ARCHAEOLOGY IN NEWFOUNDLAND & LABRADOR 1990

Compiled in and posted in 2022

Beothuk bone pendant fragments from inside Housepit 6. (McLean)

Heritage Division
Provincial Archaeology Office
Government of Newfoundland and Labrador

Archaeological Research Permits (1990)

Permit Number	Location
90.01	Tukialik Bay & Big Bay, Labrador
90.02	Bull Arm
90.03	Red Bay; Cape Charles
90.04	Temagan Gospen
90.05	Bull Arm
90.06	Tukialkik Bay; Big Bay; Cape Kakkiviak & Kiglapait Mountains
90.07	Port au Choix; Port Saunders
90.08	Bonavista Bay
90.09	Great & Little Bona (Placentia Bay) Dildo Island; Deer Harbour, Trinity Bay
90.10	Nain; Hebron
90.11	Corner Brook Waterfront Road
90.12	Cape Kakkiviak
90.13	Salvage of CkAl-08, Great Mosquito Cove

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*Some of the data and terminology in some of the reports may be out of date.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 1987.

REPORT ON ARCHAEOLOGICAL SURVEY IN TRINITY BAY CONDUCTED BETWEEN 21ST AND 24TH OF JULY AND 25TH OF aUGUST 1990. PERMITS 90.09 AND 90.09.01

submitted to the

Provincial Archaeologist

Newfoundland Museum, St. John's/NF.

by

Ingeborg Marshall

18. December 1990.

TABLE OF CONTENTS:

REPORT ON ARCHAEOLOGICAL SURVEY IN TRINITY BAY.

BY INGEBORG MARSHALL.

Between July 21st and 24th 1990 an archaeological survey was conducted in Trinity Bay under Archaeological Research Permit No. 90.09 issued by the Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador.

The purpose of this survey was to check out an alleged Beothuk site in Goose Harbour, locally known as Garrett's Cove, on the northwestern shore of Trinity Bay, and a site on Dildo Island where stone tools have been found by a resident from Dildo. Information on these sites came from Mr. Clifford George whose family lives in Whiteway and who has many contacts in Trinity Bay.

Trinity Bay is one of few areas for which we have records of Beothuk presence in the early 1600s (Cell 1982:68, 79, 194; Howley 1915:23). Two native sites in Bull Arm, one at Stock Cove and one at Frenchman's Island, found by Penney in 1978, have since been excavated by Robbins (1985) and Evans (1982). Both sites contained Maritime Archaic, Dorset Eskimo, Little Passage and Beothuk components. In 1989 a Recent Indian site was discovered at Samson's Head Cove/Great Mosquito Cove, Bull Arm (Thomson pers.com.) and a Little Passage site by Gilbert and Reynolds at Russel Point/Dildo Lake (Gilbert pers.com.). To date no Beothuk site has been found on an island or headland, yet, the Beothuk are bound to have exploited marine and aviary resources in all areas of the bay. Whitbourne, for instance, recorded a Beothuk camp in the

neighbourhood of Heart's Ease (1622) and the colonists at Cupids knew that the Beothuk from Trinity Bay collected seabirds and eggs in breeding colonies on islands (Cell 1982:193, 212).

SURVEY RESULTS:

Bull Island - CkAk-1.

On the way to Garrott's Cove we stopped on Bull Island situated at the eastern entrance of Bull Arm. This island has a remarkably sheltered lagoon-like harbour (Green Cove) which is accessed from Bull Tickle between a series of rock outcrops and a c. 50 m long cobble stone bar. Only the northwestern end of the harbour was investigated. Test pits on the rise of land above the cobble bar were sterile. The eroded edge below yielded flakes of a patinated white siliceous siltstone and a portion of a Maritime Archaic adze of light blue-green siltstone. On a more eastern point of land a Dorset endblade with a concave base and an asymmetric side-notched biface as well as flakes of a patinated white siliceous siltstone were found in the eroded bank at a depth of c. 20 cm and below the bank. What is left of the level grassland of this easterly point appears to be the remains of a Dorset or multicultural site.

Garrett's Cove.

Garretts's Cove, also known as Goose Cove, is a small cove on the eastern side of Shoal Bay south of Deer Harbour. The alleged Beothuk site was located on the narrow neck of land which separates the cove from Trinity Bay proper and is an ideal place of observation. However, the two surface depressions are most likely the remains of root cellars. Test pits in and close to the

depressions as well as on the shoreline and in meadows at the lower end of Garrett's Cove occasionally contained a few European artifacts but no evidence of native occupation. Investigation of the headland was also without results. A survey of a small cove in Deer Harbour was equally unrewarding.

Dildo Island - CjAj-2.

Both Dildo Islands which are connected by rock outcrops and shingle beaches were surveyed. The larger, southerly island consists of a wooded part, a grassy cove (sw) and a c. 200 m long and 50 m wide grassy bank. This bank is about 10 m above sea level on its northern end, falling off towards the south to about 2 m. Formerly the cove was the site of a cod-hatchery which operated from 1889 to 1897. Several places along edges of the grassy bank have recently been probed and artifacts were found in the backdirt. Test pits in the cove and on the bank and surface searches along eroding edges yielded endblades and flakes of white patinated siliceous siltstone and a ground siltstone fragment. The survey established that the bank and cove form a c. 15.000 square meter Dorset site. Test pits along the edge of the wooded part of the island, often above narrow pebble beaches, also yielded flakes and suggest that the shore of the entire island was utilized by Dorset people. Test pits within the woods were sterile.

According to local information, since confirmed by records in the Newfoundland Museum, Don Locke has excavated part of the site in the 1970s. However, a considerable portion of this very large Dorset site may still be intact. Continued erosion of the banks

and recent digging along its edges are of concern. Once Mobile Oil has set up operations in Great Mosquito Cove, the number of visitors to Dildo Island may increase and looting may occur more frequently.

The smaller of the two islands, treeless and overgrown with high grass and weeds, appears to be a bird breeding place. It was test pitted but no native materials were found. A brief survey of Spread Eagle Island to the south of the Dildo Islands was equally unrewarding.

Concluding Remarks:

The reputed elusiveness of the Beothuk seems to extend to their remains though it is possible that excavation of the Bull Island and Dildo Island sites may yield Little Passage or Beothuk material as was the case in nearby Stock Cove. The Maritime Archaic adze fragment on Bull Island would suggest that this site not only met the requirements of Dorset Eskimos.

The type and raw material of the Dorset artifacts collected on both islands compare well with those found by Locke on Dildo Island and by Robbins at Stock Cove, the closest known Dorset site ca. 8 km distant from Bull Island. On the Stock Cove site the predominant artifact class was the endblade and Robbins concluded that this site would have been mostly used for hunting and butchering activities, probably of terrestrial as well as marine mammals. Dorset Eskimo who camped on Bull and Dildo islands are likely to have focussed on seal hunting. Whether the predominant species was harp or harbor seal is uncertain. Harp seal now rarely

come into Trinity Bay but prehistorically, when cod were more plentuful, harp seal may have advanced into the inner reaches of the bay in the wake of capelin and cod. Both Bull and Dildo Island are located close to a narrow passage between islands or between an island and the mainland, a feature which, according to early settlers, was particularly well suited for catching swimming seal (Burd Journal, 1726). It is also possible that the Dorset in this island habitat pursued harbor seal which are not migratory and remain close to shore for most of the year and whelp onshore. Harbor seal are now scarce in Newfoundland, a recent count recorded 2,010 animals (Boulva and McLaren 1979), but may have been more plentiful in prehistoric times. The two Dorset island sites in the lower reaches of Trinity Bay add to the accumulating evidence that Dorset Eskimo did not routinely favour headlands.

ACKNOWLEDGEMENTS:

I wish to thank Clifford and Wayne George for providing transportation (with financial support from the CBC.), and Marianne Stopp, Richard McKenna and William Marshall for their assistence with the survey. I also thank Anne Shaftel, Halifax, for assuming responsibility for conservation and Drs. A. King and R. Stevens, Geology Dept. Memorial University, for identification of rock material.

B I B L I O G R A P H Y

Boulva, J. and I.A. McLaren
1979 Biology of the Harbor Seal, Phoca vitulina, in eastern Canada. Dept. of Fisheries and Ocean, Bulletin 200.

Burd Journal
1726 Scottish Record Office and PNLA. P3/B/5.

Cell, Gillian T.
1982 Newfoundland Discovered. Hakluyt Society, London.

Evans, Clifford O.
1982 Frenchman's Island Site (ClAl-1), Preliminary Field Report. in Archaeology in Nefoundland and Labrador 1981, Annual Report No. 2, ed. J. Sproull Thomson and Callum Thomson, Historic Resources Division, Government of Newfoundland and Labrador, St. John's/Newfoundland, pp. 210-225.

