (ii) holdback of 10 percent;
- (iii) goods and services tax.

A sample of form DSS-MAS 1111 is attached to this document.

(b) the claim is accompanied by the required copies of monthly progress

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Item Article	Description	Quantity Quantité	U of I U de D	Unit Price Prix Unitaire	Extended Total Item Cost Coût unitaire total reporté
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reports, prepared in accordance with the clause entitled Monthly Progress Reports, detailed in this Contract;

(c) the progress report is accepted by the Scientific Authority and the Science Contracting Officer;

(d) the claim is approved;

(e) two (2) sets of backup documentation (receipts, vouchers, etc.) to support the claim are supplied to the Science Contracting Officer designated herein.

2. The Contractor shall prepare and certify an original and four (4) copies of its claim on form DSS-MAS 1111. The claim will be forwarded to the Science Contracting Officer who will certify the claim and forward it to the Scientific Authority for certification and payment.

3. The balance owing will be paid to the Contractor, subject to:

(a) completion and acceptance of the Work;

(b) the submission of all deliverable items to the Scientific Authority;

(c) the approval of the final claim by the Scientific Authority and by the Science Contracting

Officer.

4. Progress payments shall be regarded as interim payments only and the Minister shall have the right to conduct interim cost/time verifications or audits and to make adjustments from time to time during the performance of the Work. Any overpayments resulting from such progress payments or otherwise shall be refunded promptly to Canada.

5. Payment by Canada to the Contractor for the Work shall be made:

(a) in the case of a progress payment other than the final payment, within thirty (30) days following the date of receipt of a duly completed Claim for Progress Payment, form DSS-MAS 1111; or

(b) in the case of a final payment, within thirty (30) days following the date of receipt of a duly completed final Claim for Progress Payment, form DSS-MAS 1111, or within thirty (30) days following the date on which the work is completed, whichever date is the later;

(c) if Canada has any objection to the form of the progress claim, within fifteen (15) days of its receipt, Canada shall notify the Contractor of the nature of the objection. "Form of the claim" means a claim which contains or is accompanied by such substantiating

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Supply and Services
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	documentation as Canada requires. Failure by Canada to act within fifteen (15) days will only result in the date specified in subparagraphs 5 (a) and (b) of this clause applying for the sole purpose of calculating interest on overdue accounts.				
				Conditions Precedent to Payment	
				H0001D 01/06/91	Interest on Overdue Accounts
				C6005C 01/06/91	Limitation of Expenditure
					Canada's liability to the Contractor under this Contract shall not exceed \$10,000,00 unless otherwise authorized in writing by the Minister. The Contractor shall not be obliged to perform any work or provide any service that would cause the total liability of Canada to exceed the said sum, unless an increase is so authorized. The Contractor shall notify the Minister as to the adequacy of this sum when it is 75 percent committed or four (4) months prior to the final delivery date stated in the Contract, whichever comes first. If the notification refers to inadequate funds, then the Contractor shall, at the same time, provide a new estimate of the total cost of the Work. Notwithstanding the foregoing, the Contractor shall notify the Minister and provide a new estimate of cost if, at any time, the Contractor considers the funds provided are inadequate for the completion of the Work. The giving of such notifications and estimates shall not increase Canada's liability over the said sum.
H4009C	01/06/91				
	Cash Flow				
	Each claim submitted for payment is to be accompanied by a cash flow statement showing actual and forecast expenditure on a monthly basis for the period the Work is being performed under the Contract.				
C2200C	01/06/91				
	Goods and Services Tax				
	The goods and services tax (GST) is not included in the amounts shown in the Basis of Payment and Limitation of Expenditure clauses. The GST, which is estimated at \$700.00, is included in the Total Estimated Cost shown on page 1 of this Contract. The GST, to the extent applicable, is to be shown separately on all invoices and claims for progress payments and will be paid by Canada. The Contractor agrees to remit to Revenue Canada - Customs and Excise any GST that the Contractor receives from Canada pursuant to this Contract.				
C2500C	01/08/92				
	Provincial Sales Tax				
H3008C	01/06/91				
					The Contractor shall not adopt any change or changes in the design or in the specifications or in the Work that would cause an increase in the cost of the Work,

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CONTINUATION - SUITE

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until the Contractor receives written authorization of the Minister (under design change procedure or otherwise). Costs incurred without such authorization shall not be reimbursed by Canada.

TRAVEL:

You will be paid for reasonable and proper travel and living expenses incurred by your personnel directly engaged in the performance of the work in accordance with your present guidelines but in no event to exceed the limits set out in the attached. Any travel outside North America must have the prior approval of the Scientific Authority.
scsc04

B6801C 01/06/91
Work-Site Regulations - Compliance

B6800C 01/06/91
Non-Consumable Equipment and Material

"DAMAGE TO OR LOSS OF CROWN PROPERTY":
The Contractor shall reimburse Her Majesty any cost or expenses due to damage to/or loss of Crown owned property resulting from this contract or shall, upon reasonable notice, promptly repair such damage or substitute such loss to Her Majesty's satisfaction.
scsc09

K2100D 11/12/91
South African/Haitian Conditions

K2200D 01/04/92

Conflict of Interest

ATTACHMENTS:

For a complete contract package, the below noted attachments must be included:

- Appendix "A" Statement of Requirement
- Appendix "B" Travel
- Appendix "C" Progress Claim Transmittal
- DSS 1111 Claim for Progress Payment

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STATEMENT OF WORK

XAQ92-00061-(025)

STAGE 1 - HISTORIC RESOURCES OVERVIEW ASSESSMENT/DETAILED GUIDELINES

INTRODUCTION

An Historic Resources overview assessment is normally the initial step in the Historic Resources assessment process. The study will serve as a necessary basis for determining the level of continued involvement required within the Historic Resources assessment process.

The overview assessment is intended to:

- a. identify and assess Historic Resources potential or sensitivity within the study area, and
- b. recommend the appropriate methodology and scope for detailed impact assessment studies in Stage 2.

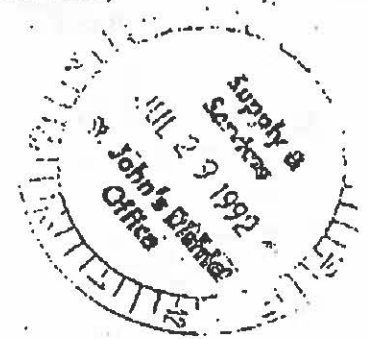
Although this may entail locating some Historic Sites in the field, a comprehensive inventory of the project area is not required at this stage.

The overview assessment will, on occasion, involve one or more supplemental objectives. For example, where detailed inventory and impact assessment are clearly required in Stage 2, it may be appropriate at this time to test the feasibility of implementing certain site survey strategies. The objectives is to determine the most efficient and effective approach given local conditions.

1 - A Documentary Search

This aspect of background research should involve a thorough review of library and archival literature and other relevant data sources. The research should include, but need not be limited to:

- a. a check of extant records including the Newfoundland & Labrador Archaeological Site Inventory, the Canadian Inventory of Historic Buildings, legal land survey records, and other pertinent records and inventory files,
- b. a review or summarization of all previous Historic Resources investigations or survey in the study area, or in immediately adjacent areas,



- c. a review of relevant information from published and unpublished sources on local and regional history, prehistory, architectural history, ethnohistory, cultural geography, paleontology, and other pertinent disciplines,
- d. a review of relevant paleoecological studies to assess past environmental conditions that may have influenced cultural adaptations, and
- e. examination and interpretation of aerial photographs and geomorphological and pedological information as an aid for assessing potential for human habitation.

1 - B Direct Consultation

Individuals and organizations with knowledge of the Historic Resources in the study area should be contacted where appropriate. The research objective shall be to compile information concerning the location, distribution, and significance of reported sites. In particular, interviews should be designed to elicit information which may facilitate constructing or confirming ethnographic and historic patterns of settlement, land use, and subsistence. Among those who should be consulted are local informants such as native groups, heritage societies, "Oldtimers", and specialists having local or regional expertise in the area. Specialists may include archaeologists, historians, ethnohistorians, paleontologists, among others.

Interviews with various persons will provide the researcher with an opportunity to document public or community attitudes toward impacts on local historic resources which the proposed development may impose. These local perceptions and attitudes may have a significant bearing on resources management decision-making, and therefore must be reported. This is especially true when there is strong local interest and concern regarding the safety of a particular site, or a group of such sites. In some cases, it may be more appropriate to reserve this phase of research until Stage 2, when impacts are better understood.

1 - C Preliminary Field Reconnaissance

The Historic Resources overview assessment may require some preliminary field reconnaissance. Preliminary reconnaissance may involve a simple overflight of the study area, or, if greater intensity is demanded, a field survey.

Reconnaissance survey is intended to supplement background research and should be undertaken in the event that historical, ethnological, or other documentary sources necessary for assessing historic resources potential are insufficient or unavailable. It is also warranted in the case where many alternatives are under consideration for location of project facilities. In this case, an overview statement of resources potential in an area, based entirely on background research, may be inadequate for providing effective guidance in project planning. Historic Resources Division will provide assistance in determining the need or the appropriate intensity of preliminary field reconnaissance for specific development projects.

Reconnaissance survey should be primarily designed to provide a sufficient indication of Historic Resources potential in the study area and to identify both the needs and the appropriate scope for further field studies. Although this may involve some ground reconnaissance, area coverage will usually be quite small relative the overall size of the area being studied. The survey will seldom provide sufficient data to ensure an adequate estimate of all sites in an area. Information resulting from preliminary field reconnaissance should however,

- a. confirm or refute the existence of sites reported or predicted from background research,
- b. allow further predictions to be made about the distribution, density and potential significance of sites within the study area,
- c. identify areas where sites are apparently absent, implying low or no potential,
- d. verify, wherever possible, potential impacts imposed by the development projects, and
- e. suggest the most appropriate survey methods or techniques to be used in an intensive field survey would such a survey be necessary.

By accomplishing these research objectives, the reconnaissance survey serves as a useful preliminary for designing and subsequently implementing a more effective and efficient site inventory survey in Stage 2.

consists of a brief important findings and could be emphasized.

must be arranged in sequence of topical ponding page numbers.

Tables, Appendices

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include, but need not

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ect

de a brief summary, prospectus, of all acts of the proposed

chniques employed in reconnaissance survey will on such factors as terrain, vegetation, land access, urbanization, the size of the project types of historic resources being sought. Where al sites are anticipated, reconnaissance survey ean on the ground inspection of selected areas. It be necessary for archaeologists to undertake some testing at this time to locate sites lacking eidence, to delineate site boundaries, or where o obtain sufficient information for preliminary ion. For structural and architectural resources approach from reconnaissance survey is normally A comprehensive drive-through or pedestrian of areas having potential. historical or l value would be generally appropriate for field reconnaissance.

undertaking an historic resources overview the development proponent, or his consultant, is o develop innovative approaches to predicting or verall resource sensitivity or potential within ea. In this respect, it is important to consult data sources. Furthermore, the services of ec alists such as ethnohistorican, architectural- cultural anthropologists, and paleontologists awn upon so as to make the fullest use of the on Extended efforts at this initial stage in the process will result in more efficient and cost-search in Stage 2.

Overview Report Content and Recommended Format

though the precise nature and activities of assessment will occasionally vary, the reporting hich follow will generally be appropriate. The roponent is encouraged to include the recommended formation in the overview report, and, where t present this information in approximately the a illustrated below. Compliance with these idelines will greatly facilitate or expedite the ss. Overview assessment reports submitted to the ce ources Division for review should contain, as a following sections:

- lter of transmittal
- t tle page
- edit sheet
- ... nagement summary

project. With the aid of maps, engineering plans, photos, and other materials, and insofar as possible at this stage of project planning, the discussion should include:

- (a) boundaries of the projected impact zone or study area for each project alternative considered in Stage 1.
- (b) the kinds of impacts the proposed development action(s) would likely have on historical resources in the study area.
- (c) the kinds and anticipated locations of all ancillary activities and facilities,
- (d) all aspects of project scheduling,
- (e) the role the overview assessment played in project planning (e.g. how were the results of the overview assessment incorporated into preliminary project design; or how did the assessment assist in determining a preferred alternative?), and
- (f) the preferred project alternative selected on the basis of environmental, socioeconomic, or engineering considerations.

9. Study Area

This section shall provide a brief description of the study area. The discussion should emphasize biophysical characteristics, both past and present, that may have influenced the density, distribution, variety, and potential significance of historic resources.

10. Methodology

The methodology section shall outline the basic research design or plan of study, and document the precise methods and equipment used to implement the research plan.

11. Results

This section shall present the results of documentary research, direct consultation, and, if applicable, preliminary field reconnaissance. Information should be reported here only to the extent that it relates to the basic objectives of the overview assessment. Results of background research should include:

- (a) a description of past land uses, and land use patterns,
- (b) a summary of previous historic resources survey, investigations, or other projects within, or immediately adjacent to, the study area,
- (c) a brief narrative description of the types of sites reported, and
- (d) a map showing the precise or approximate location of all reported sites.

Results of preliminary field reconnaissance should include:

- (a) maps showing areas surveyed, and not surveyed,
- (b) maps showing the precise location of all sites observed and recorded,
- (c) a brief narrative description of all recorded sites,
- (d) results of subsurface testing, surface collecting, or both, if applicable,
- (e) a description of negative data (e.g. where and why were sites not found?), and
- (f) a report on any field tests designed to determine the most suitable site survey strategy for the study area.

A detailed Stage 2 research proposal, indicating specific objectives, survey techniques, work schedules, and other information may also be appended to the overview assessment report. However, it must be recognized that significant changes may be required of the proposal before authorization to undertake Stage 2 research is given. Such changes can only be determined once the Historic Resources Division has had an opportunity to review the Stage 1 submission.

APPENDIX "B"
TRAVEL AND LIVING GUIDELINES

		ALL PROVINCES
TOTAL DAILY		\$40.00
	MEALS:	
BREAKFAST		\$ 7.80
LUNCH		\$ 8.80
DINNER		\$23.40
INCIDENTAL EXPENSES	\$6.00	

If the first and/or last day in travel status is less than a full calendar day, and provided sleeping accommodation is used during the journey, you may claim \$6.00 for incidental expenses if commercial accommodation is used, or \$4.00 if accommodation is provided by friends or relatives.

ACCOMMODATION - At Direct Cost

You may claim actual and reasonable expenses incurred for commercial accommodation; luxury accommodation is not permitted. If accommodation is provided by friends or relatives, you may claim \$13.50 for each occasion this accommodation is used.

TRANSPORTATION

Travel by air, bus and rail at direct cost. Only coach or economy class travel permitted.

For local transportation, use public transit, airport buses, etc. where practical.

Rent economy cars unless the number of passengers or load justifies a larger vehicle.

Mileage rates payable for use of private cars are: (11.5 cents/km)

Miles(m) or kilometres (km)

Travelled per Fiscal Year NFLD.

- | | |
|---|------|
| i) each of 1st 6,500 km | 31.5 |
| ii) for each km from 6,501 to 12,900 per year | 27.5 |
| iii) for each km over 12,900 per year | 23.0 |

1m = 1.609km The minimum daily car allowance is \$2.35.

RECEIPTS AND VOUCHERS:

Receipts and vouchers over \$5.00 for accommodation and transportation are required with progress claims. An explanation as to who, where, when, duration and purpose of travel MUST also be included in your progress claims.

APPENDIX "C"
PROGRESS PAYMENT ROUTING AND TRANSMITTAL LETTER

Contract Serial No. W0123-2-CE82/01-XAQ
DSS File No. XAQ92-00061/(025)
Claim No. _____

FROM: Jacques Whitford Environment
Limited
607 Torbay Road
P.O. Box 9370, Stn. "B"
St. John's, Nfld. A1A 2Y3

TO: The Certifying Officers Listed Below

THE ORIGINAL AND 3 COPIES OF THE REFERENCED PROGRESS CLAIM ARE FORWARDED FOR CERTIFICATION. PLEASE DETACH THE APPROPRIATE NUMBER OF COPIES FOR YOUR RECORDS AND FORWARD THE ORIGINAL AND REMAINING COPIES TO THE NEXT ADDRESSEE.

ADDRESSEE	INITIALS FORWARDING OFFICER	DATE FORWARDED
1. SCIENTIFIC AUTHORITY: M. Hanrahan Acting Base Environmental Officer Department of National Defence CFB Goose Bay, Goose Bay, Labrador Telephone: (709) 896-7592	_____	_____
2. SCIENCE CONTRACTING OFFICER: Bert Tarrant Regional Science Procurement Officer Supply and Services Canada Bldg. 302, Churchill Avenue Pleasantville, St. John's, Nfld. A1A 1N4 Telephone Number: (709) 772-5117	_____	_____
3. FINANCIAL SERVICES: Commanding Officer Dept. of National Office CFB Goose Bay Goose Bay Labrador Nfld. AOP 1S0 A1B 3T5	_____	_____

Gerald Penney Associates Limited

31 March 1993

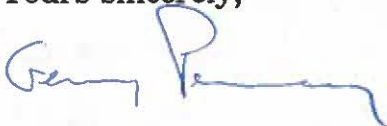
Roger Pottle
Environmental Planner

Department of Works, Services and Transportation
Confederation Building
St. John's
A1B 5T7

Dear Roger;

This letter of transmittal encloses the final report of an historic resources overview assessment of an alternative route of the proposed Conception Bay North bypass road.

Yours sincerely,



Gerald Penney

encls.