Howley, J.P.
1915 The Beothucks or Red Indians. Cambridge University Press, Cambridge.

Penney, Gerald
1978 An Archaeological Survey of the North Side of Trinity Bay from Cape Bonavista to the Isthmus of Avalon. Ms. on file at the Newfoundland Museum, St. John's/NF.

Robbins, Douglas T.
1985 Stock Cove, Trinity Bay: The Dorset Eskimo Occupation of Newfoundland from a Southeastern Perspective. M.A. thesis, Dept. of Anthropology, Memorial University of Newfoundland, St. John's/NF.

JOURNAL OF SURVEY NEAR DEER HARBOUR AND ON DILDO ISLAND IN TRINITY BAY CONDUCTED BETWEEN 21ST AND 24TH OF JULY AND 25TH OF AUGUST 1990; permits 90.09 and 90.09.01.

The purpose of the survey was to follow up local information on native sites in Trinity Bay. One site in the area of Deer Harbour was alleged to consist of Beothuk house pits; on the second site, located on Dildo Island, stone tools had found by a resident from Dildo. My informant was Mr. Clifford George who comes from Whiteway/Trinity Bay and has many contacts in this bay. Cliff is an artist who wishes to produce a series of paintings about the Beothuk in their natural habitat. He arranged guides and transportation. When Mr. Kevin Hanlon from the CBC. heard of the project he asked whether he and Deborah Collins could accompany the party; after consultation with the Provincial Archaeologist they were granted permission to come along.

July 21st. A rough day. Embarked 8 a.m. and crossed the bay on a southerly route to avoid rough water farther out. Cliff George, his cousin James, myself and Bill Marshall went in Cliff's open boat; Wayne George, Cliff's brother, his wife Mary, his father, Deborah Collins and Kevin Hanlon from the CBC., and Marianne Stopp and Richard McKenna, both members of the survey party, went in Wayne's larger boat. For the occupants of the smaller boat it was a wet crossing. We stopped at Bull Island, at the entrance of Bull Arm, to boil the kettle. On its northwestern side this island has

a lagoon-like harbour which opens towards Bull Tickle. Test pits on the northwestern hillside of this harbour were sterile. Examination of two eroded points of land on the same side of the harbour, below three cabins, yielded two Dorset Eskimo endblades and many flakes as well as a portion of a Maritime Archaic adze (Plate I, a-c). The two points of land are separated by an indent in the shoreline. The lower portion of the westerly point is nearly washed away. What is left of the level grassland on the easterly point appears to be the remains of what may have been a large Dorset or multicultural site. A small brook is said to flow into the harbour on the southeastern end. The site is now registered as Bull Island Site, Borden Number CkAk-1.

Since Mobil Oil is planning to set up operations in Great Mosquito Cove only about 10 km away from Bull Island, looting may become a problem.

After lunch we proceeded to Goose Cove, locally known as Garrett's Cove, on the eastern side of Shoal Bay. The alleged Beothuk site was located on a narrow neck of land, overlooking Trinity Bay proper. Disappointingly the two rectangular depressions c. 0.80 m and 1 m deep are likely to be the remains of root cellars. Test pits in the depressions and surrounds were sterile. Information about this site had originally come from Mr. Eastward, a 73 year old man who has a cabin in Garrett's Cove and has spent many summers there. According to Mr. Eastward local tradition has it that Shoal Bay was the last place in Trinity Bay where Beothuk Indians had been seen and he was quite reluctant to accept that the

depressions would not have been the remains of Beothuk houses. Marianne and Richard surveyed the adjacent headland but found no evidence of native occupation. Cliff George, who had started to paint was interviewed at length by the CBC. crew; a short interview with me followed. We set up camp and had a meal after which the CBC. crew departed in the smaller boat. Further test pits were made in Garrett's Cove close to the wharf and on two meadows at the bottom of the cove. They occasionally yielded European material such as sherds, broken glass, and a button, but no native artifacts. A series of what looked like fairly recent test pits was noted on one of the meadows.

22. July. A third meadow at the bottom of Garrett's Cove close to a brook was test pitted; no results. The party proceeded to Deer Harbour and moored in a small cove west of Northeast Arm. The cove and headland were surveyed and test pitted. After having crossed to the southern shore of Deer Harbour we tied up on a wharf close to a small brook south of Gooseberry Island. Several members of the party walked up to a pond to catch trout. When a wind sprang up, we embarked and returned to Whiteway; the crossing took about two hours. After a meal at Cliff George's house Bill Marshall and myself departed for Eastport, Marianne Stopp and Richard McKenna returned to St. John's.

23. July. Another brilliant day. Contacted Mr. Harold Hiscock in Burnside and were taken by him, together with Bill Gilbert, to The Beaches site where we met up with Laurie MacLean. Had a tour of the site. Laurie told me that Don Locke had excavated Dorset material

on Dildo Island where we were due to go the following day. Returned to Burnside and after a meal in the Hiscock home drove back to Whiteway.

24. July. Followed up information on native stone artifacts which were found in Whiteway where a brook flows into the sea and where there is now a small boat harbour that is used by the George family. The owner of the artifacts could not find the pieces. Surveyed the grassy area close to the small boat harbour and brook and searched along the edge along the sea. No results. Went to South Brook, where artifacts were allegedly found two or three years ago during the excavation of basements. The house owners could not be contacted.

Went to Dildo to talk to Mr. Gerald Smith who knew about the artifacts that had been found on Dildo Island. The owner of the artifacts lives now in Alberta. Mr. Smith had originally agreed to take us to the site but could not go with us due to other obligations. Instead he pointed to the approximate spot on an areal photograph. Mr. Smith mentioned that Don Locke had excavated a site there 10 or 15 years ago. At Dildo harbour Mr. David Pretty agreed to take us to Dildo Island.

According to Mr. Smith the artifacts were found on the larger of the two islands at the southeastern edge of a long grassy bank. This bank is about 200 m long and 50 wide; it is c. 10 m above sea level at the northern end and falls off towards the south to a height of about 2 m. At the northwestern end the grassy bank slopes down into a cove. Formerly this cove was the site of a cod-hatchery

which operated from 1889 to 1897. We surveyed the length of the bank and scrutinized the edges which were partially washed out. Several locations on the western and eastern edges had quite recently been probed (locations 1-4). We picked up two Dorset endblades and two small triangular knives as well as a handfull of flakes from the backdirt. Three test pits halfway down the bank close to a large protruding rock were sterile (location 6). A test pit about 14 m to the northwest of location 4 yielded an endblade (location 5). Test pits closer to the wooded edge and on the slope towards the cove were sterile. Although it is not only possible but likely that this island was also resorted to by the Beothuk no Little Passage or Beothuk remains were found. Due to time constraints it was not possible to investigate the former site of the cod-hatchery which is now grassed over. Returned to Dildo and then to St. John's.

Records in the Newfoundland Museum indicate that Don Locke has excavated this site in the mid-1970s and has found c. 500 Dorset artifacts which are now in the museum. According to the site form the artifacts came from the "area of the fish-hatchery". It is not clear whether Locke excavated in the cove or on the 200 m long grassy bank adjacent to it. The Borden No. for Dildo Island is CjAj-2.

25. August 1990.

Since we had not been able to do justice to this site on July 24th we returned to Dildo Island under an extended permit on August 25th. With the assistence of Marianne Stopp, Bill and Alfred

Marshall, test pits were made in the cove where the fish hatchery had been located; twelve yielded some flakes, three yielded artifacts (locations 7,8,10). Flakes as well as artifacts were collected close to a rock outcrop where the grass cover borders on the shingle beach (location 12). A test pit on a small grassy area on the western side of the island at the edge of a 5 m high cliff disclosed fire cracked rocks; two tiny flakes were collected (location 11). Test pits at the northeastern and southeastern end of the treed part of the island, above shingle beaches in very narrow gaps in the rockface also yielded flakes (location 9 and 13). In undisturbed areas the flakes were deposited on a grey lense, underneath a layer of about 14 to 30 cm of peaty soil. Several test pits in the treed part of the island were sterile.

The survey established that the cove and grassy bank form a c. 15.000 square meter Dorset site and that Dorset people also utilized other areas on the shoreline of the island.

While the site has been disturbed by the cod-hatchery and by excavation much of it may still be intact. However, the recent digging along the edges of the bank are of concern and so is the continued erosion of the banks by high seas. Also, once Mobil Oil has set up its operation in Great Mosquito Cove, which will increase traffic in the lower part of Trinity Bay, looting may occur more frequently.