REPORT

Historic Resources Overview Assessment

**Conception Bay North Bypass Road
Alternate Route 4**

Archaeological Research Permit 92-20

submitted to

WORKS, SERVICES and TRANSPORTATION

**Confederation Building
St. John's, Newfoundland
A1B 5T7**

submitted by

GERALD PENNEY ASSOCIATES LIMITED

**P.O. Box 13787
St. John's, Newfoundland
A1B 4G3**

March 1993

CREDIT SHEET

Documentary and field research

**Gerald Penney
Tor Fosnaes**

Consultations

**William Gilbert, St. John's
Nancy Granter, Newfoundland Archives**

Report writing

Gerald Penney Associates Limited

MANAGEMENT SUMMARY

An historic resources overview assessment of alternate route 4 of the proposed Conception Bay North bypass road, between Goulds Road, near Mackinsons, and Country Road, Bay Roberts, indicates the area around Pusseys Gullies to have moderate potential for historic resources. An archaeological survey centered on the staked centerline in this area is recommended.

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INTRODUCTION

This report details an historic resources overview assessment of alternate routing of the Conception Bay North bypass road between Goulds Road, near Mackinsons, and Country Road, Bay Roberts. As originally proposed, the bypass road corridor was the subject of a previous historic resources overview assessment (Penney 1990). Introductory materials concerning the region's study area and results, included in Penney (1990), are not repeated here.

STUDY AREA

The study area, an unsurveyed right-of-way between the north side of Goulds Road (Route 66) and Country Road, a secondary municipal road in Bay Roberts, is drawn on topographic map sheets 1N/6 and 1N/11 supplied by Works, Services and Transportation and illustrated as Figure 1.

The proposed alternate route traverses unused land characterized by small growth forest, barren hills, and bedrock outcrops. Sweeping northwest to avoid Pusseys Hill, at the Goulds Road crossing (Plate 1), it passes through a low lying area northeast of Level Pond (Plate 2). The latter is the first of a string of ponds and gullies which run southwest and eventually forming Hodgewater Pond and Rocky River, emptying into St. Mary's Bay.

From this area, the alternate route climbs between unnamed ridges and descends the north wall of North River valley (Plate 3), crossing the Halls Town road immediately west of the community. It then runs at the edge of a rocky ridge, immediately north of Halls Town, then over a slighter lower ridge to traverse raised ground on the north side of Mussel Bed Pond (Plate 4) before descending into the Bay Roberts hinterland. Near Mussel Bed Pond the route approximates an abandoned railway bed. House ruins and foundations, considered to be of recent (20th century) antiquity, exist near the Halls Town crossing (Plate 5).

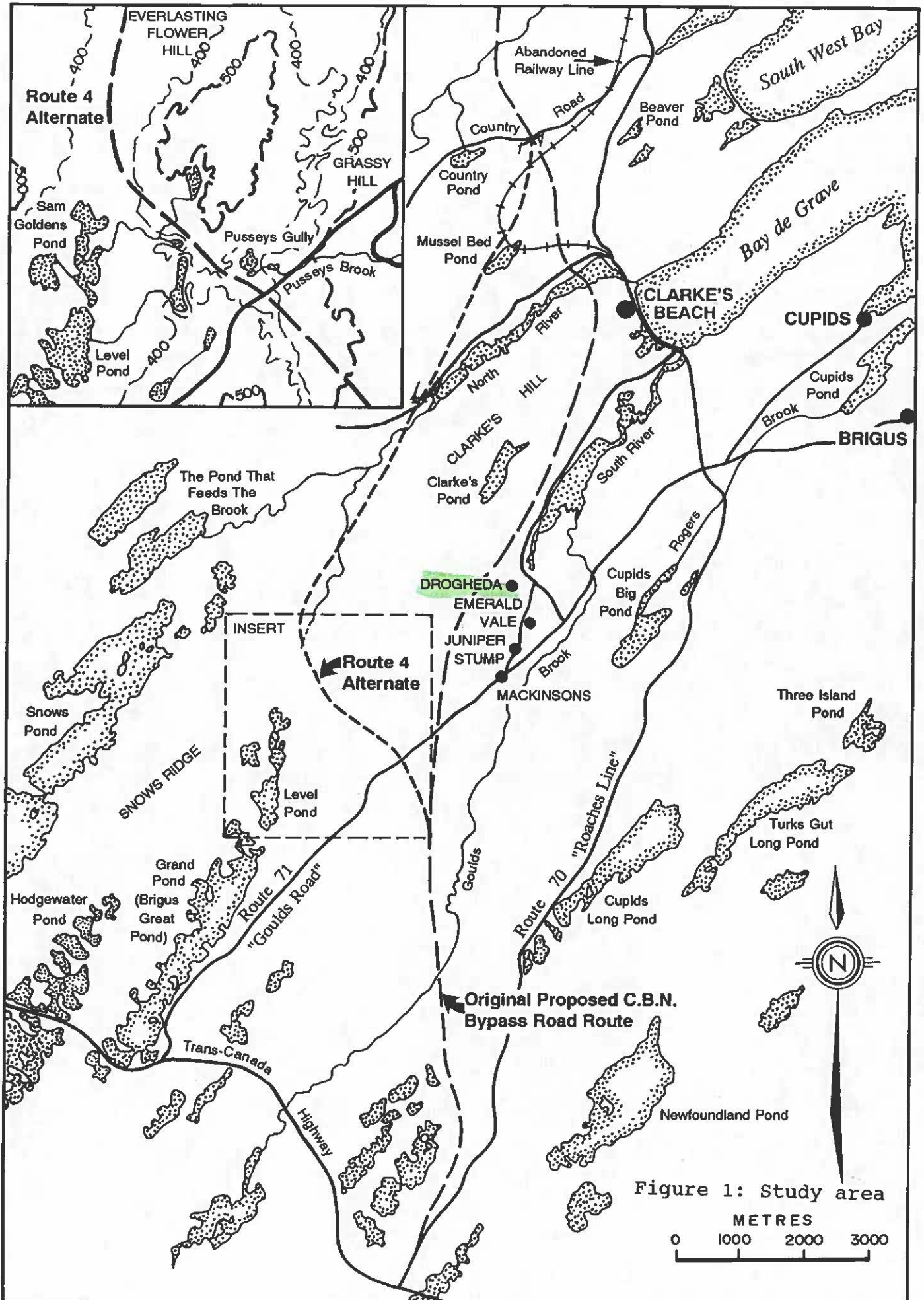


Figure 1: Study area

METRES

0 1000 2000 3000

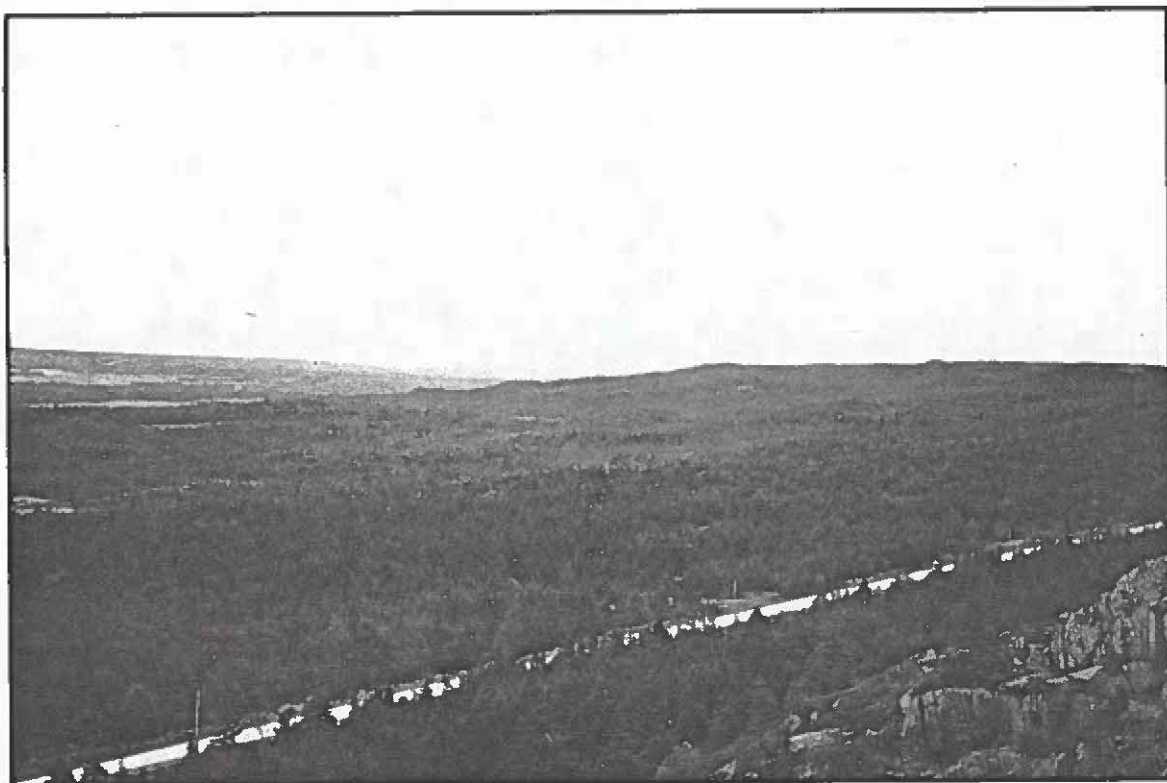


Plate 1: Goulds Road crossing area looking sw from Grassy Hill



Plate 2: Grand Pond (back) and Level Pond (centre)

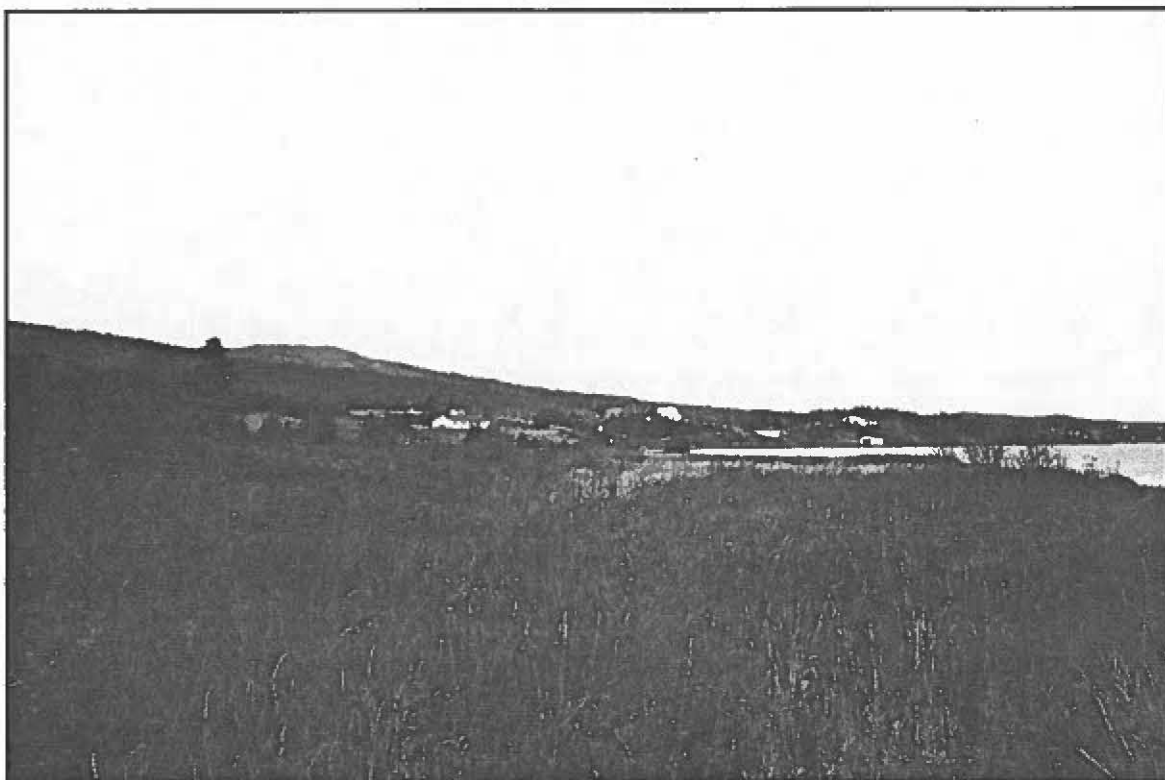


Plate 3: Western end of Halls Town at North River widening

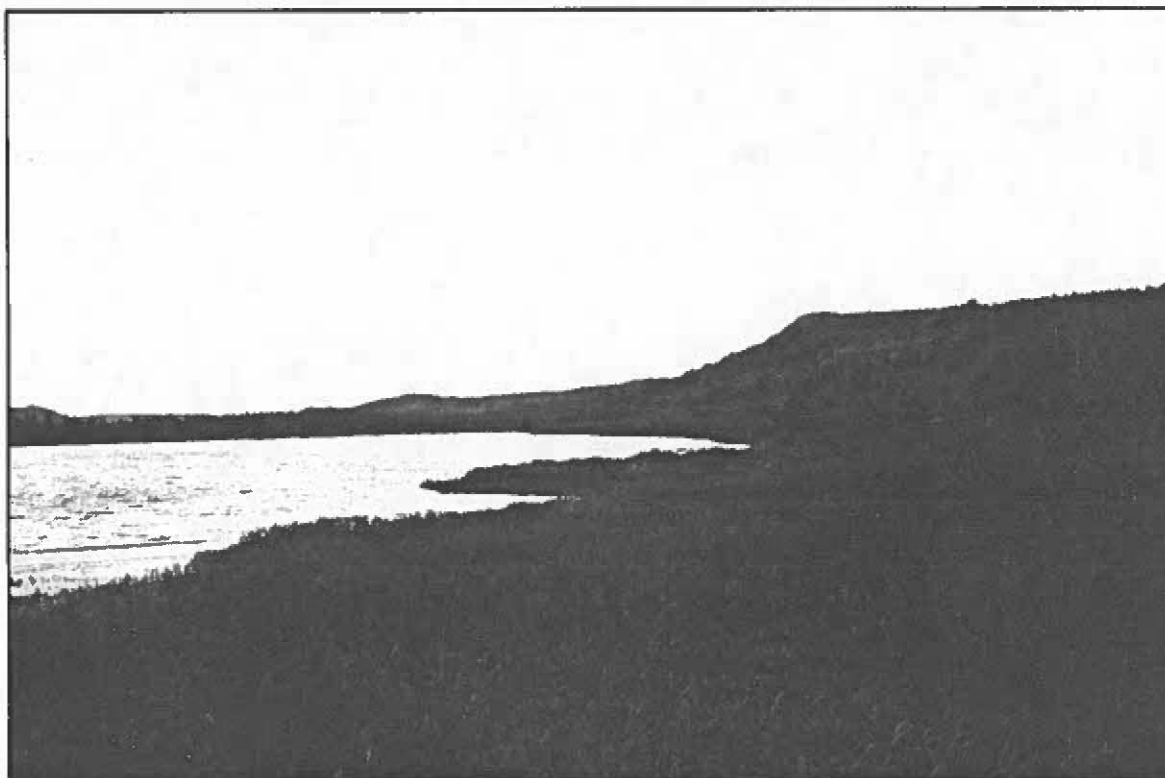


Plate 4: North side of Mussel Bed Pond

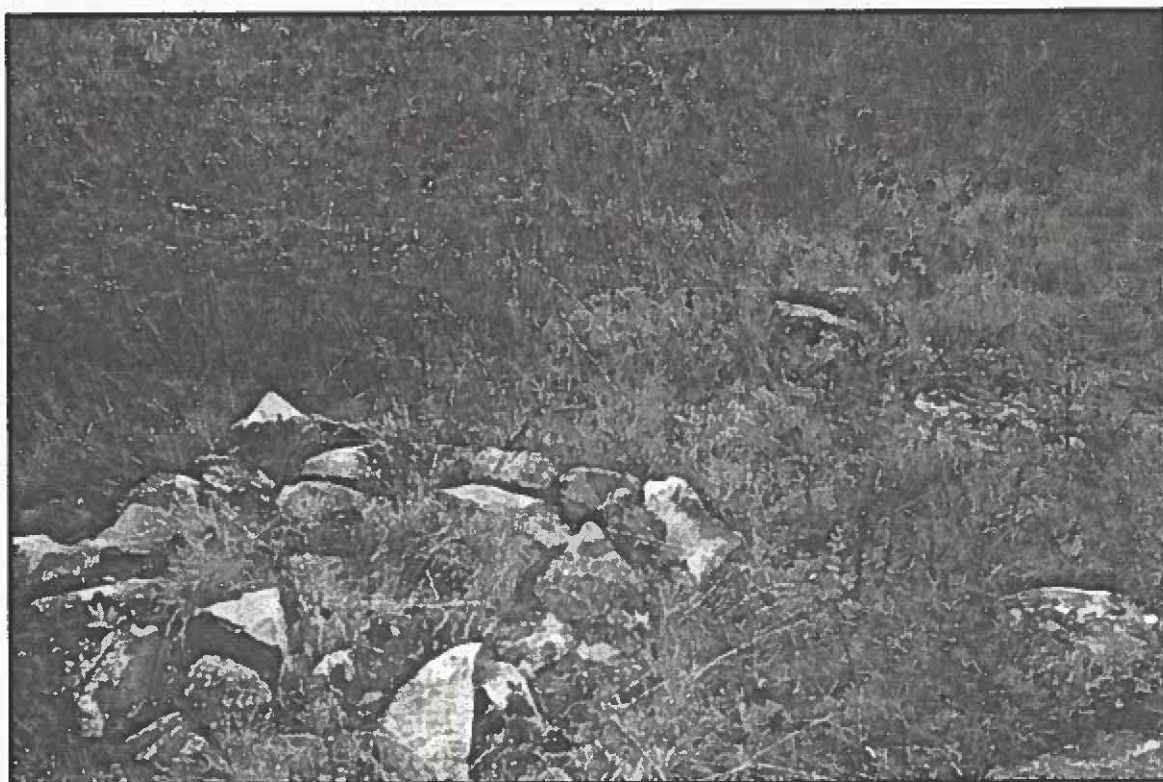


Plate 5: Old foundations at North River valley

METHODOLOGY

Documents in private and public holdings were reviewed for references to the history and use of the study area.