We proceeded to the second of the two Dildo Islands situated to the north of the larger Dildo Island and at low tide can probably be reached from there on foot across rock outcrops and

accumulations of gravel. This island is small and treeless and seems to be a bird breeding place. Fairly high grass and weeds cover the rather trecherous bumpy surface. About 10 test pits and a thorough search of the eroded edges were without results.

We also briefly stopped on a small island to the south of the Dildo Islands. This island does not have a name on the map but is locally known as Spread Eagle Island. Test pits and searches along crumbling edges did not disclose any evidence of native occupation.

Survey in Trinity Bay, July and August 1990, list of artifacts submitted to Newfoundland Museum.

Bull Island, CKAk-1

endblade, Dorset	CkAk-1-1
endblade, Dorset	CkAk-1-2
adze fragment, Maritime Archaic Indian	CkAk-1-3

Dildo Island, CjAj-2

endblade, Dorset	CjAj-2-544
endblade, Dorset	CjAj-2-545
scraper, Dorset	CjAj-2-546
endblade, Dorset	CjAj-2-547
retouched flake, Dorset	CjAj-2-548
endblade, Dorset	CjAj-2-549
abrader or whetstone frag. Dorset	CjAj-2-550
retouched flake, Dorset	CjAj-2-551
retouched flake, Dorset	CjAj-2-552
retouched flake, Dorset	CjAj-2-553
endblade, Dorset	CjAj-2-554
endblade or knife frag. Dorset	CjAj-2-555
retouched flake, Dorset	CjAj-2556

P L A T E I.