Fieldwork commenced at the intersection of the Trans Canada Highway and Mackinsons Road. Ridges were ascended in order to observe the lay of the land and approximate the proposed route. Topographic sheets and plans were consulted and photographs taken. Proposed route intersections with existing roads and trails were visited and foot surveyed. For site location a judgemental sampling strategy was followed.

This draft report follows the format outlined in Historic Resources Impact Assessment Guidelines (1982).

RESULTS

The area from Brigus to Port de Grave is one of the oldest settled areas of Newfoundland, rivalled only by St. John's. Before official British interest and Guy's colony, Basque and Channel Island fishermen also competed for cod and sea mammals using the coves and harbours of Conception Bay as summer fishing stations.

The Goulds River valley was still richly forested in 1843 when surveyor Frederick R. Page attempted a road link between Cat's Cove Bridge, near the head of Conception Bay (Colliers) and the Bottom Arm of Ship Harbour, Placentia Bay. His proposed Great Western Main Line would leave Colliers River bridge and run generally north between Nine Island Pond and Three Island Pond before turning west. His road report, printed in Journal of the House of Assembly - 1844-1845, is quoted below and is reproduced in Appendix 3.

At Goulds River a possible branch road from Brigus "passes through a considerable tract of land under cultivation, part of which is known as Cochrane Dale or the Goulds Farm, and Juniper Stump Farm." He locates Goulds Farm at "4 miles and three-quarters" from Brigus at the end of an already well-made road and further notes the proposed Ship Harbour road was only four miles from Goulds Farm and a new road, constructed by the farmer, Cozens, was already made in that direction.

Page notes the area still had some large trees (white spruce and juniper) but most of the accessible forests between Nine Island Pond and Goulds had been cut for shipbuilding. North of Brigus Great Pond (now Grand Pond), near Snows Pond, he describes huge trees including a witchhazel (yellow birch) whose "girth was nearly equal to the span of two men when endeavouring to encircle it" and a spruce of "seven feet two inches" at its base and "apparently perfectly straight to the top". Page mentions tilts owned by Butler and Lewis near the study area and gives general locations for several tilts built by his survey crew, some of whom were possibly Micmac.

In an appendix, Page wrote that Brigus Great Pond no longer had beavers as they had all been trapped by "Indians using deadfalls" and that the pond shorelines were littered with wigwam sites and "curiously cut timbers" used by Indians to make rafts. Twenty years earlier Cormack described Sylvester Joe's log raft construction in great detail (Bruton 1928) and the phenomenal number of beavers of earlier times is recorded (Gilbert 1992).

That Goulds Valley was well used by the mid-1800's is no surprise. From Cupids colony two expeditions seeking an overland route to Trinity Bay are recorded. Henry Crout's first attempt, in September of 1612, failed to reach Trinity Bay but

saw its water. He was no more than three miles from Hopeall Harbour when fatigue and bad weather turned back the party. A sea voyage to Trinity Bay in 1613 made specifically for Hopeall to intercept the overland trail which was probably completed in the fall of 1612 (Gilbert, personal communication, 1992).

Searly (1971) reports when d'Iberville razed Conception Bay in 1696 Brigus had 11 inhabitants but no soldiers. Other items of note are that John and Isaac Clark of Brigus (ca. 1770) probably gave Clarke's Beach its name and that North Gut and South Gut (now North River and South River) first appear in official nomenclature after 1830. Halls Town is named for a British Navy deserter (Isaac Hall) who settled the inland area in the 1850's and North River was settled by a Connolly family in 1780 (Searly 1975).

Reference to Indians at the headwaters of Rocky River is found in Searly, Story and Kirwin (1968). Discussing Micmac names on the Avalon Peninsula they suggest that by the 1870's "the Micmacs were rarely seen there." However, Howley's 1872 survey of Rocky River used Micmac guides who gave their names for the ponds. Two Island Pond remains in use.

Searly et al note an Indian living at Juniper Stump, John Stevens, "who died in 1897, a well-known guide and trapper in Labrador and northern Newfoundland and an associate of Captain R.A. ("Bob") Bartlett of Brigus." There is, also, in The Newfoundland Guide Book 1905, reference to John Stephenson of Gould's Ridge in Conception Bay. Searly (1975) in a study of Newfoundland family names, notes Stephenson as a Micmac name (Stephen's son) localized in Hall's Bay (Green Bay) at the turn of the century. John Stephenson is the only guide listed with an Avalon Peninsula address.

EVALUATION and DISCUSSION

There is an inadequacy in the historic resources data base for this inland region as historical society interest has focused primarily on seacoast settlement and seafaring and fishing personalities.

The area between Everlasting Flower Hill and Level Pond was a crossroads for people from both sides of Bay de Grave to access the interior Avalon. The area has 19th century Micmac sites and preliminary documentary evidence indicates Micmac presence in the Goulds area. An early colonial effort to meet aboriginals was concentrated between the bottoms of Conception and Trinity Bays, the south end of the study area forming a natural passage between them.

North River is a shallow brook with a large flood plain which widens near Halls Town. The area has several paths and machine tracks and shows recent signs of

intensive cutting. Visual observation confirms this as the main North River access to the interior. Between Halls Town and Country Road, Bay Roberts, the road follows a raised, barren plateau with no evidence of use except near the abandoned railway line. At Country Road considerable disturbance has occurred along both sides of the road, including a large gravel pit area used as a motor raceway.

Historic resources values within the study area possibly include historic Micmac (wigwam) sites; early colonial farm houses and ancillary buildings; country tilts (especially Lewis's and Butler's tilts as referred to by Page); as well as roadways and early country trails.

RECOMMENDATIONS

As the area near the proposed Goulds Road crossing has some historic significance a more thorough investigation (field survey including sub-surface testing along the cut centreline) is recommended between Goulds Road and Halls Town.

REFERENCES

Bruton, F.W. (ed.)

1928 Narrative of a Journey Across the Island of Newfoundland in 1822 by W.E. Cormack. Longman, Green and Co. Ltd., London.

Gilbert, William

1992 "...great good Done" - Beothuk - European Relations in Trinity Bay, 1612 to 1622. Newfoundland Quarterly. Vol. LXXXVII, No. 3.

Government of Newfoundland and Labrador

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Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

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1990 "Historic Resources Overview Assessment Conception Bay North Bypass Road". Report on file, Department of Works, Services and Transportation, St. John's.

Prowse, D.W. (Ed.)

1905 The Newfoundland Guide Book 1905 including Labrador and St. Pierre. Bradbury, Agnew & Co., Ltd., London.

Seary, E.R., G.M. Story, and W.J. Kirwin

1968 The Avalon Peninsula of Newfoundland; An Ethno-Linguistic Study.
Bulletin No. 219, Anthropological Series No. 81, National Museum of Canada, Ottawa.

Seary, E.R.

1971 Place Names of the Avalon Peninsula of the Island of Newfoundland.
University of Toronto Press, Toronto.

1975 Family Names of the Island of Newfoundland. Memorial University of Newfoundland, St. John's.

APPENDIX 1 - Daily log

Wednesday, 11 November

Drove from intersection of TCH and Mackinsons Road to Everlasting Flower Hill; ascended Grassy Hill and Everlasting Flower Hill for photos and map orientation; to ridge on Clarke's Pond; to investigation of estuary of North River; to Mussel Bed Pond via Country Road and the abandoned railway track; to Halls Town crossing and investigation of house foundations (photo); general investigation trying to establish road line to North River Valley; return to Mackinsons Road.

Thursday, 12 November

Investigated, unsuccessfully, Mackinsons Road for access to Level Pond; ascent of Grassy Hill; drove via Juniper Stump and Clarke's Beach to Halls Town to better establish the route along the ridge north of Halls Town.

APPENDIX 2 - Informants

Rupert Bartlett, Brigus
 Phillip Dixon, Mackinsons
 Martha Drake, Historic Resources Division
 William Gilbert, St. John's
 Joan Wilcox, Town Clerk, Clarke's Beach

APPENDIX 3 - Frederick R. Page (1843) road survey report

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APPENDIX.

ROAD REPORTS.

REPORT

Of a Survey of an intended Line of Road between Cat's Cove Bridge, near the head of Conception Bay, and the Bottom Arm of Ship Harbor in Placentia Bay,—being part of a Great Western Main Line of Road extending Thirty-five Miles in length, having for its object to facilitate an inter-communication between the Western Shores and the Metropolis of the Island : undertaken with a view to a Preliminary Survey only ; but now explored, and opened up to a width of four feet throughout the whole Line.

Having been nominated by the Board of Road Commissioners for the Central District, and the nomination having been confirmed by His Excellency the Governor (as per letter bearing date 23rd October, 1843,) to the duty of exploring and completing a Preliminary Survey between the head of Conception Bay and Ship Harbor in the Bay of Placentia ; in accordance with my instructions received from the Chairman, dated 26th October, I lost no time in procuring the number of men allowed, and providing all things necessary for the Expedition. This having been completed, I left St. John's on Tuesday morning the 31st October, and reached Brigus in the evening. The following day was boisterous, which prevented my going to the head of Colliers : I therefore visited the Goulds, and examined the situation of the River, and the direction of its course ; but as I shall have occasion to make reference to that River in its proper place, I shall commence by stating, that having reached the head of Colliers on Thursday the 2nd November, I proceeded at once into the interior, and examined the lay of the Country on the North side of Colliers Bridge and on the South side of Colliers Main Brook, for the purpose of discovering the most eligible point at which the intended Line should intersect or branch out from the Northern Line leading to Brigus, &c. In commencing a Survey of this extensive nature, particularly through a country altogether unknown, it is in my opinion always desirable first to ascertain something of the general features of the interior in advance, and of the obstructions which are likely to present themselves, which will eventually not only prove a great saving of time but of labour also, by preventing the necessity of altering the line or causing fresh cuttings of the same. In accordance with this view, and notwithstanding the extraordinary nature of the weather, I proceeded to examine the Hills and Ponds lying between Lees Pond Look-Out, near Salmon Cove Bridge and Colliers Main Brook, and also the country in and about the Three Island and Nine Island Ponds,—near the latter of which our first Wigwam or Tilt was erected: After examining the country very minutely about Salmon Cove, I was impressed with a strong conviction that the intended Line ought to branch off from the Brigus or the Northern Line of Road as near Salmon Cove Bridge as possible : but on examining a long hill to N. W. of the Ridge, ranging to the S. W., called the Dock Ridge, I felt considerable disappointment in finding it quite impracticable to carry a line over it any direction more favourable than the one chosen for the Road already partially made ; indeed so impassable is this Ridge that without going much too far into the interior to the S. W. the slides cannot cross over it in the Winter season, in going into the woods from Salmon Cove.—Proceeding on to Cat's Cove Bridge, which is situate on the N. W. side of and at the foot of the Dock Ridge, I found it desirable to start from this ; which may be done either by travelling out in a new line direct, or by following the present road as far as Lewis's and Butler's Tilts, being a distance of Thirty-eight chains. From the latter place I commenced opening and staking the road. Having a desire to afford every information in my power I may be considered prolix ; still I think it quite within the range of my duty

APPENDIX.

LXXXIII

ROAD REPORTS.

to make one or two observations on that part of the road, which by a reference to the Plan, it will be seen, could be made available by following on from Lewis's tilt to Collier's Bridge by the present Road, thereby obviating the necessity of a New Bridge, and shortening the making of the Road by about sixty perches; but, notwithstanding this, there are two or three very strong reasons why I would not recommend its being adopted. The Marsh for instance, which it will be necessary to cross in bringing the Road from the foot of Collier's Witchhazel Ridge to the Brigus Road, is exceedingly wet and devoid of a solid bottom. That part of the Road which must then necessarily be travelled, is at present quite impassable for a horse and cart, or vehicle of any kind; indeed, in my opinion, it would require as great an outlay to put it in a passable state of repair, as the other would require in making anew. There are several parts that require to be abandoned and a new line chosen; and when I say the distance by adopting a new line will be shortened seventy one chains, or nearly one mile, it will not appear surprising, for in the short distance between Collier's Bridge and Cats Cove, being one hundred and ten chains, there are not less than thirty different courses, and any further monies expended on that Road, as the line now is, I must in justice state will be misapplied. In proceeding then direct from Butler's tilt, partly through marsh land and small woods, but where large timber has heretofore been standing, on to the Colliers River, over which a Bridge of one chain will be required, I found some little difficulty in crossing the Witchhazel Ridge lying to the N. W. of the River, and trimming towards Emberly's Gully. There will be found here a little more ascent than in any other part of the line throughout, in consequence of the narrowness of the hill, and the elevation being considerable; still it will be trifling when properly made to follow the line marked out.—Having crossed the Witchhazel Ridge, and passed through a small marsh and wood of various sizes, the line is carried out of its direct course, it being found necessary to verge to the S. W. in order to round the head of the Three Island Pond. An angle is formed by this means, which is somewhat increased in consequence of the hills which divide the Nine Island from the Three Island Pond. Ranging to the N. E. between these two ponds, very large timber has heretofore been standing, some of which yet remains; but the best has been cut. The line here crosses over some small marshes, which at this season appear boggy, but which I am informed are in the summer months perfectly dry. The soil appears good, and is much sheltered from the N. W. and other cold winds, which must render it exceedingly warm, and well calculated to promote vegetation. The timber increases in size as you approach the Nine Island Pond, and is found in abundance all around its banks; and to the N. W. scarcely a winter passes without the frames of one or two vessels being brought from it; and now I am informed another grove has been this spring discovered, nearer to the harbour and much easier to be brought out. The Nine Island Pond is a beautiful transparent sheet of water, four miles from Colliers, running in a S. W. direction upwards of Three miles, and affords one of the most animating prospects that could be desired. The islands in it are nine in number, and from which circumstance it derives its name. They have all the appearance of having been planted by the hand of man, and regularly pruned and cultured. The beauties of this pond having been already descanted upon elsewhere, I need add nothing more. It may be proper to remark here, that from the distance which this lake runs to the S. W., together with the situation of the Cat Hills and two other ridges at the head of the Pond taking a range into the country nearly eight miles, it would be a complete barrier against attempting a road direct from Holyrood to Ship Harbor without being carried so far into the interior, as to lose the woody country, and get into an intermeniable chain of ponds, rivers, and open swamps and marshes, being altogether an impoverished country and requiring numerous and extensive bridges. The greatest difficulties which have presented them-

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APPENDIX.

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selves are found to originate in the ponds, brooks, and ridges, running N. E. and S. W., thereby crossing the Ship Harbor Line, in its course to the N. W., whereas in carrying a line in the direction which these take, no difficulty whatever would be found.— With a view to learn, if possible, the situation of such ponds and hills as were likely to interfere in proceeding in a direct course, and to ascertain if it would be necessary to swerve either to the right or to the left, I ascended a very elevated hill situate on the North side of the Nine Island Pond, from whence I could distinctly observe the situation of Salmon Cove Bridge, and by which I was more fully convinced it would be impossible to carry the line across the Dock Ridge to that Bridge. From this elevation I had also a commanding view of Old Shop Look-Out, at the head of Trinity Bay, and Spread Eagle Peak; and not perceiving anything in particular within the range of my visual organ to prevent my carrying this road in a direct line for Spread Eagle Peak, by taking the necessary observations I ascertained the correct bearings, and proceeded without loss of time to establish the line and to direct the men in opening the same. In following on with the road from the Nine Island Pond to the Goulds, nothing occurs particularly worthy of remark. It is a very level part of the country for the construction of a Road, with an abundance of materials for making it. There is occasionally to be found excellent Timber, and apparently good soil, particularly by the banks of the Goulds River. Having approached this River, on examining its banks for the purpose of ascertaining the most suitable place whereon to erect the Bridge for the road to pass over, I discovered a Tilt belonging to Charles Cozens, Esq. This I at once determined on occupying, which superseded the necessity of building a Wigwam. Having stated at the commencement of my Report that I should have to make reference to this River, I now in its proper place give a description of the same, by observing that the bank on either side is mostly steep and rugged, the width about seventy-five feet, the stream at a certain season is shallow, at others quite sufficient to raft down. This stream in its course is very serpentine, and therefore occupies some extent of vale, the soil of which, particularly in parts nourished by the overflowing of the stream at certain seasons, appears of a rich quality and productive. In its course this river passes through a considerable tract of land under cultivation, part of which may be known as Cochrane Dale or the Goulds farm, and Juniper Stump Farm, and loses itself in an arm of the sea called the Southern Gut of Port-de-Grave. A Road of 4 miles and three quarters is already made from Brigus to the Goulds farm; and viewing it as important to know the distance from Brigus to the interior or Ship Harbor line, I proceeded to measure it, and found it to be four miles and a quarter. A long piece of New Road in that direction has already been made by the side of the Goulds Farm, by its enterprising owner, so that if it should at any time be deemed a matter of sufficient importance to open such a large tract of country as is here to be found, and most available to the use of such a populous part of Conception Bay as Brigus, Cupids, Bay Roberts, &c., it may be accomplished by making about four miles of road only.

Having crossed the Goulds River the Road at once enters on and crosses a fine promising piece of marshy land, sixteen chains in width, but much longer, and takes a direct course through fine woods and excellent soil, both of which improve by penetrating farther into the interior. Cole's Pond, being a little more than one mile in from the Goulds River, is surrounded with fine woods, particularly to the S. W., after passing which some dry mossy barrens and assorted woods occupy the distance between that and Brigus Great Pond. About half a mile to the Westward of Cole's Pond commences a long chain of ponds originating Rocky River, which on a still morning or evening may be heard with all the sounds peculiar to a cataract. In making the endeavour to trace both this and the Hodge River to their source, as laid down by the latest chart, which I presume to be that

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of Mr. Jukes the Geologist, I find it cannot be done correctly, inasmuch as Rocky River is shewn as either originating about Spread Eagle Peak, and receiving the Hodge River as a tributary, or else the two at their immediate confluence conjointly forming Rocky River. But instead of that being the case, Rocky River takes its rise about eight miles in from Colliers; taking a W. S. W. course it receives Hodge River after passing through the Brigus Great Pond and the Long Island and other Ponds, and passes on to the Gripe's Nest Wigwam, a mile or two beyond which it again becomes subject to a considerable influx, not only from the Two Island Pond and the Long Pond, but from a number of smaller ponds in the course to the South West. The Otter Pond is the first of the range already adverted to, between which and the Brigus Great Pond the Road passes over dry mossy barrens and deer pasturage, producing long grass and a variety of mosses in abundance, while other parts are interspersed with underwood and woods of larger size. There are evident signs of this being a frequent resort for Deer, and it appears well calculated to afford shelter and an abundance of the necessary aliment. Leaving the men cutting on towards Brigus Great Pond, I endeavoured to make a circuit of this pond, and succeeded in rounding the S. W. and West end, and after passing over Hodge River and falling in with the Long Island Pond, I was completely overcome with astonishment, and not a little chagrined. "Here," thought I, "after nearly six weeks of indefatigable exertion and anxiety, after penetrating nearly nine miles through a most desirable and promising country, affording a line of Road far surpassing the expectations of the most sanguine,—here are all my hopes and expectations of continuing to pursue so desirable a line in a moment blighted and crushed, by the utter impossibility, to all appearance, of passing over this vast sheet of water, or continuing any farther in this direction;" and how far it might be found necessary to retrograde so as to again be enabled to pursue a direct line, was altogether a matter of conjecture. A reference to the plan will at one view evidence the extent and singularity not only of the formation but also of the position it takes up by overlapping the Brigus Great Pond. A description of these lakes would, I doubt not, be found interesting; and lest it should not be considered consonant with the formal and unmeaning manner too commonly adopted in framing such reports, and with the straightforward course I am desirous of observing, it is my intention to supply that, with other interesting matter, in an appendix. Knowing however, as I did, that in pursuing an object of this nature much perseverance was necessary, and the Ponds having been sufficiently frozen to venture on the Ice round the edges of them, I proceeded immediately to make a partial circuit of the West end of the Brigus Great Pond and the whole of the Long Island Pond. The result of my first day's travel was the discovering of a passage across a neck near which our Wigwam was afterwards erected; thereby obviating the necessity of taking a large circuit round the whole of the North end, crossing Hodge River, where it would be found considerably increased in width, and avoiding sundry steep projections attached to, and proceeding from, the edge of the pond. Proceeding now to examine the land between the latter pond and the long pond, and having made a circuit of the same without effect, the number, extent, and appearance of the Islands being such as to preclude the possibility of ascertaining whether they were connected with the main or not, I, on the following day (the ponds being frozen sufficiently to admit of my walking on them with safety) again followed up my researches, and found a practicable crossing-place a long distance to the N. E. near which were the remains of an Indian Wigwam. This appeared much too far to the N. E. having been carried so much to the S. W. in rounding the Great Pond. In returning I resolved however to make a further attempt by following up transverse directions, and it was not until the third day I gladly made out a long point of land, extending from the Main or Snow's Ridge on the N. W. side, being to all

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ridge may be computed at not less than eight miles. I traversed the whole of that part between Snow's Pond to where the Hodge River separates it, about two miles after leaving the Long Island Pond, which I considered to be nearly five miles. The timber does not increase in size after leaving the bank at the head of Snow's Pond, but the country looks equally promising. In attempting to convey my own ideas of this part of the country I might be considered by some enthusiastic, but this much I assert without fear of contradiction that the value of its resources is incalculable, and that when a Road shall have been made into it these resources will not remain long undeveloped. That there has been a spirit abroad inimical to agricultural improvement in this Colony I am but too well convinced of, and a happy circumstance it has been for thousands that Sir Thomas Cochrane and his successors in the Government manifested so timely an interest in its prosperity, and there can be little doubt that under the fostering care of His Excellency Sir John Harvey every encouragement and facility will be given to the cultivation of the soil.

Passing on from Snow's Ridge to the twelfth mile, the Road passes through a small part of an extensive deer country. The paths are very large and appear to be beaten as much as the sheep tracks in the home country. Here I also discovered trees that had been marked, pointing out a path called Joseph Brine's or John Martin's, either or both of which at times have been used. In walking from the head of St. Mary's Bay to Carbonear by Old Snow's Pond, the Road continues on a straight course through an excellent level country, until reaching the thirteenth mile. In a fine range of woods we erected another Wigwam called the Gripes Nest Wigwam, from the circumstance of one of those bird's nests having been discovered on the top of a pine tree,—the size of which and the quantity of wood it contains is astonishing. It struck me as a singular circumstance that one of their nests should be found in the heart of the country, their usual place of building being at the edge of precipices or on inaccessible rocks. It had all the appearance of having been lately occupied, although I believe this bird, like the real Newfoundland dog, is almost extinct. The ridge on which the Gripes Nest Wigwam is built is surrounded with large heavy timber, which is at all times a sure indication of superior soil; and in grubbing up the trees and roots so as to get a foundation, I had an opportunity of examining the different qualities of soil, and in this respect I was more particular than in some places which I had already passed. I was struck with the rich appearance which the upper surface presented; it consisted of an intermixture of fine rich brown mould, and numerous roots and fibres, so much so as to cause a difficulty in breaking it up.—It was strongly impregnated with the nutritious juices of different sorts of leaves, layers of which composed the upper surface, in different stages of decomposition. The roots and fibres gave the mould an adhesive tendency (similar in that respect alone to peat) and added to it a dark tincture, giving to an under layer of earth also a colour similar to, and having all the properties of fine dark yellow-ochre. The next course was sand, and more than an inch thick, but exceedingly fine, under which was a stratum of fine marl supported by a bed of strong clay, and underneath a stratum of clay and strong gravel intermixed. Finer timber is not, I should think, to be easily found in the country, both for size and soundness, than is growing here. I measured a spruce tree which appeared to have been lately rooted up by the wind, and found its girth to be upwards of seven feet. Passing on from the Gripes Nest Wigwam I had again to encounter another chain of ponds, which although farther in extent did not produce the same difficulties in wending our way through them. The Two Island Pond is a most extensive sheet of water as is also the Long Pond, and it was very fortunate that they could be so well avoided.

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appearance in four several places as many Islands, and could never have been even supposed, much more discovered, that it was a peninsula, except by walking around it. I felt great satisfaction in having made this discovery, particularly when on trying the depth of water I found it in the deepest part to be less than three feet. The distance across is one hundred and seventeen yards. A Bridge may be thrown across, on the sunken wharf principle, perfectly level. There is an abundance of Juniper, witch-hazel, and other timber within two hundred yards of the spot, and also of stone, so that the Road may be made solid on each side, leaving an archway in the centre of about thirty feet. It is not subject to freshets, but is a perfect steady. All the ice which is made above this passage remains and dissolves, and the Hodge River enters and again leaves at a considerable distance below to the N. W. It is gratifying to have made this discovery, not only in one but in many points of view : for having discovered the connecting points in the two Ponds, and following them up, a most beautiful, level line is preserved through a large woody country and rich cultivable land, just skimming along by the S. W. end of Snow's Ridge and at a little distance from the head of Snow's Pond, thereby avoiding the crossing of Hodge River twice, and three or four other streams running out of ponds and gulleys, and shortening the line nearly seven miles either by rounding the N. E. or S. W. end of the Long Island Pond, which, when taking into consideration the number of Bridges, will, in my opinion, at the lowest calculation, prove a saving to the Colony of at least one thousand pounds. In the Appendix reference will be found to be made to the Long Island Pond. Before proceeding further I beg to direct the attention of the Board of Commissioners to that part of the Road lying between Brigus Great Pond and Long Island Pond, but more especially to where it is pointed out in the plan between the ninth and tenth miles. It will then be observed what an excellent branch line to Brigus may be adopted at a distance of from four to five miles to Juniper Stump Path end, and from which a good Road is already made to Brigus, being about five miles, so that the distance from Ship Harbor to Brigus will not exceed thirty-five miles. The distance may be said to be as follows, from Brigus to Juniper Stump five miles, from Juniper Stump to intersect the line between the two ponds, four and a half, and from thence to Ship Harbor twenty-five and a half. This, when even a bridle path shall have been made, will establish the certainty, that a person leaving Ship Harbor early in the morning may reach Brigus with ease in sufficient time for the Packets, and with a favourable wind and a speedy conveyance from the Cove (an accommodation much to be desired) may be in St. John's early in the afternoon of the same day. To establish internal communication is assuredly of the highest importance, and as to accomplishing this object it would in my opinion be easily effected, and prove of great importance, inasmuch as it will enable the populous Bay of Placentia, &c., to communicate with the Capital at all seasons of the year. In an extensive forest called Snow's Ridge, may be found large quantities of hardwood and other timber, luxuriating in a most fertile and promising soil. I found here one witchhazel tree apparently quite healthy, and containing in its branches wood enough for a number of ship timbers. Its girth was nearly equal to the span of two men when endeavouring to encircle it. Birch grows also very large and straight here ; juniper and pine are also intermixed in fair abundance and size : but fir and spruce are surprisingly large. I measured a spruce tree and found its girth seven feet two inches, apparently perfectly straight to the top. This tree is standing within three yards of the line of Road. This appeared to me to be a part of the country not likely to remain much longer in obscurity, being contiguous to both the Long Island and Snow's Ponds, the N. E. end of the former of which runs within three miles of the Juniper Stump Path, or the head of the Southern Gut of Port-de-Grave ; and the latter within about the same distance from the Northern Gut of Port-de-Grave. The

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whole space between the two ponds, and to the S. W. of them. Here, as is the case in many other places, are to be found fine marshes or Deer pasturage, both on the right and left of the line, when the Road may at the same time be made to lead through woods. Deer were to be found in abundance, it being a complete thoroughfare in traversing backwards and forwards between St. Mary's and Snow's Pond. To the S. W. is a singular chain of Ponds which on reference to the Plan may be seen. Some of the edges of the naps have much the appearance of plantations, the islands in the ponds especially so, and in the summer season they must afford the most delightful prospect. Proceeding on now to the fifteenth mile, and to the N. W. side of Long Pond, the Road enters and crosses a wide marsh with long grass and wet bottom; but it is a fine grazing country, and notwithstanding it stands in an elevated position, so much so as to afford a fine view of the Flakey Downs and other hills near Witless Bay and Bay Bulls, yet a stick may be driven down several feet without reaching any hard bottom. Here also may be seen the Blue Hills near St. Mary's, the N. E. mountains of Placentia, the Cat and other Hills about Collinet;—Spread Eagle Peak, and the mountains at the Head of Trinity Bay, being shut out from view by a vast ridge of woods occupying the South side of Goose Island Pond. I continued on through a fine country with large and assorted woods and excellent soil, until I reached Goose Island Pond, to avoid which the line is necessarily carried further North. The Pond to the N. E. of the Goose Island Pond, called the One Island Pond, differs from every other I met with in the line, as it runs in a North-west and South-east direction, whereas all the others deviate but little if anything from a direct South-west and North-east course.—Goose Island Pond is remarkably long, stretching away for Colinet; and its contents, after passing through the One Island Pond, become a large brook called Broad Cove Brook, which empties itself at New Harbor, Trinity Bay. Here the level of the country undergoes a change, as all the brooks after passing the Goulds River run to the S. W. or St. Mary's Bay, and this, with all the others in advance, runs to the N. E. or Trinity Bay. A most singular gulley or still water is to be found, formed by Broad Cove Brook, about half a mile from the One Island Pond, which is surrounded with trees and beautifully shaded by overhanging branches, shoal in some parts, and in other parts deep. A marsh comes directly up to it from the S. W. and appears to be a constant resort for Deer, and by them this pool appears to me to be used not only for quenching their thirst, but for laving and enjoying the cooling stream, and for shaking off their tormenting enemy the stinging fly. Leaving these ponds and passing on to Broad Cove Brook Wigwam, the appearance of the country varies but little, unless that the woods through which the line takes its course are not so large, the absence of Birch and Witchhazel being supplied by Juniper and Pine trees. When I had penetrated thus far it had been snowing for several days, I had not therefore that opportunity of making my observations as satisfactorily as could have been desired. The description given of the woods and soil around the Gripes Nest Wigwam is applicable to the one at Broad Cove Brook. I shall therefore pass on to Southern Dildo Brook (a specification of which, as well as of all others in the line, of any importance, will be found in the Appendix) and continue the line, which takes me through a fine cultivable country up to the barrens in front of Spread Eagle Peak. Before, however, entering into any other matter, it behoves me to again make reference to the Plan of the line of Road, on which about midway between the seventeenth and eighteenth miles will be found a dotted line shewing the practicability of carrying a branch line to Southern Dildo, at about four and a quarter miles. Not having measured the distance I cannot be positive as to its being fully correct, but having walked it against time I think I am not far out. This line lays nearly parallel with the South point of the head of Trinity Bay. It may be asked what object can be

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attained by having a Branch Road in such a remote and hidden place as this? I answer that it will open up a much shorter communication between Trinity Bay and the Capital than has yet ever been thought of, and not only does it bring the head of Trinity Bay nearer to the Capital by fourteen miles than by following the Spaniard's Bay Road, but in taking this route it brings even New Harbor five and a half miles nearer than going by Spaniard's Bay, as the following tables fully demonstrate :—

Tables shewing the comparative distances from Cats Cove Bridge to Southern Dildo and New Harbour, by the Ship Harbor line ; and from Cats Cove Bridge, following the Northern line via Spaniards Bay, to New Harbor and Southern Dildo—

Cats Cove Bridge to					Cats Cove Bridge			
1½	Colliers Bridge				17½	Branch line		
8½	7	Brigus			22	4½	South Dildo	
18¼	16¾	9¾	Spaniards Bay branch		26	8½	4	New Harbor
31½	30	23	13¼	New Harbor				
36	34½	27½	17¾	4½				
				South Dildo				

These tables fully show that more than one-third of the whole distance has been increased in reaching Southern Dildo by the Spaniards Bay Road ; but this was the only way by which Placentia Bay or the head of Trinity Bay could be heretofore reached. Another important feature in adopting this branch line is the fact of its being within a few chains of midway between the two extremes, or rather between Colliers and Ship Harbor ; and in the winter season, in bad weather, travellers could turn down to South Dildo and be there in little more than an hour's walk, instead of facing the barrens in front of the Peak, which is the most bleak and exposed situation in the whole line of Road throughout, that is presuming the traveller is proceeding to the Westward.

Entering on the Barrens in front of Spread Eagle Peak, and ascending to the summit of them, from the verge of the woods by which they are confined on the S. E. and N. E. sides, the Peak bursts upon your view and presents its bold front in all its grandeur. Unless where small parcels of woods of inferior quality may be found standing, the whole space between the eighteenth and nineteenth miles, and the Peak, is march barrens, and ponds. It now became desirable to examine not only up to the Peak, but on both sides, and all around it, and it was not until I had made myself fully acquainted with the country to the N. E., between the Peak and the head of Trinity Bay, and some three or four miles to the S. W., that I determined on carrying the Road on the N. E. side, where I found a most desirable level,—keeping as near to the base of the Peak as possible, and also close to the foot of Monument Hill. This latter hill is situate about a mile in rear of the Peak, and which, when viewed with the Peak, at some distance to the S. E., appears attached to it, or to be one and the same range. It is a very high hill extending considerably to the Westward, so much so that it, together with the range of long ponds to the S. W. of the Peak (the Shell Bird Pond laying to the W. N. W. of the same), must necessarily bring you in the rear of Howard's Droke, from whence much difficulty would be experienced in finding the proper lead, so as to enter the long range

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of mountains which beset the entrance to both Long Harbor and Ship Harbour.— Knowing, as I do, the difficulties to be encountered in penetrating into the interior of this country, I cannot but feel a little surprised at any speculative opinions that may be offered as to a line of Road being carried too far North or too far South for a direct line; for this must of course altogether depend upon the obstructions to be found in the way; but in submitting any evidence before a Committee, every regard should most certainly be had as to its correctness, lest a wrong calculation may be the result arising from uncertain information. Now in turning to the last year's Journals of the General Assembly, in the evidence taken before a Select Committee, in the Appendix, at page 425, and in part of the 5th and 6th lines, I find one gentleman saying "From Long Harbor to Chapel Arm is about seven miles and a half;" again, at page 423, and part of the 8th and 7th lines from the bottom, another is found to assert "I know Long Harbor in Placentia Bay, and Chapel Arm in Trinity Bay,—they are about fourteen miles apart." Now I have walked it, and I am of opinion that it is not more than six miles, which is the distance reckoned by persons living both in Long Harbour and Chapel Arm. At page 425, lines 6th and 7th, it is said "From Chapel Arm to New Harbor, *by the route we took*, is about thirty-six miles." Now this is one mile more than the whole length of the road from Cat's Cove to Ship Harbor. Not having measured the distance between those places, I cannot vouch for the following scale being quite correct; but having visited most of them, and taken the bearings, &c., by which to make a Plan, I know they are not far out, and I took it from Memoranda I made in Trinity Bay, at the time, which are as follows:

	MILES.
From New Harbor to South Dildo Brook	4
“ South Dildo Brook to Old Shop do.	1
“ Old Shop do. to Spread Eagle Pond South	2½
“ Spread Eagle Pond South to do. West	2
“ West Spread Eagle Pond to Little Gut, Chapel Arm.	3
“ Little Gut to Western Cove, Chapel Arm	1¾
	14½

Another Memorandum of distances also presents itself at the same time, which I here subjoin, and which goes to show that a branch line from that of the Main Western may be carried to any part of Trinity Bay at a very short distance, viz.