Bull Island Site - CkAk-1

a) Dorset endblade with concave base

b) Dorset bifacial asymmetric side-notched knife

c) portion of Maritime Archaic siltstone adze

Dildo Island Site - CjAj-2 - Dorset

d) unifacial endblade with concave base

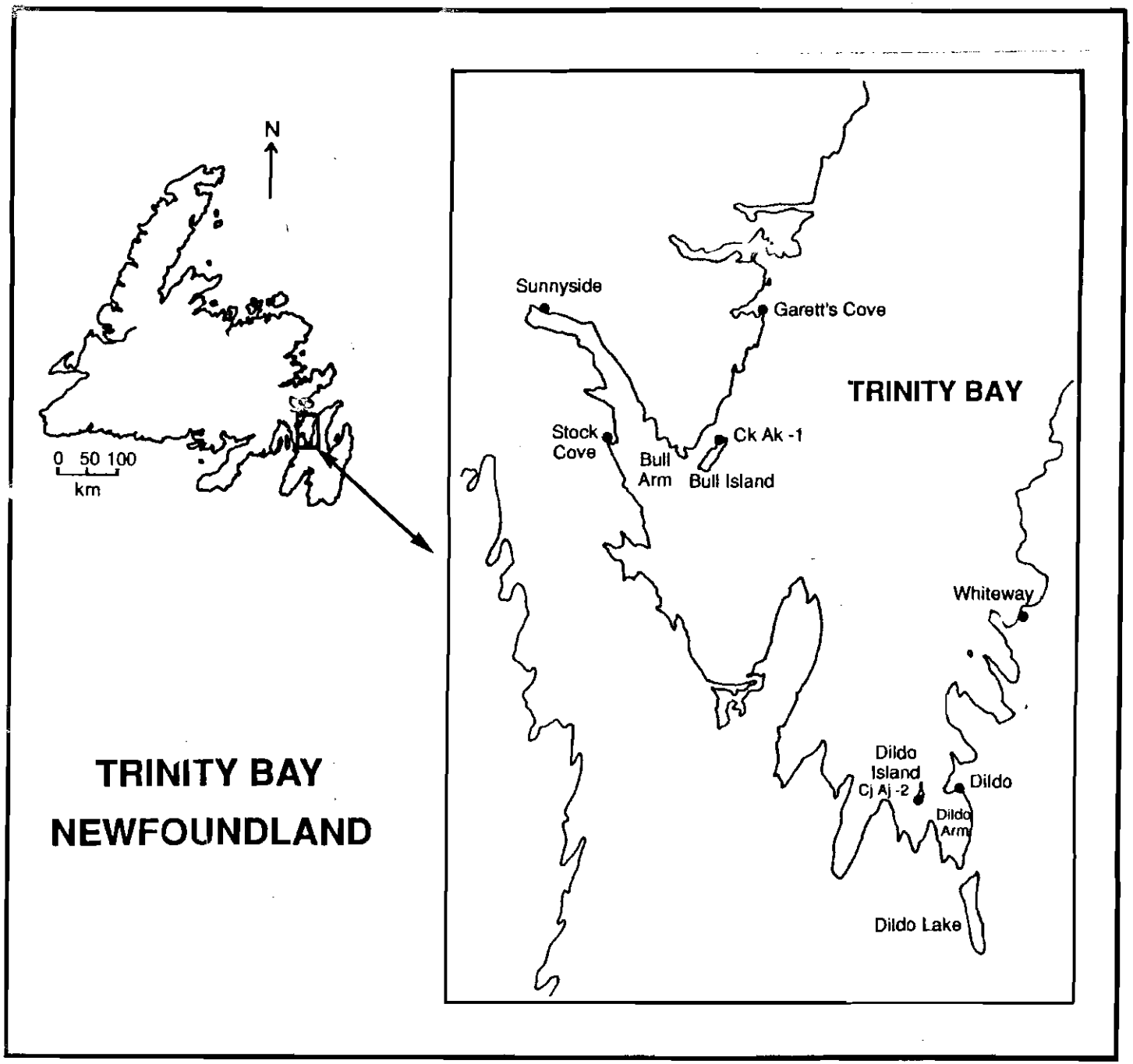
e) scraper

f) unifacial endblade predominantly ground

g) bifacial endblade, predominantly ground

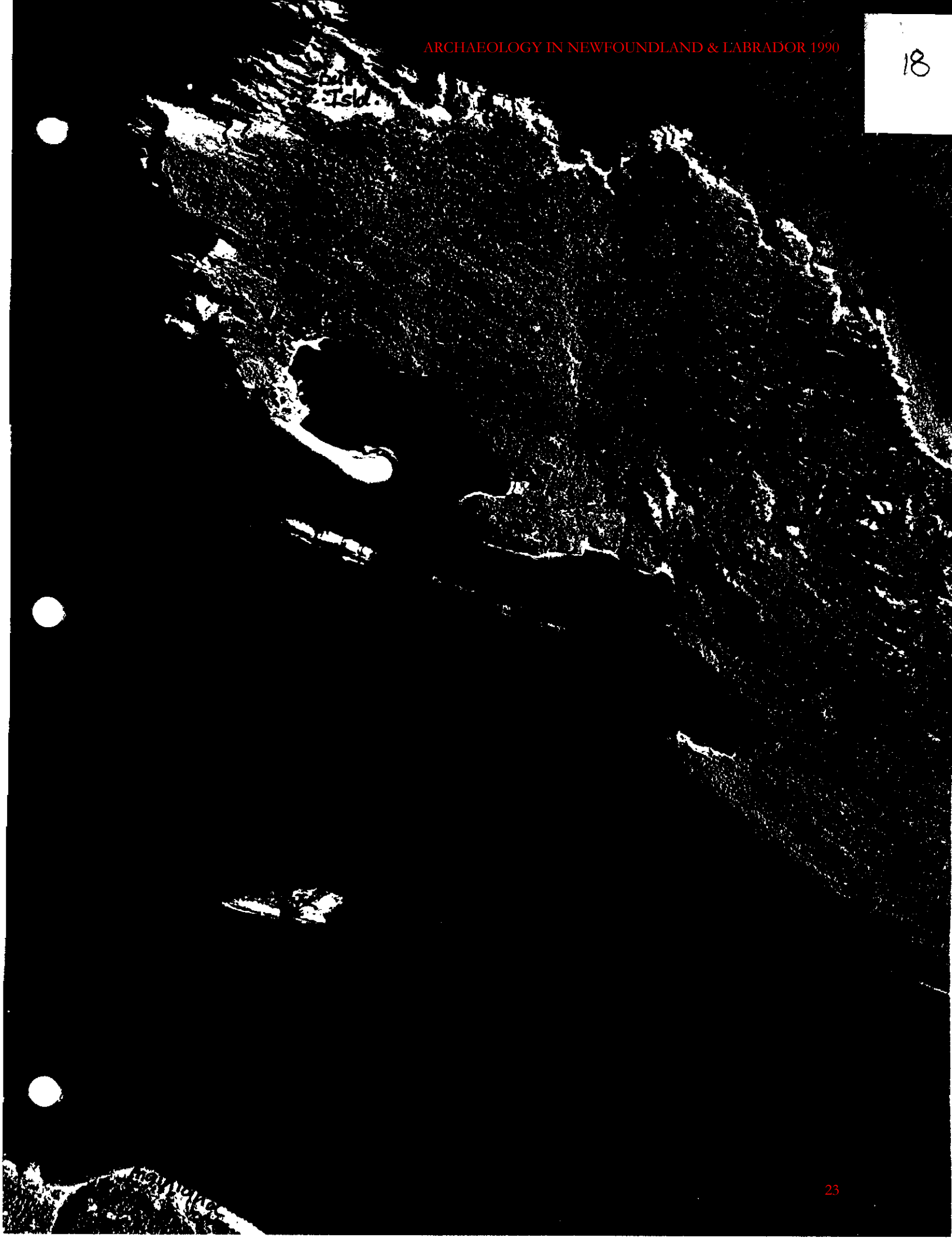
h) bifacial endblade with concave base

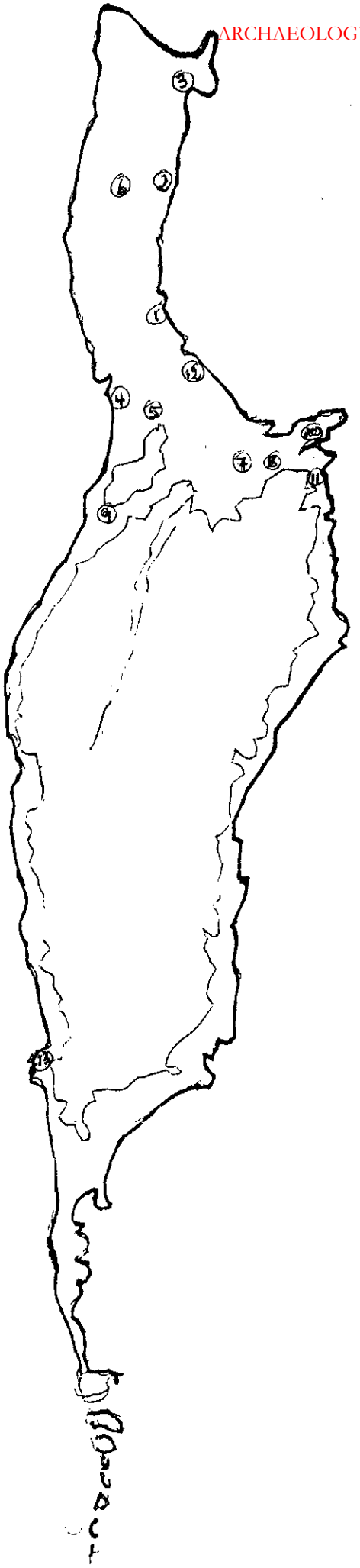
i) ground siltstone fragment


N
0 50 100
km
TRINITY BAY
NEWFOUNDLAND
Sunnyside
Garett's Cove
TRINITY BAY
Stock
Cove
Ck Ak -1
Bull
Arm
Bull Island
Whiteway
Dildo
Island
Cj Aj -2
Dildo
Dildo
Arm
Dildo Lake

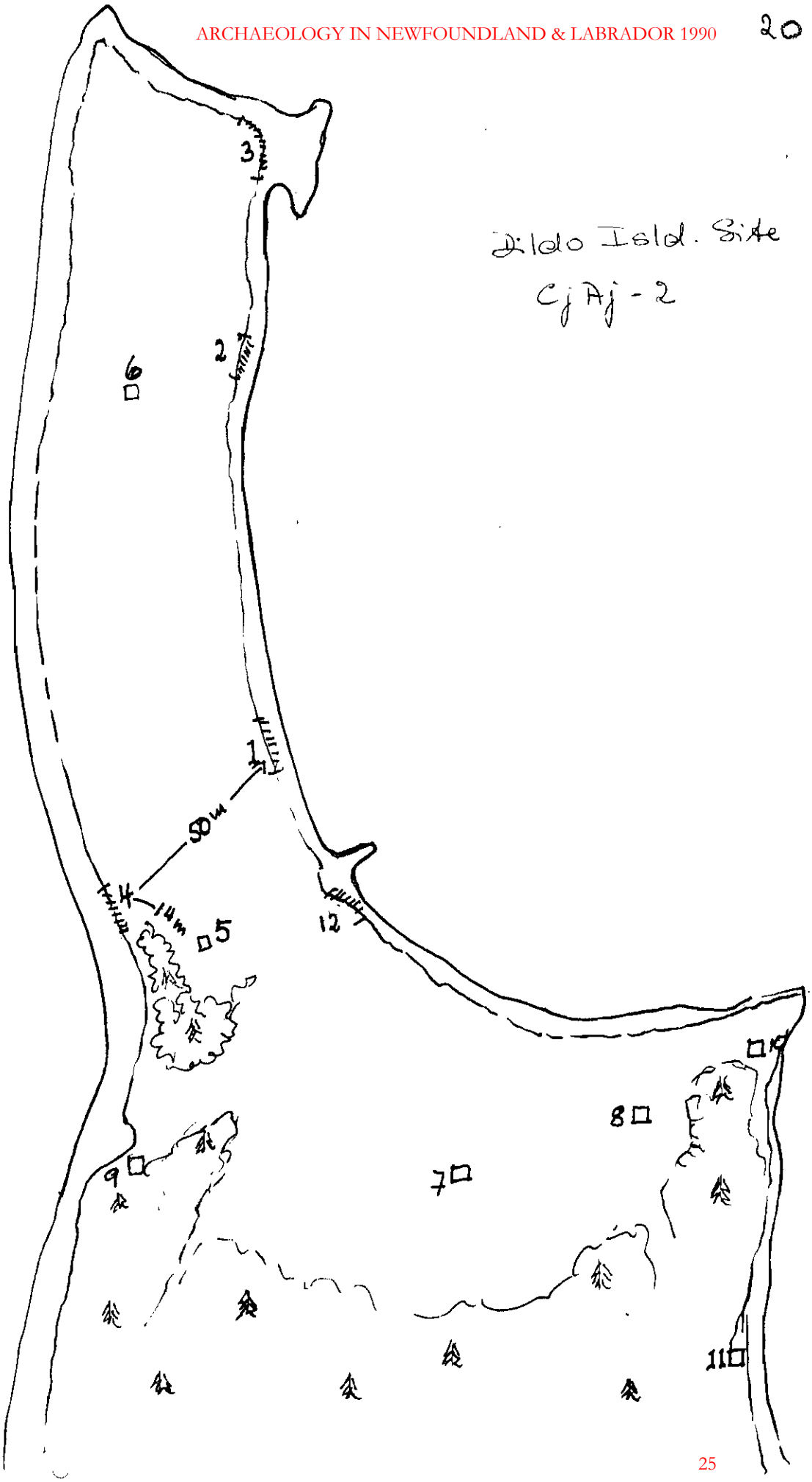

Bull Isld. Harbour
Cobble Bar
rock outcrops
rock outcrops
Pt. I
Pt. II
old wharfs

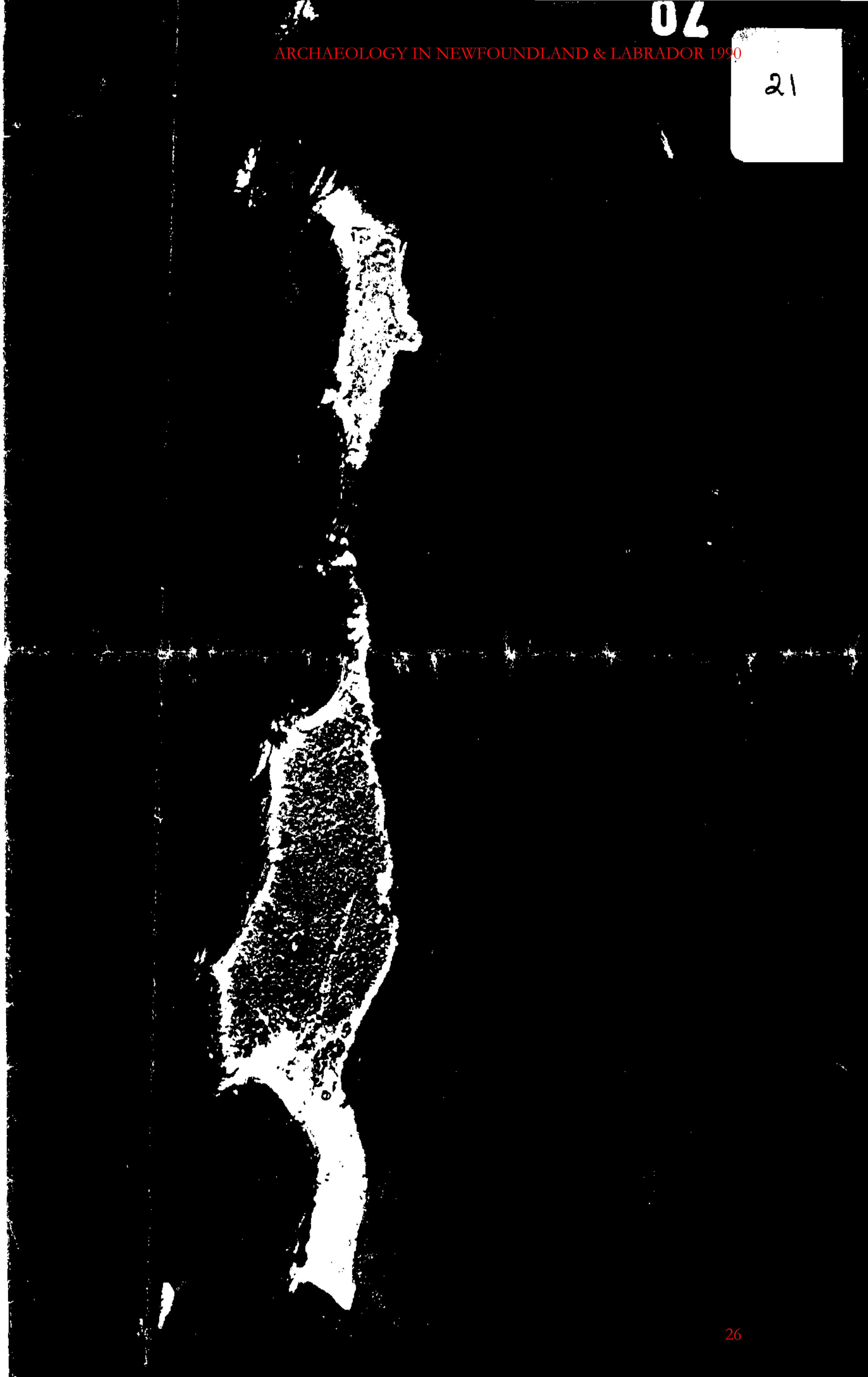
18





Dildo Isld.
CjAj-2


Dildo Isld. Site
CjAj-2
3
2
6
1
50m
4
14m
5
12
8
9
7
11



south ← Dildo Islands → north

List of Photographs

Bull Island Lagoon - CkAk-1

1) northwesterly point of land

2) same point of land, flakes in the bank ca.20 cm from surface; portion of Maritime Archaic adze found on rocks to the right;

Bull Island Lagoon - CkAk-1

3) northeasterly point of land, in front of two cabins, some level ground, washed-out edge yielded one small endblade and flakes;

4) same point of land; side-notched biface found on rocky beach, front left;

Garrett's or Goose Cove, Shoal Bay

5) c. 1 m deep hollow, assumed to be remains of a root cellar;

6) c. 0.8 m deep hollow, assumed to be remains of a root cellar;

Dildo Island Site - CjAj-2

7) approaching the larger of the 2 Dildo Islands from the southwest; to the right of the rock outcrop a 200 m long grassy bank; to the left cove where the cod-hatchery used to be;

8) overlooking the cove; location of test areas 7 and 8;

Dildo Island Site - CjAj-2

9) western edge of bank; Bill Marshall stands next to recently dug area where two endblades were picked up from the back dirt; location 1;

10) same edge of bank farther south; another recently disturbed edge where one endblade was collected from backdirt; location 2;

Dildo Island Site - CjAj-2

11) eastern side of grassy bank where it merges into treed area; disturbed location 4;

12) western upper part of cove, location 9;

Dildo Island Site - CjAj-2

13) northern end of Dildo Island; view of the smaller northerly island;

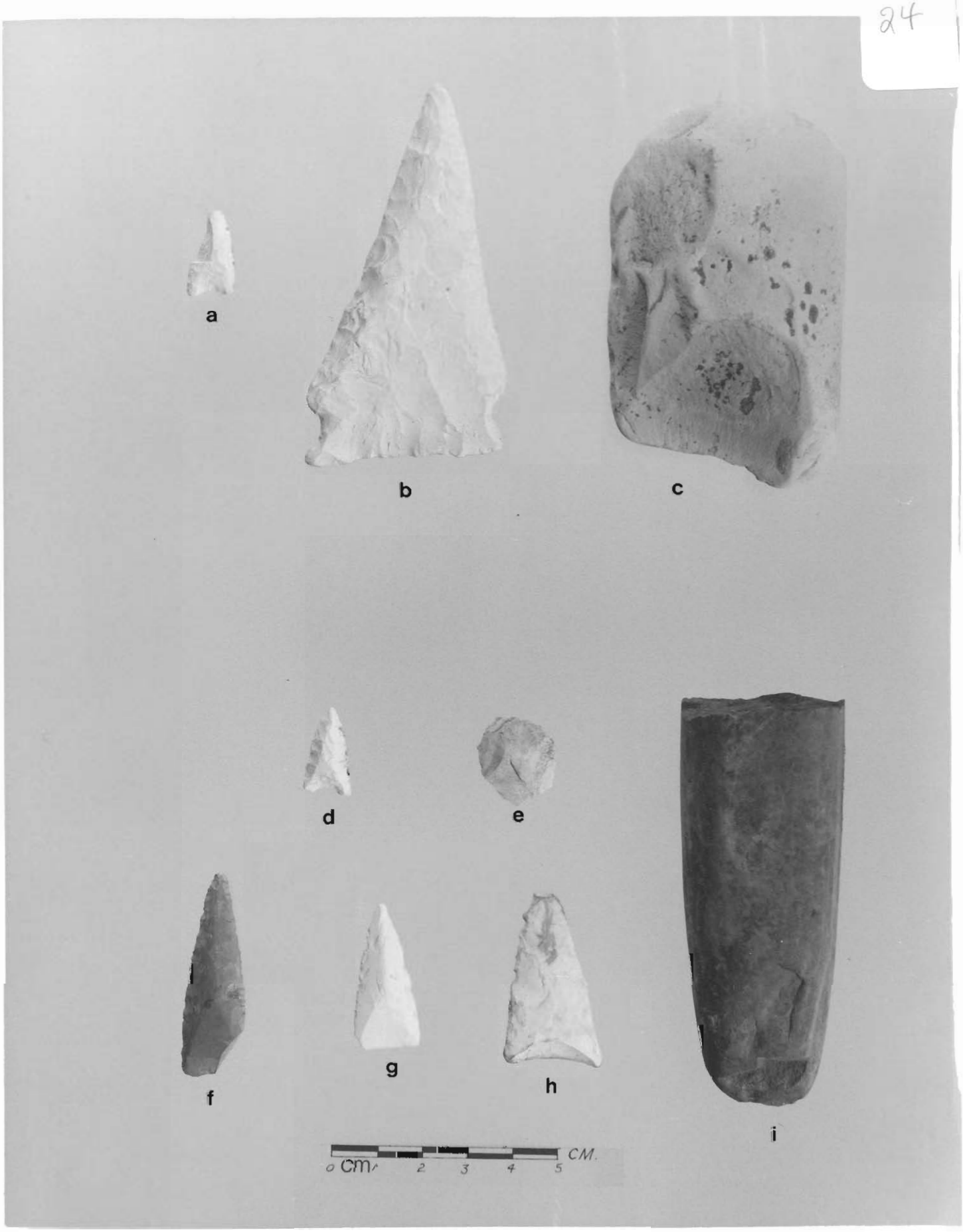
14) location 13 on the northeastern edge of Dildo Island, showing occupation layer (dark colouration over grey lense) to be c. 26 cm below mossy surface; this pit yielded two very small flakes;

Dildo Island II

15) the smaller of the two Dildo Islands, looking south towards northern end of the larger island;

16) small Dildo Island, treeless, with a very uneven surface, probably resulting from bird burrows;

24



25

Bull Island Lagoon - CkAk-1

1) northwesterly point of land

2) same point of land, flakes in the bank ca.20 cm from surface; portion of Maritime Archaic adze found on rocks to the right;

Bull Island Lagoon - CkAk-1

3) northeasterly point of land, in front of two cabins, some level ground, washed-out edge yielded one small endblade and flakes;

4) same point of land; side-notched biface found on rocky beach, front left;

27

Garrett's or Goose Cove, Shoal Bay

5) c. 1 m deep hollow, assumed to be remains of a root cellar;