From the 21st. mile from Colliers and 14 from Ship Harbour, being just abreast of the Peak, to South Dildo, or Old Shop	5½ Miles.
From ditto ditto to Little Gut and S. & W. Spread Eagle	5½
Ditto ditto to South Point of Chapel Arm	6½

Spread Eagle Peak is twenty-one miles from Cat's Cove Bridge, and fourteen from Ship Harbor. It is of a singular form, particularly near the summit. The front, or rather that part fronting the S. E., falls in from a perpendicular; whereas the N. W. has a gradual slope some distance down, having very much the appearance of a woman's old-fashioned cap. I ascended its summit twice, the reaching of which is attended with considerable labour and fatigue. All sides except the Western appear to be inaccessible.— The ascent is accomplished by holding on by the trees and assisting yourself by them for a distance, until reaching a small landing place, of which there are not less than three before arriving at the top. It affords a most commanding and extensive view of the country round for several miles; and the principal head lands both in Placentia and St. Mary's

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Bays are easily recognized ; but Trinity Bay appears as it were at the foot of it. I had no instrument with me by which to ascertain its altitude. The cold was intense and bitterly piercing. I found a stick which had been sawn and driven into the ground by some previous visitor. It was about three inches above the surface of the snow. I succeeded in loosing and getting it out, by which I discovered the depth of the snow to be about five feet. The country around the Peak is very delightful, particularly those parts which are open to a Southern aspect, and occupying the space between the Peak and the head of Trinity Bay. Many places are much sheltered from the North Wind by some handsome round coppices composed of different kinds of trees, which would have all the appearance of Plantations were there only fences around them. In the summer season the sun must be very powerful, and from what I witnessed on my return in the month of March the Spring opens very early. The land, from what I could judge from the nature of that on which we built our Wigwam, is quite of a cultivable character, and more particularly for grazing. It is a very pleasant part of the country, and what adds much to its cheerful appearance are the beautiful views which are afforded by different head lands, &c., in Trinity Bay. I could not imagine anything more delightful than that of a Party steaming it round from St. John's to the head of Trinity Bay and ascending the Peak on a Pic Nic excursion. The labour in ascending would be abundantly repaid by the gratification.

Leaving the Peak the road passes on, having Morley's Cove Pond to the right and the Monument Hill already described to the left. The appearance of the country changes but little until reaching Shell Bird Pond, or the twenty-third mile from Cat's Cove. Fine woods occupy the whole from Monument Hill to the pond, when the country becomes more open and more marshy ; consequently the soil is more damp, and there is less of a cultivable appearance about it. The woods are small and occupy detached parcels or patches of ground ; but as an open country it abounds in all the productions peculiar to it. Shell Bird Pond is a large sheet of water, and is connected with a range of Ponds to the S. W., out of which originates Little Gut River, running into Chapel Arm, Trinity Bay. A large bank of heavy wood runs the whole length of the South and the S. E. sides, from which large particular pieces of Timber have been occasionally cut and hauled out to Trinity Bay. Trout are abundant, and water-fowl numerous at certain seasons of the year. Between Shell Bird Pond and Long Harbor Island Pond the country is in some places marshy, with mossy barrens where the road takes ; but to the S. W., are some long ranges of large woods, particularly Howard's Droke and others that are nameless. A little farther in advance of Howard's Droke is a high mountain called Young's Look-out. This is the first of a Long chain extending to the sea coast of Long Harbor, Ship Harbor and the Placentias. It would be utterly impossible to carry a road over them, and threading the way between them was attended with vast difficulty. It was not till after three several attempts that I could discover the line which I afterwards adopted, and which I had reason to be pleased with. The elevation here is very considerable, and only that the descent occupies at least five miles, it would be attended with much difficulty. Unless in some few inconsiderable instances it is little more than an inclined plane. A singularly formed but steep range of mountains occupies the S. W. of Long Harbor, running from S. E. to N. W., and then changing to the S. W. forming nearly two sides of an angle, by the Western one of which the Rattling Brook runs down into Long Harbor.

The line, after leaving Young's Look-Out, passes near ponds of inferior size until reaching between the twenty-ninth and thirtieth miles, where a large pond called Coady's is just escaped. This pond runs to the S. W. three miles or upwards, so that all ingress in that quarter to Ship Harbor is completely closed, without going round the head of it,

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where I think some difficulty would be found in meeting with a suitable place to enter the windings of the mountains; and this pond it was, I believe, which carried all former lines so far to the S. W. as Long Harbor Look-Out, under which markings and tracings may be seen. Proceeding with the line on towards Ship Harbor, it crosses several hauling paths from Long Harbor, &c., some of which, on returning, I observed were abandoned, and the new line already substituted and begun to be worked upon. Coming to the Rattling Brook of Long Harbor, the noise and size of which is only excelled by the Ship Harbor Rattling Brook, and in crossing the same, the Road passes through a small Island; it can, however, be made to cross either above or below it; but as this brook, I am told, rafters almost every spring to a considerable height, it would in my opinion, (only that the brook runs very wide for a considerable distance) be better to have it below; but here, as also at Spread Eagle, it would be far safer to have two bridges over the smaller streams than one over a wide one, inasmuch as the Island would be a safeguard against the raftered ice, which at times is carried down by the pent up water with great impetuosity. The difference in the expense would be trifling when compared with their certain stability. Both stone and timber are convenient for building. A little further beyond the brook, at what is called the First Steady, is where the old foot path branches off in coming from Ship Harbor to Long Harbor, and which will be found exceedingly convenient for opening a communication with the most thickly inhabited part of Long Harbor, from which, by admeasurement, the distance is only one and a quarter mile.

If an idea has at any time been entertained that Long Harbor would prove a more favourable terminus for the Western Main Line of Road than Ship Harbour, it is an idea that I should be very much inclined to repudiate, for more than one or two reasons:—First, considerable difficulty would be found in bringing the Road down to the head of Long Harbor without some very steep descents, the space from the summit to the landwash being so very limited;—the ground too, between the mountains being full of hillocks and very uneven. It would be found more impracticable still to make a Road down by either side of the harbour; and until this was accomplished all travellers would have to walk five miles of rough and pebbly Landwash (which of all travelling is the most tiresome) before the Road could be taken. The indraught of the Harbour is not less than three leagues, with a shoal bottom for nearly two-thirds of the distance. The place where the Branch Road would enter Long Harbour is where it is most thickly inhabited by the winter residents, and is called Fleece Cove Point, and just at the foot of the Rattling Brook, where it passes into the sea. On the North side of Long Harbour three families constantly reside on an Island called Crawley's, near which appears to me to be the only safe anchorage for vessels drawing any great depth of water. This Island is situate about one league from the entrance of the harbor, and about two from the Head.

The country from the First Steady to Ship Harbor is diversified as to wood, some of which is small, in other places larger, but there is little if any hardwood. The land in some parts consists of dry barrens, marshes, and a good deal of meadow, capable of being easily improved. From the number of small ponds, and the circuitous course of the brook running into the Bottom Arm, I carefully carried out the survey of the remaining distance, so as to ascertain and perfectly convince myself of the way in which to carry the line, so as to avoid the necessity of having to alter it again.

Having passed the Rock Pond, and arrived at the thirty-second mile, on viewing the lay of the country in that neighbourhood, I was impressed with a strong conviction that this is the most eligible point from which a branch line may be carried to connect the two

APPENDIX.

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ROAD REPORTS.

Placentias with the Ship Harbor line,—indeed I consider it to be the only one which can be easily adopted, from the mountainous nature of the country; and the utility of such a branch must be manifest when it is made known that most of the travelling during the past winter has been by that route. In the spring and fall it would have a decided preference over the Salmonier line, if only for the purpose of avoiding the crossing of two dangerous rivers, viz., Collinet and Rocky Rivers; and if I am rightly informed, or if I judge rightly myself, the distance by the Ship Harbour line will be shortened by twelve or fifteen miles. I have a rough sketch by me which will be sufficient to make a Plan shewing the situation of Little Placentia Sound, Fox Harbor, and the N. E. Arm of Great Placentia, together with the Harbours of the two Placentias, as in connection with Ship Harbor. The distance is computed to be nearly as follows, but I had not sufficient time to measure it. From the Ship Harbor line to where it will be found necessary to alter the course of the branch line between Fox Harbor and the N. E. Arm of Great Placentia, will be from eight to nine miles. A road made thus far would be very advantageous; but to answer every purpose it would require the same to be continued on to Fenesy's Bridge, being between six and seven miles further, where it would then intersect the road already made between Great and Little Placentia, and afford equal convenience for all places.

Having reached the terminus of the road; at what is called the Bottom Arm of Ship Harbor, it may be necessary, before closing my Report, to make a few remarks on the situation and capabilities of that Harbor. In passing down the head of the Bottom Arm, there is a great deal of meadow land already enclosed, and in a good state of cultivation. The whole of the N. E. side, to Conway's Point, on which there still remains a considerable quantity of wood, appears to be composed of rich soil, affording every facility for extensive gardens and excellent sites for erecting houses, &c. The distance is about one and a-half or two miles, and a road can be carried along by the side of the Harbor with perfect ease. Conway's Cove affords good anchorage, particularly at Walsh's stage, in about eight or ten fathoms of water. Here it is that Messrs. Neave and Penny's vessels were generally sent, after being laden at Little Placentia, to await a fair wind; and I am credibly informed by a person born and living at Placentia all his life time, that not the smallest accident ever occurred to them at any season. Several gardens at the edge of this Cove are already under cultivation. From Conway's Cove I proceeded to the Rattling Brook Arm, where I found it to be so open and exposed to the Bay, as to be subject to heavy swells when the wind blows directly across. In following up the lead, I found it would carry the line altogether in a Southerly direction, much too far to be available, even were the ascent less, and the making a road upon it not so difficult. I retraced my steps and proceeded further towards the Bottom Arm, on the same side, and entered a small indented place called Lee's Cove, just to the west of Little Rattling Brook. Here the anchorage is pretty good, but it is a place much exposed, and the construction of wharves, or building stores, &c. there, would be attended with much difficulty, it being an exceedingly rocky declivity. Following up this valley about a mile, it breaks into the one which the Little Rattling Brook takes in its descent; and continuing to the S. E. I found it impossible to get through the mountains unless by keeping to the Eastward, which eventually brought me to the same opening the line had already taken.

Ship Harbor is of easy access. Its entrance is nearly five miles in width, and it affords safe anchorage. The soundings vary from twelve to twenty fathoms; the deepest water being towards the South Shore. The "Moratties" are the only rocks likely to pick up a vessel; but from their lying, as they do, directly in the course between Fox

XCIV.

APPENDIX.

ROAD REPORTS.

Island and the North Point of Ship Harbor, they will at no time be dangerous, unless when vessels beating in may stand too far across at the N. E.; and when generally known it appears to be a harbor as easy of access as almost any in Placentia Bay.

FREDERICK R. PAGE, Surveyor.

 APPENDIX.

—oo—

DESCRIPTION OF BRIGUS GREAT POND.

This, like the generality of Ponds yet met with, runs in a S. W. direction, and is little short of five miles in length from the egress of Hodge River, at the S. W. end, to Clark's Hill at the N. E. corner. The breadth varies from one and a-half mile to a quarter of a mile, which is occasioned by the great number of peninsulated points jutting out in some places, in others by the arms of the pond taking a long range inland. This pond takes its rise about one and a half mile from Juniper Stump, near the head of the southern Gut, Port-de-Grave. What is termed the head is bounded by and washes the foot of a long ranging black ridge called Clark's Hill, which is easily recognized far in the interior. A view of the extremity is intercepted by a number of large Islands and a curve which it acquires about two-thirds of its length up towards the Northward. The principal outlet is Hodge River, which, notwithstanding its nearness to Conception Bay, empties itself at Colinet in St. Mary's Bay. This pond abounds with Eels and Trout; Salmon are sometimes also found in it, but not in such numbers as may be in some parts of the season met with in Snow's Pond. Most of the points of land jutting into this pond have a bold but gloomy appearance, from their high bluff heads, covered with wood to the top; and the necks which are to be found in most of them are narrow and easily crossed, in doing which a considerable distance is saved. At a small distance in from the S. W. end are large marshes, exhibiting wide and deeply trodden Deer tracks; there are other symptoms of their having been long and often frequented by those noble animals. But even this remote and hidden territory could not long remain concealed, for I saw several places where slips had been placed and two had caught their victims. Their bones were remaining on the spot bleaching in the winds.—Trackings of Hares and Partridges were observed around the edges of the Pond and about the marshes, although not numerous; but those of the Fox and Martin Cat were very much so. An Otter's track may now and again be seen, but the Beaver I think must be nearly all destroyed,—which is not surprising, as many traces still remain, about this and the other ponds to the S. E. of Spread Eagle Peak, of dead-falls, &c. used by the Indians for killing that animal. There are also to be found remains of wigwams, and at the edges of the ponds curiously hewn pieces of timber, used by the Indians in making rafts to navigate the ponds with.

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P. (unclear)

REPORT OF AN ARCHAEOLOGICAL ASSESSMENT AT
PLACENTIA, NEWFOUNDLAND

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92-21

Submitted To:

HISTORIC RESOURCES DIVISION
DEPARTMENT OF CULTURE
283 DUCKWORTH STREET
ST. JOHN'S, NEWFOUNDLAND

Submitted By:

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FEBRUARY 10, 1993

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Appendix A. Street Map of Placentia.

1.0 INTRODUCTION

On November 23, 1992 employees of Edward Collins Contracting were installing a corrugated metal retaining wall along the west side of South East Arm, Placentia, Newfoundland (Figure 1 & Photo 1). During this work articulated mortared stone walls were unearthed and promptly reported to the Historic Resources Division in St. John's. Because these remains were likely associated with the eighteenth century British Military facility, Fort Frederick, immediate attention was considered essential (Photo 2). On November 25, 1992 a brief site visit was conducted to assess the damage, to obtain information that might help date and determine the nature of the structures and to monitor the construction project to ensure that appropriate mitigation procedures were followed. This research was conducted under Historic Resources Research Permit 92-21.

2.0 CONSTRUCTION PROJECT

Low lying portions of Placentia situated on the west side of South East Arm have in the past been prone to seasonal flooding (Figure 2, Appendix A). For this reason a decision was made by the community council to install a retaining wall along the affected stretch of shoreline. The type of material chosen for the project was an inter-locking corrugated metal barrier comprised of 7 m x 3 m sheets, each measuring approximately 8 mm in thickness (Photo 3). Installing the components of the wall is a straightforward process that generally involves no ground preparation. Individual sheets are simply suspended from a crane equipped with an exceptionally large weight and pneumatic vibration is used to work the components into the ground to the desired depth (E. Collins: personal communication).

At two locations along South East Arm where the retaining wall intersects the community waterline excavation was, however, required (Figure 3). Essentially, this involved carefully removing the earth from either side of the line at the points of intersection on

both sides of the metal barrier. Once the necessary areas were cleared, the 200 mm water pipe was cut, passed through collars inserted in the wall, and reconnected with minimal disruption to the community's water service (Photo 4).

Upon arriving at the site it was evident that the excavations had unearthed from beneath a layer of asphalt and 50 cm of gravel fill sections of at least three stone walls. These features, all situated less than 50 m from the sea, were submersed in 1.75 m of water with only the tops of the walls visible. Therefore, it was necessary to wait until the high tide subsided in order that a more detailed examination might be conducted.

For the purposes of this report the exposed features will be referred to as Walls A, B and C. It is important to bear in mind that the Placentia site visit was of very short duration (approximately four hours in total) and due to the tidal action and strict schedule of the construction crew presented little opportunity for detailed study. As a result, the conclusions presented below must be seen as somewhat tentative.

3.0 SURVEY FINDINGS

3.1 Wall A

Wall A, which appears to be oriented east-west, perpendicular to the shoreline, was unearthed during the excavation to locate the north-south watermain (Figure 2, 3). This wall had evidently been disturbed with the resulting loss of a section approximately 7 m in length. The eastern and western faces of the wall thus exposed measure an average of 1.25 m wide and reveal a composition comprised of mortared rubble fill with larger cut and chiselled stone integrated into the base. The height of the wall above ground level on both sides of the watermain was in the order of 1.5 m, but it was not determined precisely what percentage of the features remains buried beneath beach gravel (Photos 5, 6). Shovel testing conducted adjacent to both exposed faces revealed that at least an additional 40 cm of articulated wall remained unexposed (Photos 5-8).

An examination of the area immediately adjacent to the exposed western face of Wall A revealed the remains of two abandoned waterlines, one positioned on either side of the current town service (Photos 7, 8). The earliest of these metal pipes was apparently installed sometime in the mid 1930's and was replaced by a second service approximately fifteen years later (M. Hatfield: personal communication). The current waterline was laid along this section of South East Arm in the late 1960's or early 1970's (W. Melendy: personal communication). As is clear from the above, Wall A had been severed and exposed to substantial disturbance on at least three occasions prior to the most recent construction project. Each time a new waterline was positioned or an existing pipe repaired, excavation with heavy machinery was required. Evidence of these works was visible in the gravel fill immediately adjacent to the current construction site. On the north side of the corrugated metal retaining wall a number of large displaced cut stones were identified. Judging from their size and shape, it would appear that they were initially components of a substantial structure such as that referred to as Wall A. The tapered sides of these stones suggest that they were cut to fit specific locations (Photos 9, 10). Establishing exactly when this material was originally displaced, however, was not possible. Due to the repeated disturbance that the area has undergone over the past thirty years, it is possible that these wall components were removed during one of the previous construction projects.