6) c. 0.8 m deep hollow, assumed to be remains of a root cellar;

Dildo Island Site - CjAj-2

7) approaching the larger of the 2 Dildo Islands from the southwest; to the right of the rock outcrop a 200 m long grassy bank; to the left cove where the cod-hatchery used to be;

8) overlooking the cove; location of test areas 7 and 8;

29

Dildo Island Site - CjAj-2

9) western edge of bank; Bill Marshall stands next to recently dug area where two endblades were picked up from the back dirt; location 1;

10) same edge of bank farther south; another recently disturbed edge where one endblade was collected from backdirt; location 2;

30

Dildo Island Site - CjAj-2

11) eastern side of grassy bank where it merges into treed area; disturbed location 4;

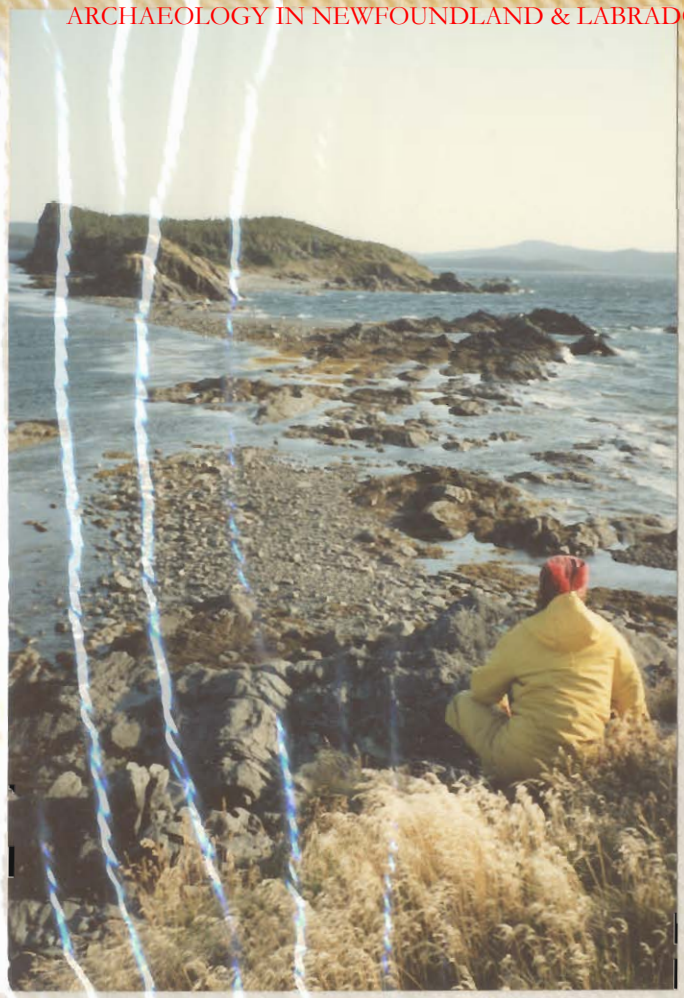
12) eastern upper part of cove, location 9;

31

Dildo Island Site - CjAj-2

13) northern end of Dildo Island; view of the smaller northerly island;

14) location 13 on the northeastern edge of Dildo Island, showing occupation layer (dark colouration over grey lense) to be c. 26 cm below mossy surface; this pit yielded two very small flakes;



Dildo Island

15) the smaller of the two Dildo Islands, looking south towards northern end of the larger island;

16) small Dildo Island, treeless, with a very uneven surface, probably resulting from bird burrows;

BURNSIDE HERITAGE PROJECT

ARCHAEOLOGY REPORT FOR SUMMER, 1990

PREPARED BY: CHIEF ARCHAEOLOGIST, LAURIE MCLEAN

SUBMITTED TO NEWFOUNDLAND HISTORIC RESOURCES DIVISION

FEBRUARY, 1991

TABLE OF CONTENTS

1

In July and August, 1990, the writer, under contract to the Burnside Heritage Project (BHP), conducted archaeological excavations in southwestern Bonavista Bay. Permit No. 90.08 was obtained from Newfoundland's Historic Resources Division for systematic excavations at the Beaches site (DeAk:1), detailed testing of new loci found in 1989 in Bloody Bay Cove, and archaeological surveying within the local region (Figure 1). A very productive nine weeks yielded significant new information about the Beaches and discovered a major prehistoric quarry in Bloody Bay Cove.

The goal of the BHP is integration of local heritage themes, tourism and education with long term economic development. The concept was originated by Harold Hiscock who now serves as project manager and actively participates in archaeological operations as much as his administrative duties permit. The field work described here is Part 2 of the BHP's Phase 1 which was designed to assess the region's cultural resource base. Phase 2 will propose how these data can be utilized in a development scheme. Part 1 of Phase 1 was an archaeological survey undertaken by the writer along with Harold Hiscock and Burnside resident Howard Moss in October and November, 1989. The crew visited the four known sites in the area and tested other suitable regions, finding eight new loci of past human activities (Figure 1).

Part 2 of Phase 1 involved archaeological excavations at some of the sites that fit the BHP criteria, including worthwhile research topics and subsequent interpretation concerning tourism

and possibly local school curriculum. Field work was carried out by a staff of six high school students and two university undergraduates from the Burnside-Eastport region working under the guidance of the author, archaeologist William Gilbert from St. John's, and BHP administrators, Harold and Susan Hiscock. The students was split into two groups of four that alternated between two-day shifts at the Beaches, spent camping and excavating, and two days of lab work in Burnside. Under this format the students were introduced to all aspects of archaeological field work and they performed quite well in these capacities. It is hoped that the use of local students as field assistants will help increase regional interest in preserving archaeological sites and related resources.

The community of Burnside was the base for the summer's operations and a shed converted into a field lab provided space for cataloguing and storing artifacts (Plate 1). Most of the summer's excavations took place at the Beaches, a large multi-component site that was utilized by Newfoundland's indigenous people, including Maritime Archaic Indians, Groswater Eskimos, Dorset Eskimos, Beaches Indians, Little Passage Indians, and Beothuk Indians, over a 5000 year period. A Recent Indian (Beaches, Little Passage, Beothuk) midden and a Beothuk housepit were sampled, and the complete site area, encompassing some 4000 square meters, was meticulously tested in order to asses its potential for future archaeological research (Figures 2, 3).

In addition to the Beaches excavations, further tests were

undertaken in Bloody Bay Cove where the 1989 survey had uncovered two new sites containing widespread evidence for stone tool production. A large Native rhyolite quarry discovered in Bloody Bay Cove this summer holds great promise for future research. Other surveying of the nearby outer islands located a mixed European/prehistoric site at Berenson's Tickle (Figure 1).

Excavations

the Beaches: Background Information

The Beaches' anthropological significance was first reported in A.D. 1876 when T.G.B. Lloyd reported the presence of 19 Beothuk housepits containing various artifacts. He described the site as a tract of low-lying land, "...five or six feet above sea level ..." and "...about a quarter of a mile long and an average of 120 yards wide..." (Lloyd 1876:222). This appears to be much larger than today's area. Comparisons of 1989-90 survey data with historic maps dating from as long ago as A.D. 1715 indicate the loss of much of the site to natural forces (Figure 2). This may be due to the unstable soil substrate which consists of small water-worn pebbles with very little gravel or roots, etc. to consolidate it against the eroding effects of the sea and winter ice. The eight housepits we counted at the Beaches appear to be the remainder of 16 such features seen at the western end of the sandbar by Lloyd in 1875 (Lloyd 1876:222) (Figure 3). An additional three depressions formerly located somewhere towards the eastern end of the bar are now gone, bringing the total

number of missing housepits to 11.

The first archaeological examination of the Beaches took place in 1965 when Helen Devereux sampled two housepits and some of the surrounding area. An 8' x 2' trench dug in one housepit (Figure 3-Housepit 2) produced a stone flake, an iron spike fragment and a small charcoal sample. It is not clear whether the spike was the old wrought iron type or a modern wire example. It was suggested that tidal inundations might have flushed out much of the evidence of human occupations in this depression and others close to the shoreline, but the presence of numerous pot holes throughout the easternmost housepits implies that looters could have carried off important material (Devereux 1969:NP).

Nineteen pieces of iron, including at least one Beothuk modified fragment, a pipestem, stone tools and animal bone were found in a 10'x 10' unit in the other housepit (Figure 3-Housepit 4). The 46 artifacts found in this former structure could only be dated to the historic period. The presence of juvenile harbour and harp seals, along with a few bird bones, suggest a March - autumn occupation by Beothuk people (Devereux 1969:NP), who may have lived in another structure and used this depression for garbage disposal. This is consistant with a pattern discerned at Boyd's Cove, Notre Dame Bay (DiAp:3) (Pastore 1984:103).