3.2 Wall B

The remains of a severely disturbed second wall, significantly smaller in size than that described above, was identified 3.5 m east of the exposed western face of Wall A (Figure 3, Photos 7, 8). This feature, which measured an average of 60 cm wide, is of special interest in that it appears to have been at least partially constructed on a softwood plank, possibly a length of spruce or pine. While not definitive, evidence suggests that Wall B may be the remains of a partition of some sort that intersected Wall A just to the west of the current waterline. This conclusion is derived from the observation that Wall B appeared to have a north-south orientation and the base of the structure, the wooden

plank, is at a much higher elevation than the lowest portion of Wall A. Further, shovel testing in the beach cobble and gravel below the plank revealed a quantity of large stones that were almost certainly components of a substantial wall structure. However, due to the disarticulated nature of these remains, it was impossible to positively establish in the limited time available which wall they were originally from. Nonetheless, based on their general location and size, it is postulated that they were likely components of Wall A and not the base of Wall B.

If the conclusions presented above are correct and Wall B is in fact a partition, it is reasonable to suggest that this feature must not have served as a weight bearing structure. Also, it would seem that the stonemasons must have decided that excavating a trench to the base of Wall A to accommodate the partition would not be necessary. Because the wall was likely constructed on unstable beach gravel, perhaps the plank was positioned adjacent to Wall A to establish a level and slightly more secure working base. While this practice almost certainly did not conform with acceptable masonry techniques of the time, it may well illustrate the level of workmanship and the hastiness with which this facility was constructed.

3.3 Wall C

Wall C, oriented northwest-southeast, was situated 20 m northwest of Walls A and B. This structure was unearthed during an effort to locate a secondary water pipe that runs off the mainline at an angle of approximately forty-five degrees (Figure 3). The dimensions of this structure are 50 cm across by a maximum height of 1.10 m. This wall was comprised of relatively small mortared stones that were also positioned on a wooden footing (Photos 11, 12). An inspection of the immediate area revealed that the footing was laid directly on unstable beach gravel. Furthermore, an area unearthed by the construction workers directly adjacent to Wall C exposed a revealing cross-section of the substrate (Photos 13, 14). As can be seen from a collection of photographs taken at low tide, the material on which the wall was constructed in no way constitutes a stable

working base, especially considering it would have to support a substantial stone structure. Again, the only reasonable conclusion that can be offered to account for this practice is that the wooden footing perhaps helped establish a slightly more solid foundation on which to built the mortared stone wall.

4.0 DISCUSSION

As mentioned above, the remains exposed during the recent construction project at Placentia were thought to be associated with the eighteenth century British Military facility, Fort Frederick built on the south side of The Gut in 1721 (Figure 4). This defensive complex was apparently surrounded by a wooden palisade and consisted of a stone half-moon or semi-circular battery of nine guns, a laboratory, a four gun battery of wood, an officers quarters, a storehouse, a gunners and solders barracks, a bastion and a third battery situated towards the southeast end of the complex (Figure 5). The stone material from the former French fortifications, Fort Louis, was likely used for the erection of this defence works (Proulx, 1979).

Although this facility served as the Military Headquarters of Newfoundland from 1721 until 1746, the fort was poorly maintained from the beginning and by 1744 the half-moon battery had to be strengthened by a timber and sod-work facing, and the number of guns reduced to eight. Additional bastions were then added to the landward angles of the palisade upon which were mounted cohorn mortars. After a partial repair in 1762, the works were allowed to decay and were finally abandoned in 1811 when the ordnance was removed. Much of the Portland stone facing the half-moon battery was removed from the site and incorporated in the fabric of the Convent at Placentia (Taken from the Historic Sites plaque at the site: Government of Newfoundland and Labrador).

While not positively established, information gathered during the brief site visit to Placentia suggests that the recently investigated remains are in fact components of the eighteenth century facility described above. However, given the relatively small area

unearthed, it is difficult to conclude which components of the complex they represent. It seems clear from historic maps that the fort was constructed with the large stone half-moon battery situated at the northwest end of the enclosed parade ground, directly adjacent to the narrow stretch of water that connects Placentia Harbour to the open Atlantic (Figure 4). In fact, what we see from one map is that the battery was situated in such close proximity to the north shore that... "A Bank of Earth Designed to hinder the Beach Stones from flying", was required in front of the structure (Figure 5). Given that the remains referred to as Walls A, B and C are situated much further to the south, it is unlikely that they are components of the stone half-moon battery shown on the eighteenth century plans. Even after taking into consideration that substantial additions have been made to the south shore of The Gut during the past two hundred years, resulting in it's boundary being extended much further north, it still appears that the stone walls are too far removed to be the remains of the battery.

A further point to be addressed regarding the remains at Placentia is the fact that the archaeological features identified during the survey were at high tide submersed in 1.75 m of sea water. Initially it was concluded from this that the stone structures were perhaps the base of a wharf or docking facility constructed as part of the military defence works. While this possibility can not be completely ruled out, the arrangements and orientations of the structures does not tend to support this. Nonetheless, it is important to keep in mind that the sea level along this stretch of coast has risen approximately 200 cm in the last two hundred and fifty years (N. Catto: personal communication). Therefore, if Walls A, B, and C do in fact date from the early eighteenth century, and there is no reason to believe that they are not, they would almost certainly have been built above the highwater line, but only marginally. As a result, it is concluded that the features investigated during the archaeological assessment are probably not the remains of a wharf or the nine gun half-moon battery, but are more likely foundations of one of the out buildings constructed as part of the Fort Frederick facility. Unfortunately, insufficient data was compiled to establish exactly which structures they represent.

5.0 CONCLUSIONS AND RECOMMENDATIONS

During November of 1992 an archaeological assessment was conducted at Placentia, Newfoundland for the Historic Resources Division. Results of this work indicated that construction activities undertaken in the area over the last thirty years have caused substantial disturbance to the eighteenth century British Military facility, Fort Frederick. While it was not positively established, it appears that the most recent excavation activities re-exposed remains of our buildings associated with that defensive works. The locations of these features suggests that they were built on unstable beach gravel in close proximity to the high-water line current at the time. Due to the short duration of the study, insufficient data was compiled to establish exactly which components of the facility the remains represent. Following completion of the construction work the remains were reburied. As a result, no further mitigation is at present indicated. However, should additional ground disturbance be scheduled for 1993, it is strongly recommended that a thorough archaeological assessment of the immediate area be conducted prior to any project commencement. By doing this it should be possible to avoid any further destruction to this valuable historic resource.

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Proulx, Jean-Pierre

- 1979 The Military History of Placentia: A Study of the French Fortifications. Placentia: 1713-1811. History and Archaeology, Report 26. National Historic Parks and Sites Branch, Parks Canada. Environment Canada, Ottawa.

7.0 PERSONAL COMMUNICATIONS

- Norman Catto Geographer, Memorial University of Newfoundland.
- Edward Collins Edward Collins Contracting.
- Magie Hatfield Town Clerk, Placentia Town Council.
- William Melendy Engineer, formally an employee of Jacques, Whitford Environment.

FIGURES FOR PLACENTIA ARCHAEOLOGICAL ASSESSMENT

FIGURE 1: Map Showing Location Of Placentia.

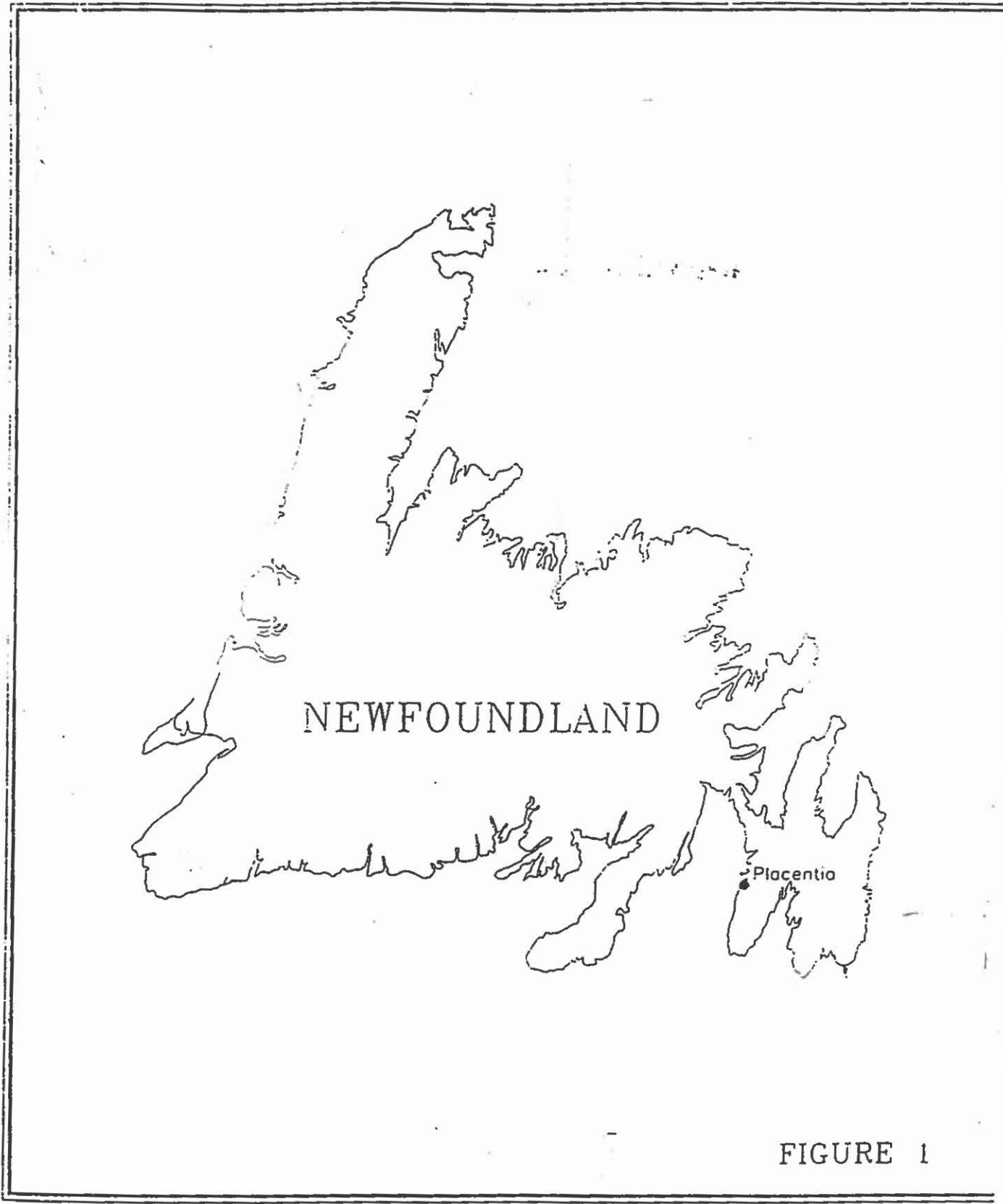
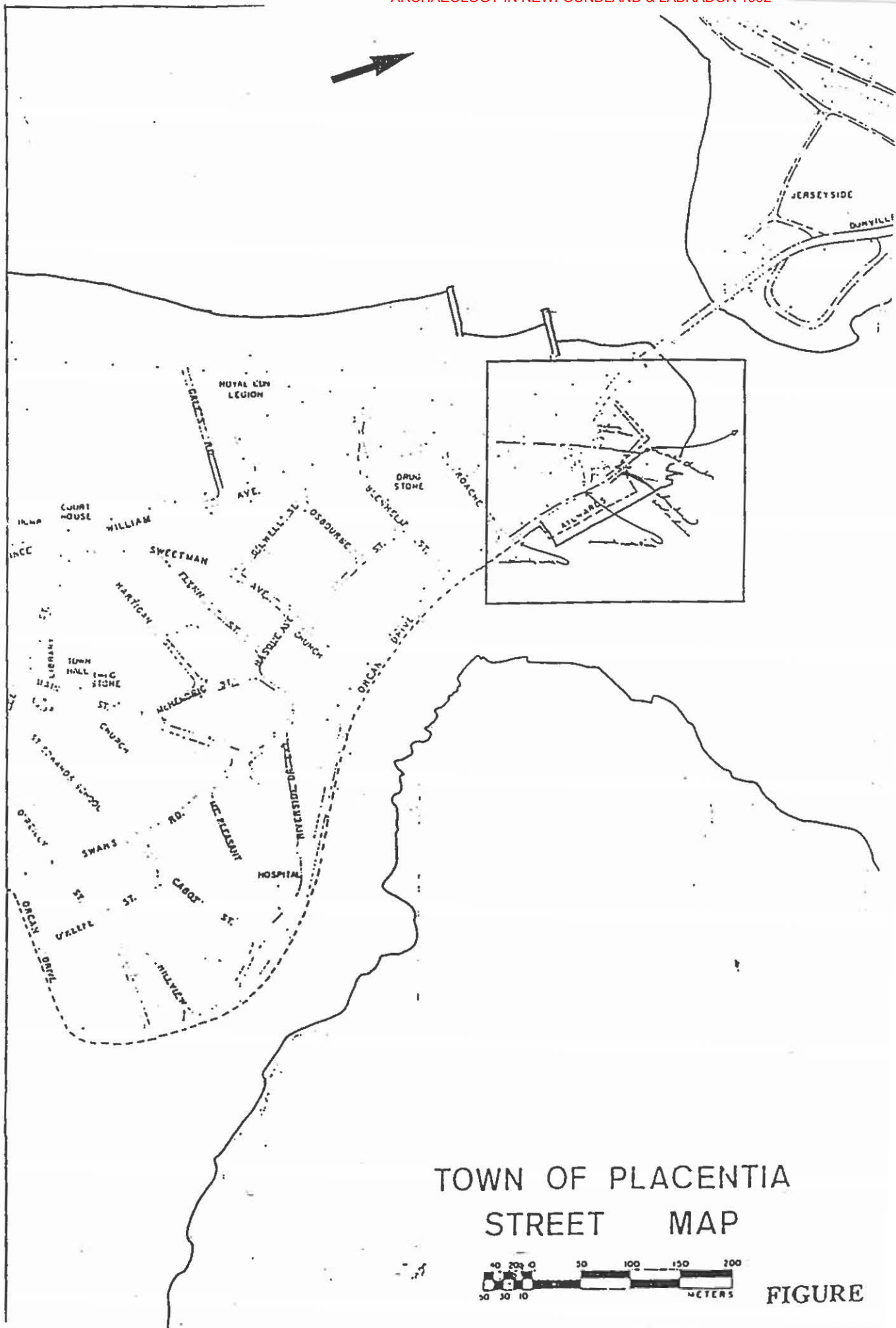


FIGURE 1

FIGURE 2: Town Plan Of Placentia Showing Study Area.



TOWN OF PLACENTIA
STREET MAP



FIGURE

FIGURE 3: Study Area Showing Location Of Archaeological Features.

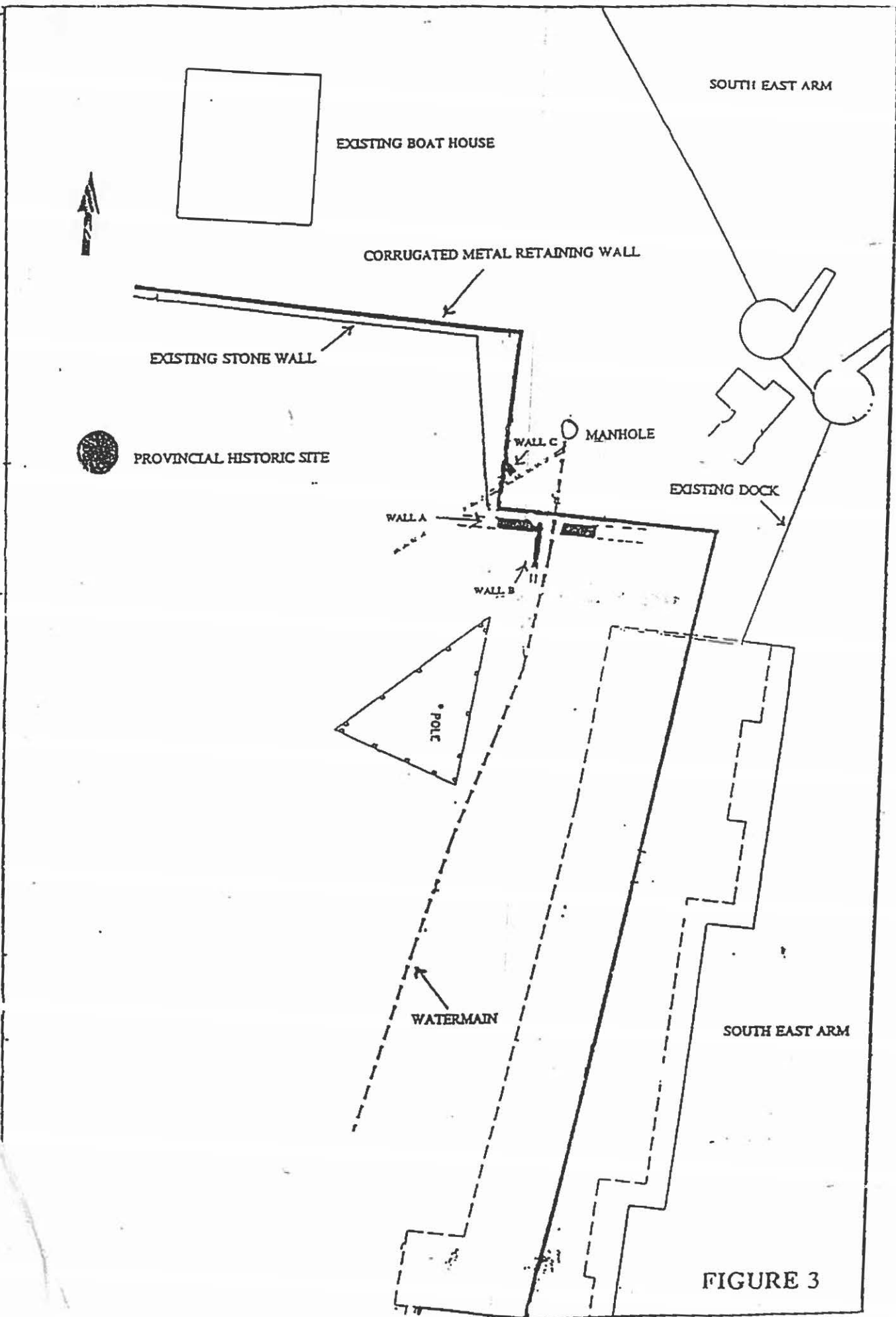


FIGURE 4: Eighteenth Century Map Showing Location Of Fort Frederick.

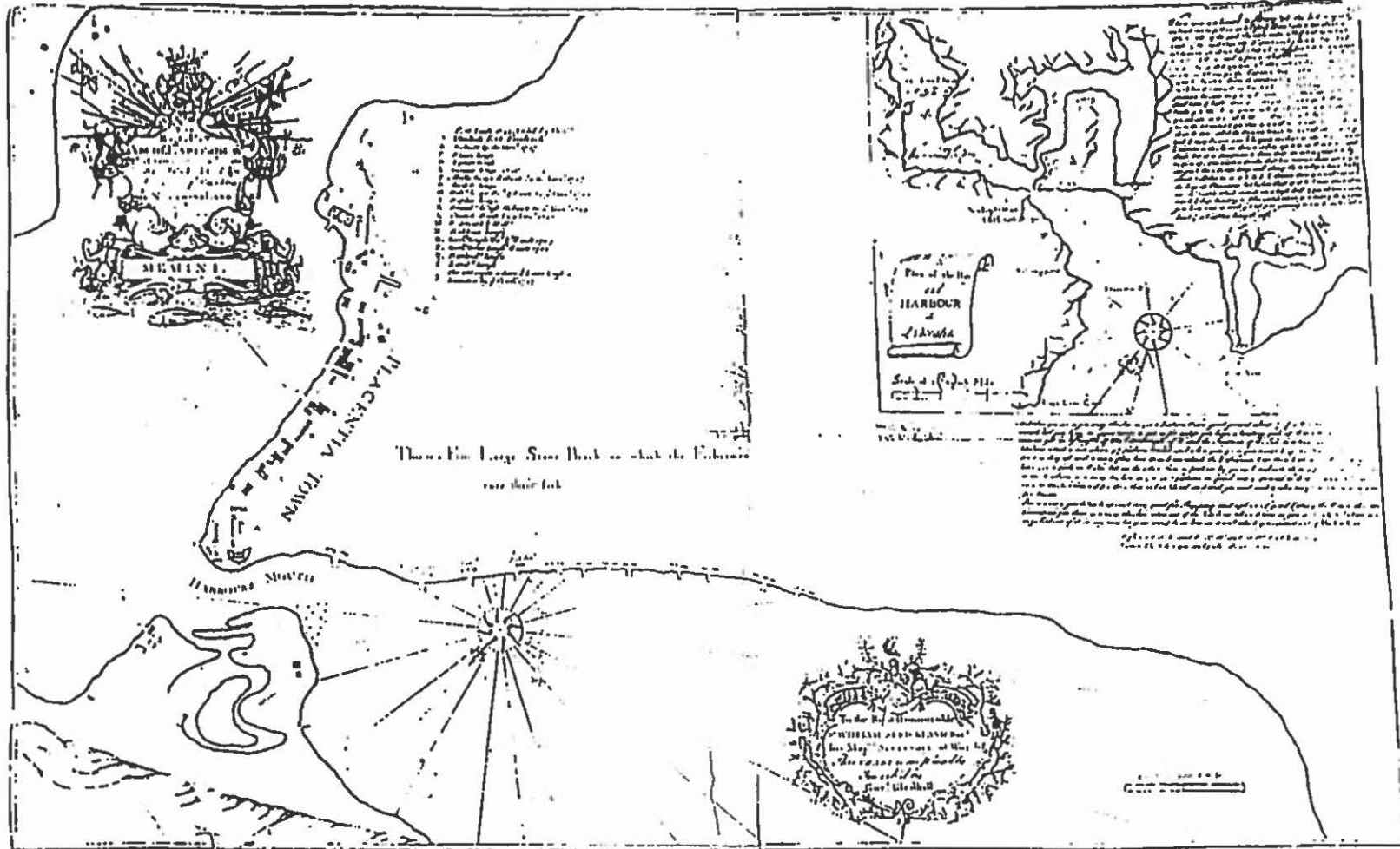


FIGURE 4

This Map Shows The Exact Location Of Fort Frederick. It Was The First Defense Work Built On The Town Side, i.e. On The "Grand Grave". (Taken from Proulx, 1979.)

FIGURE 5: Eighteenth Century Plan Of Fort Frederick.

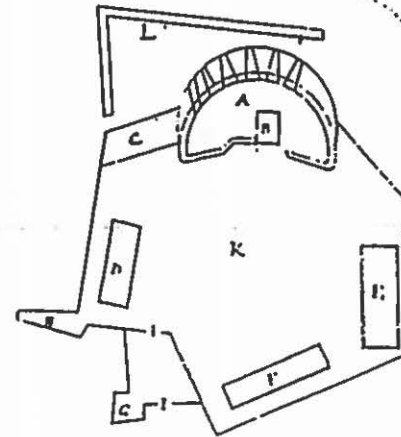
Sketch

Plan of Fort Frederick at Placentia on the South Side of the Harbour.

References

- A a half Moon Battery (of 9 Guns) of Stone
- B the Laboratory
- C A fine Gun Battery of Wood
- D officers quarters
- E Storehouse
- F Gunners & Soldiers Barracks
- G the Bastion's Bastion
- H the tail of the Battery
- I I gate
- K the Casemate

L a Bank of Earth designed to hinder the Beach from flying.
 All the fort except the Battery A is palisaded, & when the Strikes are doubled is a breast work of earth to protect the men with small Arms



Scale 50 feet to an Inch.

FIGURE 5

This Diagram Shows Fort Frederick In The 1720's. (Taken from Proulx, 1979.)

PHOTOGRAPHS FOR PLACENTIA ARCHAEOLOGICAL ASSESSMENT



PHOTO 1: Jersey And Placentia Looking Towards South East Arm.



PHOTO 2: Study Area Looking East From Fort Frederick Historic Park.

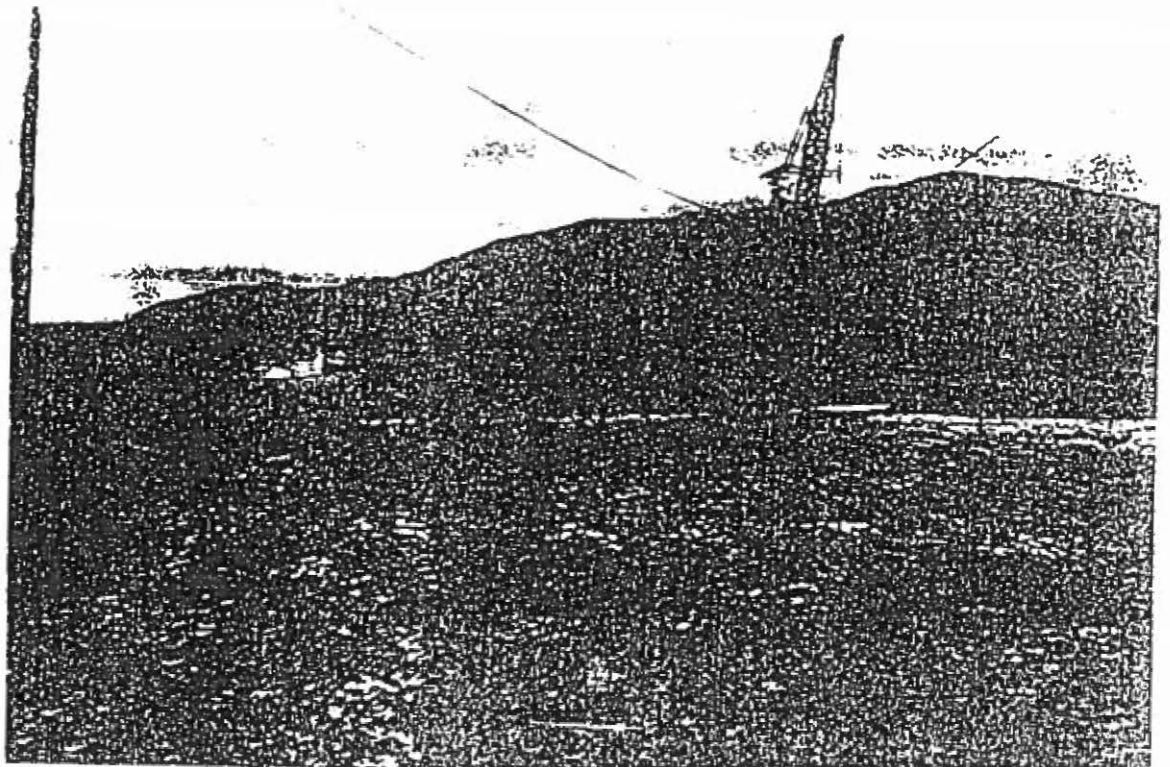
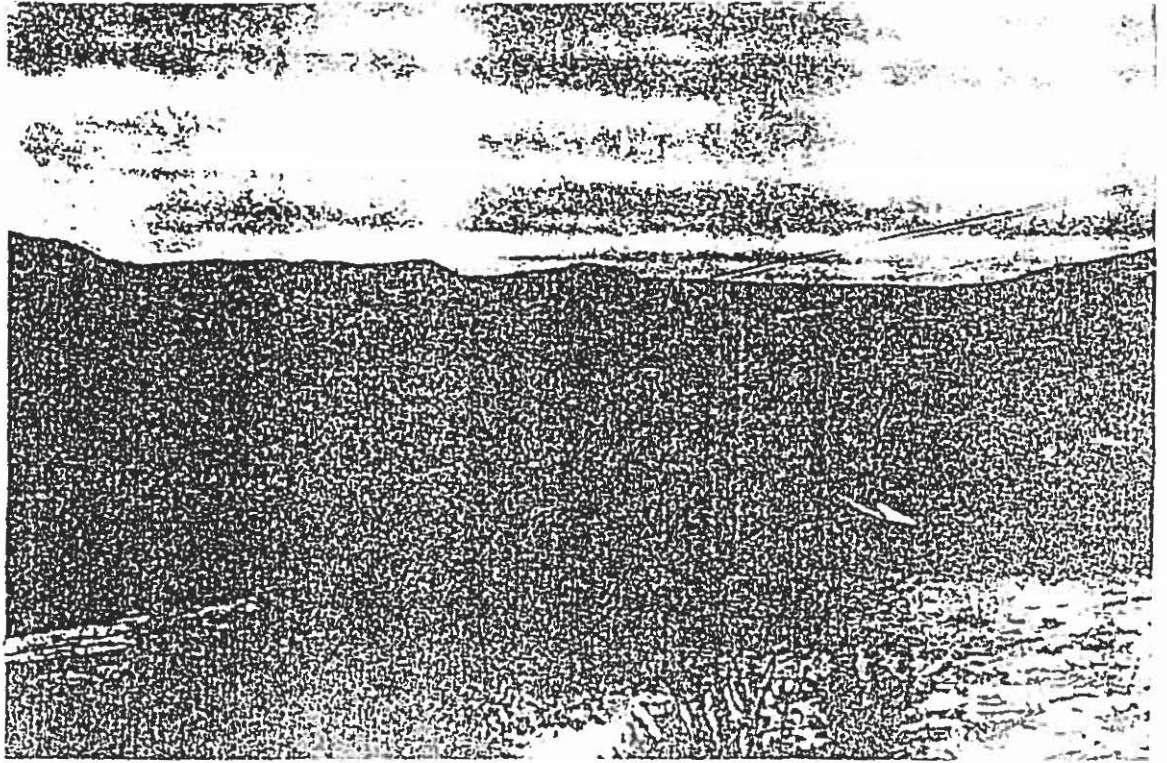


PHOTO 3: Study Area Showing Location Of Two Trenches.

PHOTO 4: Corrugated Metal Retaining Wall At Point Of Intersection With Watermain.

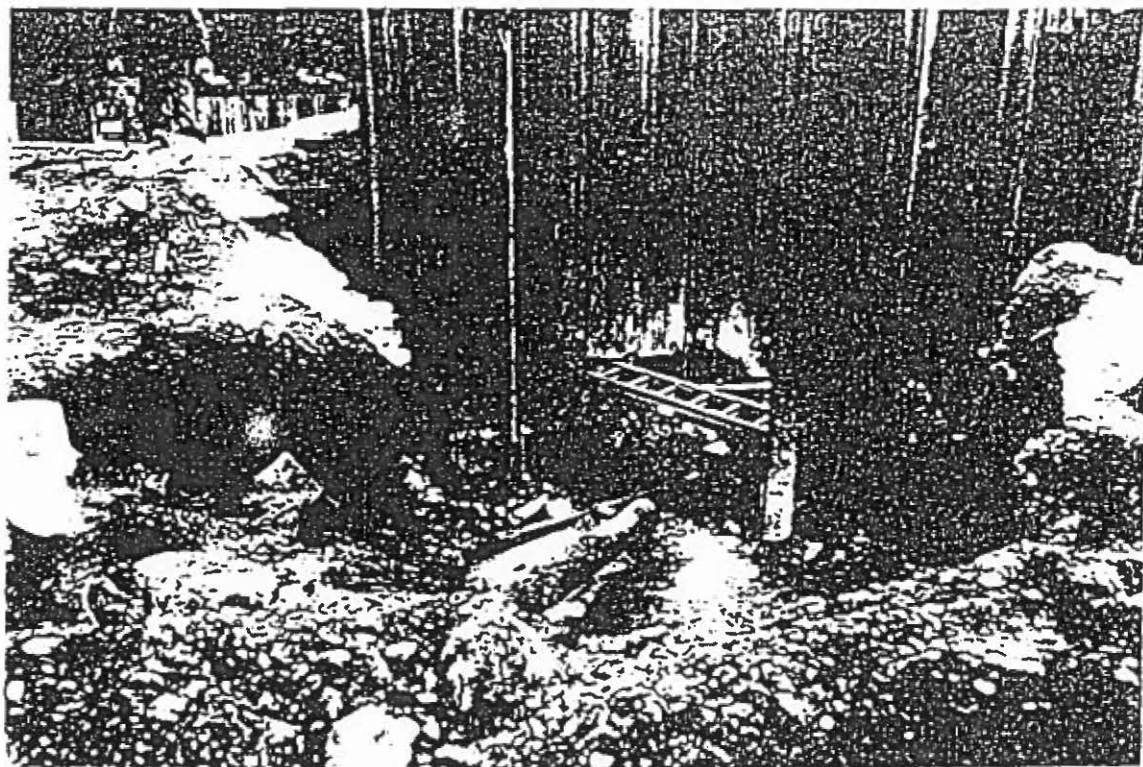
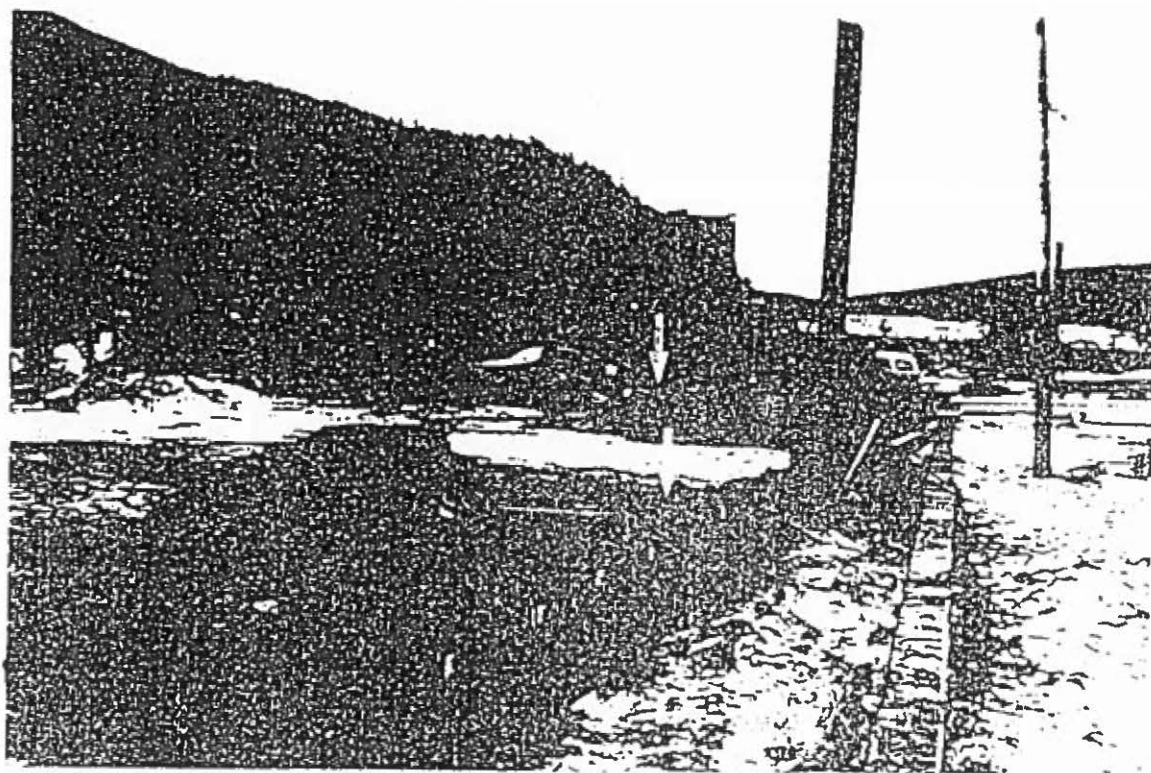
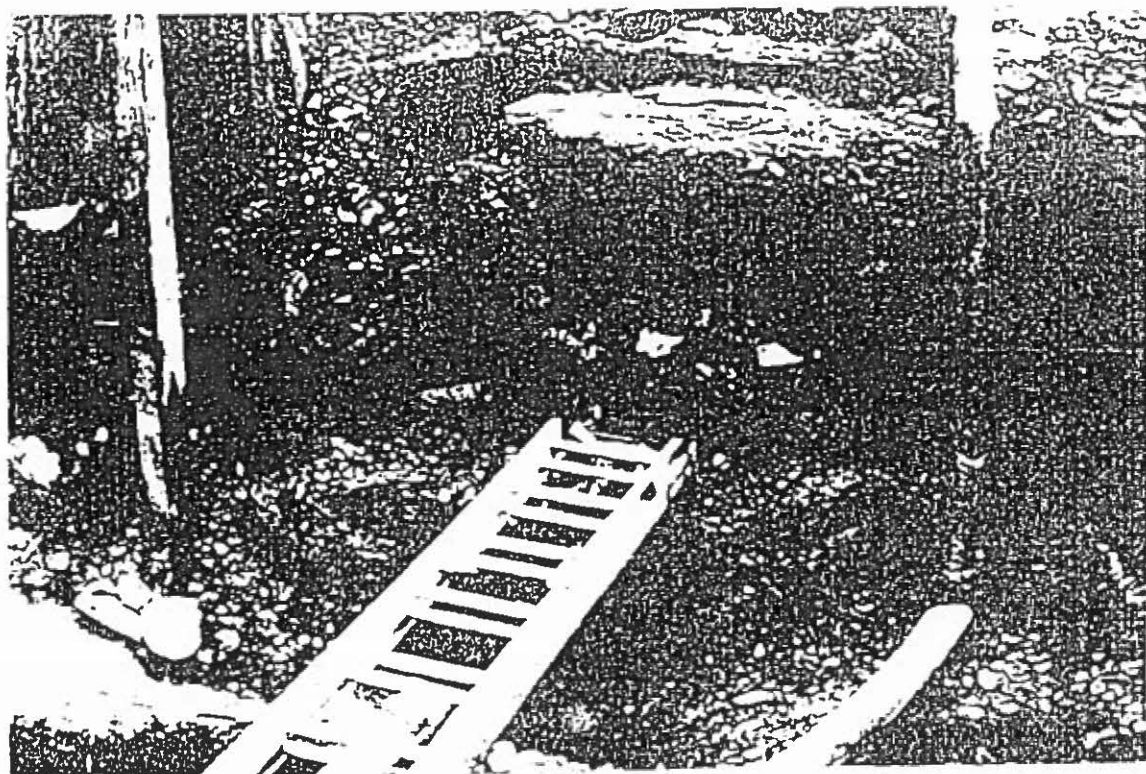
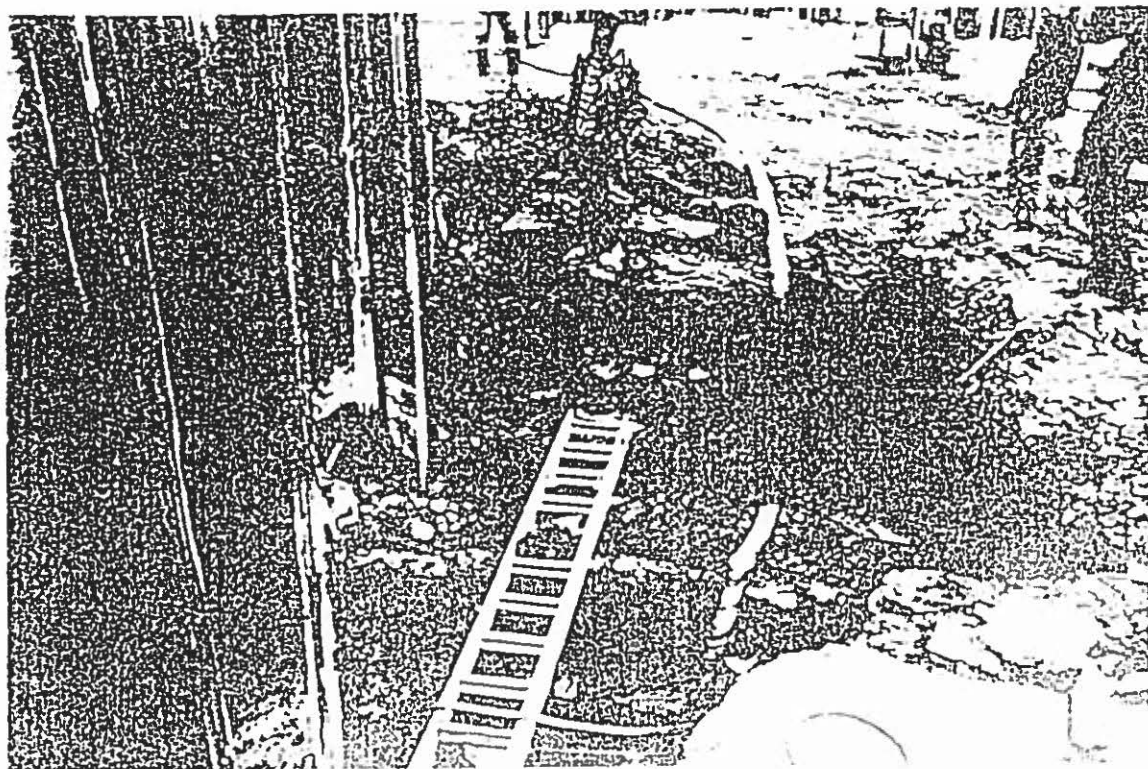