West of the housepits, Devereux's crew tested a 290' long section of an eroding bank at 10' intervals, except for a 50' stretch that was completely examined. They also dug an 8'x 2' trench at an approximate 45 angle inwards from the edge. These

excavations yielded 79 artifacts representing the various prehistoric cultures, including Maritime Archaic Indians, Groswater and Dorset Eskimos, Beaches Indians, and Little Passage Indians, who used the Beaches site before the Beothuk did. A radiocarbon date of 1 B.C., obtained from the test trench (Devereux 1969:NP), probably relates to a Dorset Eskimo occupation.

Paul Carignan conducted field work at the Beaches and the surrounding areas of Bonavista Bay in 1972-73. His crew dug a 135'x 30', at its widest, section of the eroding bank previously sampled by Devereux. Carignan extended his grid 60' to the east to test a rich culture layer in the tidal zone. Along with three test pits placed between the eroding bank and the steep hill bordering the site to the north, Carignan's team dug some 3500 square feet at the Beaches, compared to the approximately 225 square feet examined by Devereux.

Carignan discovered two culture layers along the southern bank, with Culture Layer 1 containing a mixture of artifacts attributed to Maritime Archaic Indian, Dorset Eskimo, and Beothuk groups (Carignan 1975:28). In the years following these excavations Newfoundland's cultural chronology has been refined so that Groswater Eskimo materials, in addition to Dorset, are now identified for this site, and Carignan's "Beothuk" is better termed Recent Indian, which consists of prehistoric Beaches and Little Passage Indians, along with the historic Beothuk. Culture Layer 2, a discrete Maritime Archaic component in the tidal area,

lay under the easternmost 25-30' of Culture Layer 1 and extended 60 feet to the east. Culture Layer 2 proceeds inwards from the bank in a northwest direction, which indicates that its area expanded away from the coast (Carignan 1975:26-28).

Carignan obtained four radiocarbon dates from his excavations, including, from Culture Layer 2, the oldest Maritime Archaic component in Newfoundland, estimated at 2950 ± 230 B.C., or 4900 ± 230 B.P. (SI-1384). Other radiocarbon dates from Culture Layer 2 include 1890 ± 100 B.C./3840 ± 100 B.P. (I-7501) and 1740 ± 100 B.C./3690 ± 100 B.P. (I-6761) (Carignan 1975:38). From Culture Layer 1, a radiocarbon date of A.D. 300 ± 95/1650 ± 95 B.P. (SI-1383), apparently represents a Dorset Eskimo hearth (Carignan 1975:35). Culture Layer 1 also produced 17 bone fragments, including tympanic and petrous portions of seal temporal bones from four adults and one juvenile, which suggest an early spring-late fall occupation (Carignan 1975:39). Carignan found some 1550 stone artifacts, mostly representing the five prehistoric cultures who utilized the Beaches. Many of these items were found on the mud flats east and south of the site at low tide, which is undoubtedly attributable to the widespread erosion ongoing here.

No more field work was undertaken at the Beaches until October, 1989 when the author directed the previously mentioned small crew in assessing the site's potential for future research. Although no excavations had taken place there for 16 years, 30 small test pits found scattered throughout the housepit area

suggest looting by people who knew where to dig for artifacts. The holes were not grown over or otherwise disturbed which implies they were dug fairly recently. In addition to the inherent significance of the Beaches site, the considerable potential for great loss of cultural material at the Beaches through pilfering was an important factor in the BHP planning systematic excavations there for the summer of 1990.

The 1989 survey was facilitated by someone's having cut down many of the large coniferous trees that had probably rendered the housepit area impenetrable to previous archaeologists. Also, much of the remaining overgrowth had lost its leaf cover by October (Plates 2, 3). Instead of finding four Beothuk housepits, as previously had been reported, the crew counted eight. The walls and interiors of some of these were tested with 50 x 50 cm pits so as to minimize disturbance. For some reason, the southernmost three housepits appear to be sterile, while the other five produced in situ artifacts. This could be the result of looting as was reported in 1969 and 1989. Housepit 6 showed evidence for an interior bone mash layer, presumably associated with a fireplace, and housepit 5 has an intact central hearth. The wall fill of housepit 7 produced prehistoric Beaches Indian material, while the wall fill of housepit 5 yielded prehistoric Little Passage artifacts and evidence for a bone midden (MacLean 1990a: 8).

The immediate environs of the housepits contained additional important cultural material, including a substantial bone midden

just to the north (Figure 3). One 50 x 60 cm test pit (N33.58 W24.42) produced 339 well preserved bone fragments, along with stone tools and flakes. A charcoal sample dated to 585 ± 80 B.P./A.D. 1285-1445 (Beta-34272) and two triangular bifaces indicated the midden represents Little Passage activities. South of housepit 6 and immediately west from housepit 2, test pit 20 yielded numerous small flakes of various colours that are possible evidence for detailed stoneworking by prehistoric people (Figure 3). Squares dug to the west of the housepit area produced various prehistoric Eskimo and Indian artifacts, often in culturally mixed conditions, suggestive of Carignan's Culture Layer 1 (Figure 3; Plate 3).

Objectives of 1990 Field Work at the Beaches (DeAk:1)

The 1989 survey supplied a rich choice of research options that could be tested through excavations at the Beaches. In view of the BHP's basic theme of providing an interpretive context for prehistoric and historic people's use of locally available resources, the midden was selected as our major concern for the summer. We wanted to determine the total area encompassed by the feature, its period(s) of use, i.e. deposition, and the cultural group(s) involved. Faunal analyst, Jennifer Cridland, a Memorial University graduate student, was contracted to examine the bone sample, which would hopefully provide data pertaining to the animal species present, the possible seasons of human occupations of the site, and some of the activities that contributed to the

formation of this garbage area.

In addition to the sampling the midden, the crew also planned to dig a portion of housepit 6 which contained the bone mash layer in its interior. A similar deposit of bone mash had been previously excavated at Boyd's Cove, Notre Dame Bay (DiAp:3), where the Beothuk component is dated to A.D. 1650-1720 (Pastore 1986:219-221). It would be useful to compare the two sites in terms of these features and other aspects of Newfoundland's historic Indians. The Beothuk occupation at the Beaches has never been clearly understood in terms of period, duration, interaction with Europeans, and subsistence. These data would be most relevant to information derived for Beothuk sites in other parts of Newfoundland.

The 1989 survey showed that there was still much information to be gleaned from the Beaches through archaeology. It was hoped that additional surveying of the site during the summer of 1990 would provide additional research options by identifying new features that could be excavated in the future. We planned to look more closely at some of the wooded areas where prehistoric artifacts were found in the 1989 survey, and also examine the eastern and western extremities of the site that had been omitted to date due to time limitations.

Results of 1990 Excavations: Midden

The July 12 - August 1 period was spent working on the midden. An east-west/north-south transect, consisting of 12 50 x 50 cm test pits placed two meters apart where possible, helped delineate the rough parameters of the feature. It proved to be some six meters long and two meters wide, suggesting an elliptical shape (Figure 3). Two 1 x 2 m trenches were placed across its northern and southern ends and a smaller 1 x .50 m unit was dug just north of test trench 1, bringing the total excavated area to 4.75 square meters (Figure 3; Plate 4). Along with the 60 x 50 cm test pit dug in 1989, the total excavated area of just over five square meters represents approximately one-half of the complete midden.

The excavations yielded 1145 bones/fragments and 97 artifacts spread over horizontally discrete sections pertaining to Beaches, Little Passage, and Beothuk occupations. There is no clear vertical stratigraphy. A Little Passage component is suggested in the north by a radiocarbon date of 585 ± 80 BP/A.D. 1285-1445 (Beta-34272) and two triangular bifaces from N33.58 W24.42, the 1989 test pit. These data correspond with a corner notched projectile point found in N34.5 W24.5 (Plate 20; Figures 3, 4; Table 1).

Test trench 1 consists of 1 x 1 m units N32 W25 and N32 W24, and the 50 x 50 cm test pit, N32.5 W23. In total, the trench produced 148 bones/fragments and 38 prehistoric lithic artifacts manifesting a Beaches Indian component. A radiocarbon date of 760

± 110 BP/A.D. 1080-1300 (Beta-39285) was obtained from charcoal found 16 cm below the surface at the bottom of the culture layer in N32 W24. This date possibly encompasses the period of use for a Beaches projectile point from a bone mash layer on top of the black culture layer in N32 W25 (Plates 5, 19; Figures 4, 5).