PHOTO 5: Eastern Face Of Wall A.

PHOTO 6: Eastern Face Of Wall A.



**PHOTO 7: Western Faces Of Walls A and B.
Note Abandoned Watermain.**

**PHOTO 8: Western Faces Of Walls A And B.
Note Abandoned Watermain.**

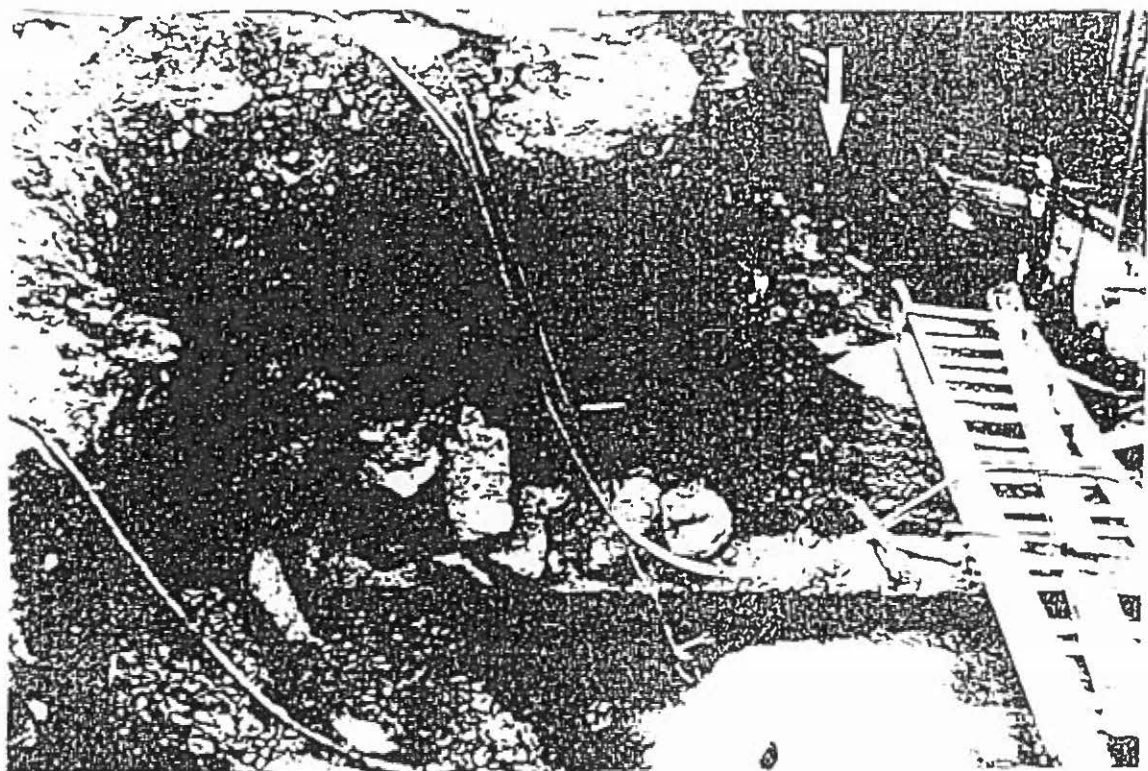
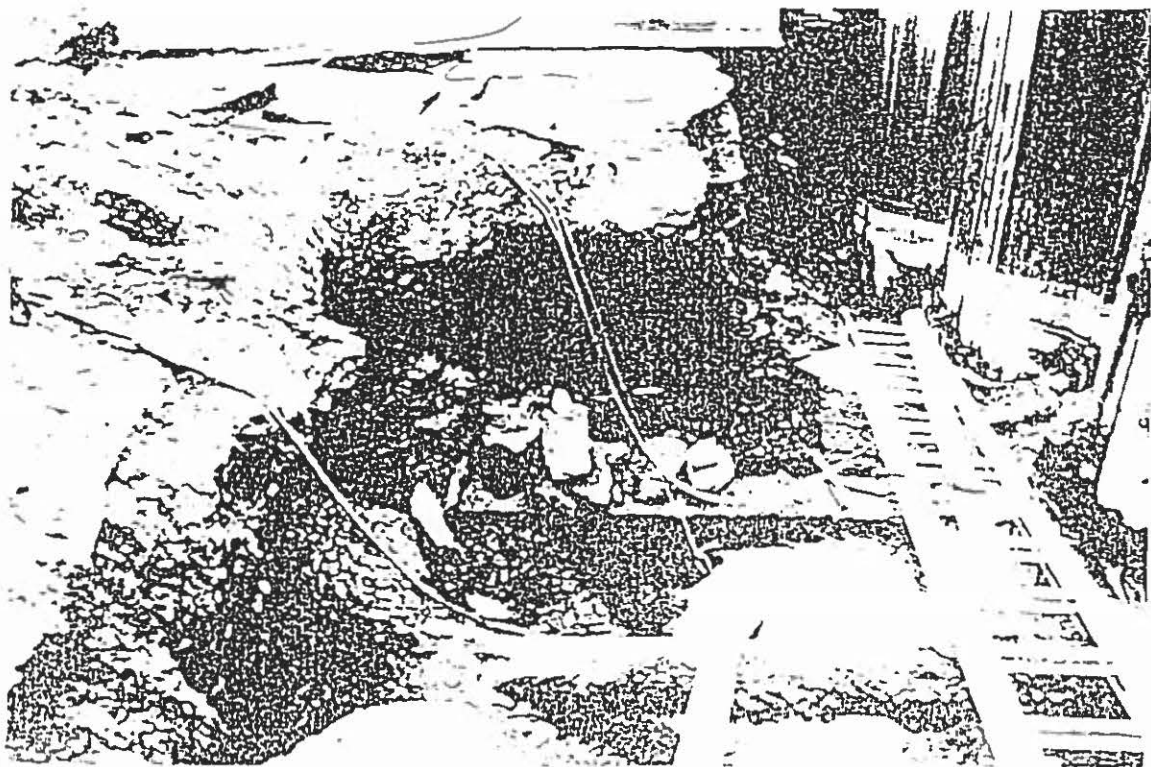
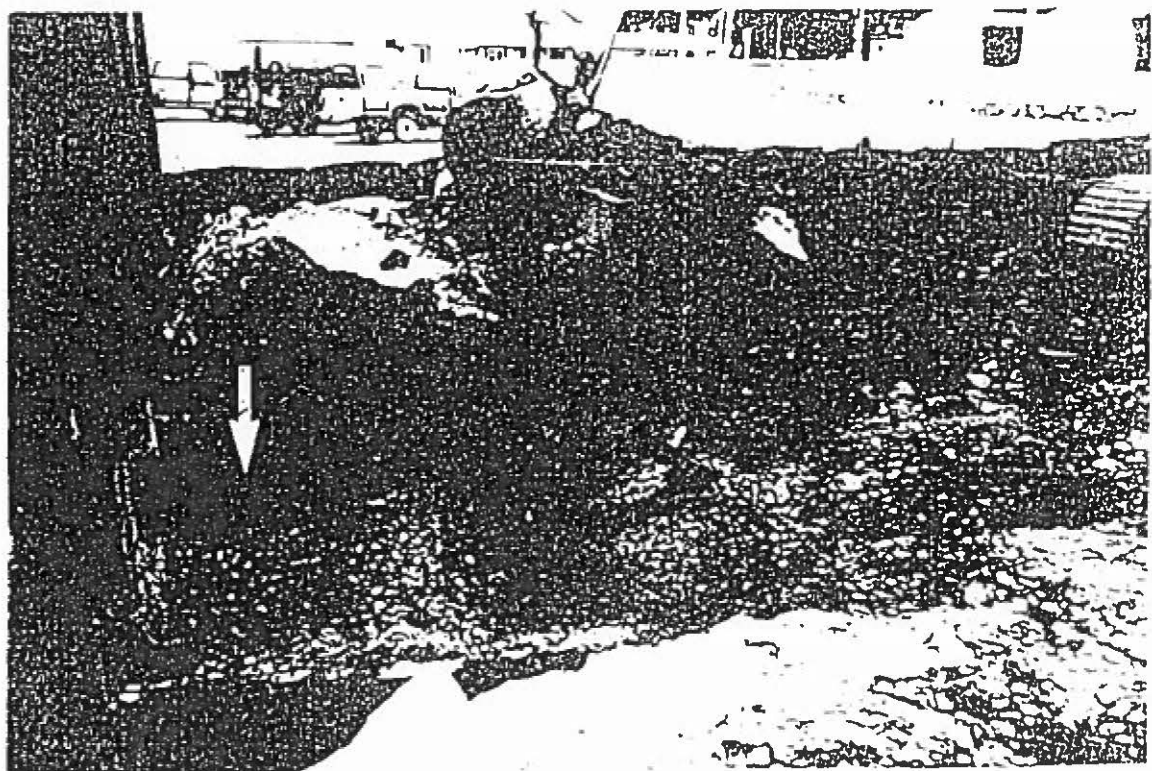


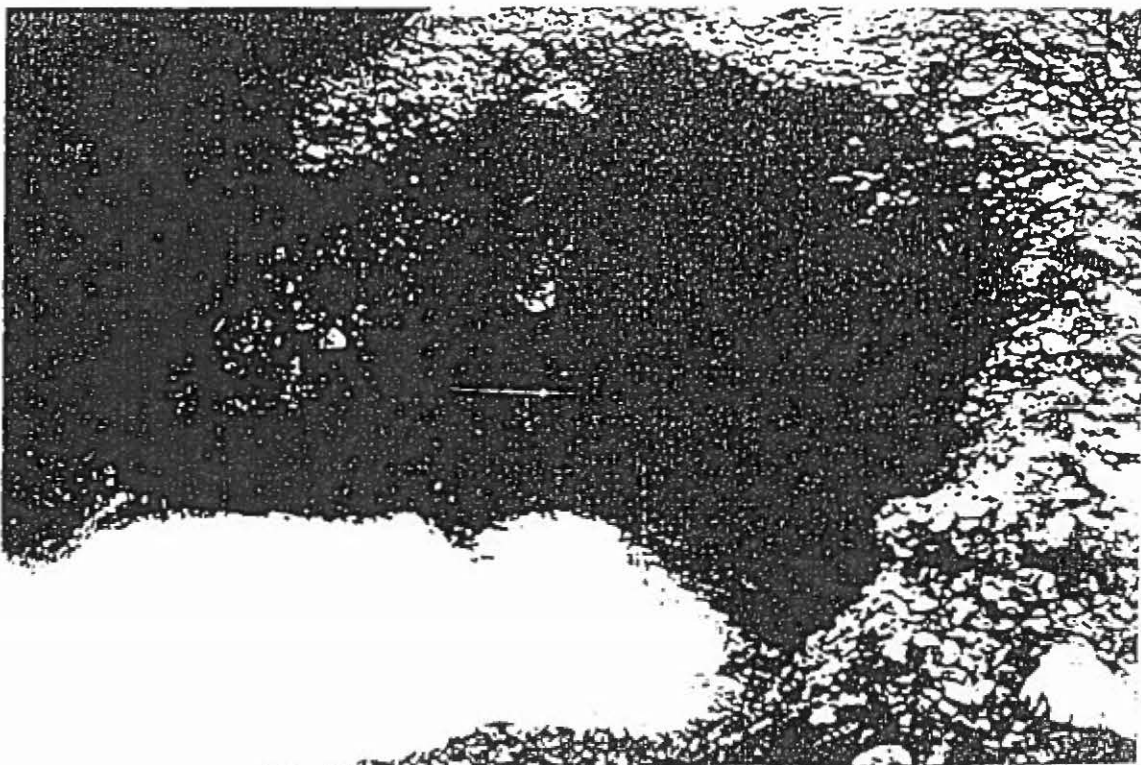
PHOTO 9: Cut Stone Possibly From Wall A.

PHOTO 10: Cut Stone Possibly From Wall A.



**PHOTO 11: Wall C Looking Northwest.
Note Remains Of Wood Beneath Wall.**

**PHOTO 12: Wall C Looking Northwest.
Note Remains Of Wood Beneath Wall.**



**PHOTO 13: Substrate Adjacent To Wall C.
Note Decomposed Fishbone Above Beach Gravel.**

**PHOTO 14: Substrate Adjacent To Wall C.
Note Decomposed Fishbone Above Beach Gravel.**