While most artifacts, such as retouched/utilized flakes and cores, from test trench 1 are culturally non-diagnostic, a bipointed biface and a proximal fragment of a lanceolate biface imply Maritime Archaic affiliations (Plate 18). Although these items occurred 15 cm and 27 cm below the surface in the midden culture layer, they are out of context and are not associated with faunal material from test trench 1 (Figure 5; Plate 5). They may have been inadvertently disturbed from their original positions in the ground by Beaches Indians who utilized this area sometime after the Maritime Archaic occupants. A Palaeo-Eskimo tip flute spall from N32 W25 is similarly out of context. A wrought iron nail in N32 W25 was found in the grey beach outside the culture layer and does not represent historic disturbance of the feature.

Test trench 2, consisting of 1 x 1 m units N29 W24 and N29 W25, represents late Little Passage/early Beothuk activities in the midden. The black culture layer contained 260 bones/fragments along with 43 stone items, including quartz flakes, tool fragments, and small triangular bifaces, which are often associated with Beothuk components (Figure 6)(Pastore 1985:323). Other Beothuk artifacts include two bone awls, two modified

portions of bone, two Merida potsherds - a Spanish coarse earthenware, two wrought iron nail fragments, and a piece of wrought iron (Table 3)(Plate 20).

One of the potsherds has a charred outer surface which suggests that Beothuk or other people used it to heat food. Although Merida pottery was manufactured in Spain, it was commonly traded and English fishermen often used it. It first appeared in medieval times and is still produced today, which means it is a poor chronological marker, but vessels of this material could have been acquired by Beothuk during the sixteenth century A.D. (Peter Pope:personal communication). This would correspond with a radiocarbon date of 460 ± 80 BP/A.D. 1410-1570 (Beta-39286) from N29 W24. The small proportion of European objects, compared to traditional Native materials, in test trench 2 corroborates this suggestion for a Beothuk occupation during the migratory fishery when foreign items were not very accessible (Table 1; Figure 4).

The 806 bones/fragments recovered this summer and the sample of 339 obtained in 1989 are currently under analysis in St. John's. The interim results indicate that the collection, including material from housepits 6 and 5 and three other test pits, contains 250 identifiable pieces manifesting 14 animal species, consisting mostly of seal (n=159/63.6%). Harp seals (Phoca groenlandica) are the most common, with harbour seals (Phoca vitulina) occurring in much smaller amounts. 54 bird bones (21.6%) are primarily made up of ducks (Melanitta fusca,

Melanitta perspicillata, and Somateria mollissima), along with Canada Goose (Branta canadensis), cormorants (Phalacrocorax auritas), gulls (Larsus sp.), and common raven (Corvus corax). Seventeen small furbearing mammals (6.8%) include otter (Lutra canadensis), pine martin (Martes americana), beaver (Castor canadensis), and wolf (Canis lupus). Ten caribou (Rangifer tarandus) fragments were present, along with seven sculpin (F. Cottidae), and two black bear (Ursus americanus) (Cridland: personal communication) (Table 2).

Common eider (Somateria mollissima) and juvenile harp seals (Phoca groenlandica) suggest a late winter occupation, while the double-crested cormorant (Phalacrocorax auritas) implies summertime activities. In total, the faunal sample represents occupations or visits to the Beaches throughout most of the year, except for the fall season (Cridland:personal communication). This does not necessarily imply a continuous human presence at the site for three quarters of the year, but it does reflect ongoing activities throughout this interval.

Test trench 1, presumably representing Beaches Indians, had 48 identifiable bone specimens, including 24 seal (50.0%), 13 bird (27.1%), 8 small furbearers (16.7%), and 3 other mammals (6.3%) (Table 2). The two Little Passage sections of the midden combined for 151 identifiable elements, including 110 seal (66.2%), 37 bird (24.5%), 8 caribou (5.3%), and 6 small furbearers (6.0%). Little Passage faunal material recovered from test pit 11, in the wall fill of housepit 5, contained 13

identifiable examples of seal species. Test trench 2, the Beothuk section of the midden, produced 17 identifiable items, including 7 sculpin (41.2%), 6 seal (35.3%), 3 pine martin (17.6%), and 1 caribou (5.9%). The small Beothuk midden from the hearth in housepit 6 contained 17 pieces of identifiable bone, consisting of 12 seal (70.6%), 4 bird (23.5%), and 1 black bear (5.9%) (Table 2).

Faunal data from the midden, the interior of housepit 6, and the wall of housepit 5 suggest that the different Recent Indian inhabitants of the Beaches utilized seals as their major food resource. Ten species of birds constitute the second most preferred type of animal which were probably easily accessible on the nearby islands and "bird rocks". Ducks, geese, gulls, and other birds still frequent this portion of Bonavista Bay. The low frequency of caribou in the sample probably represents isolated kills during the spring and summer when these animals were dispersed along parts of the shore. Residents of Burnside told the author that caribou used to be common visitors to the bare plateau atop the Bloody Bay hills in Bloody Bay Cove, although they are not seen today.

Housepit Excavations

Housepit 6 was sectioned into four quarters and two diagonally opposite sections were dug this summer (Figures 3, 7; Plate 6). Three square meters were excavated in the southeast quadrant and 4.25 square meters were dug in the northwest

section, for a total of 7.25 square meters. Although we planned to confine our excavations to the former structure's interior, the southeast quadrant proved to be largely composed of wall fill. The southeast floor appears to be largely confined to N1 W15, most of N0 W15, and probably the western half of N0 W14. The northwest quadrant provided a good sample of the house's living floor (Figures 7, 8).

A total of 161 artifacts were found in the housepit, including 100 from the living floor and 61 from wall fill. The interior, i.e. Beothuk, items include 88 stone implements, along with six bone and six iron objects. The northwest quadrant had 36 artifacts from the house interior and two items in wall fill (Figure 8). Most artifacts came from a culture layer composed of grey-black silt combined with the pebble beach matrix that is the substrate for much of the site. This culture layer presumably represents the house living floor, i.e. occupation periods, and is 5-21 cm thick (Figure 9; Plate 7). A stone projectile point found at the interface between living floor and wall slump in N3 W16 is included with the interior items (Table 3; Figure 8).

The 36 artifacts include 25 stone, 6 bone, and 5 iron items, along with many more random flakes. Six projectile points made from grey-green chert possess corner or basal notches and triangular blades, much like those from Boyd's Cove (DiAp:3). The rest of the lithic assemblage, including cores, retouched/ utilized flakes, and a scraper, is also comparable to other Beothuk collections (Plate 19; Table 3; Pastore 1984:125;

1985:323).

A wrought iron projectile point recovered from N3 W16 in the house interior is the first conclusive evidence for a Beothuk metal tool at the Beaches (Plate 21). A corroded spear head was reported in previous excavations, but the actual status of this artifact has never been established and a poor quality photo suggests it was a preform (Devereux 1969:NP). The 1990 projectile point has an elongate-diamond shaped blade that is similar to many Beothuk examples, except for being much thicker. This is attributable to three vestigial rivets arranged in a line up the midpoint of the blade's proximal end. It appears to have been fashioned from a European fur trap, specifically the flat pan that articulated with the stem, which joined on to the base. The Newfoundland Museum has at least 15 projectile points that were to be made from trap pans, but none retain the rivets as in the case of the Beaches item. Also, these items were found at interior sites and this reuse of fur traps on the coast is unusual. Boyd's Cove (DiAp:3) has at least one trap part in its large collection, but iron projectile points were made from nails there. The Beaches object represents an addition to the typology of Beothuk iron projectile points defined by the author (MacLean 1989a:7; 1989b:115-126).

This artifact could be the result of Beothuk reworking a raw material that was not utilized at later sites when more easily modified European objects, such as nails or an increased number of other trap parts, became accessible. Radiocarbon dates of 390

± 70 BP/A.D. 1490-1630 (Beta-39900) from the hearth of housepit 6, and 460 ± 80 B.P./A.D. 1410-1570 (Beta-39285) from test trench 2, represent Beothuk activities during the days of the European migratory fishery before permanent settlement had begun in Bonavista Bay (Head 1976:55)(Figure 4). This implies a marginal flow of European materials into Bonavista Bay for the sixteenth and much of the seventeenth centuries A.D..

Two modified nail fragments from housepit 6 resemble 160 others from Boyd's Cove (DiAp:3) and 32 from Inspector Island (DiAq:1), suggesting similar approaches to recycling European items by Beothuk living in Bonavista Bay and Notre Dame Bay (Plate 21). The early date derived for the Beaches modified iron implies a degree of technical conservation over time and possible contact between Beothuk living in each large bay. It is also conceivable that Beothuk migrated out of Bonavista Bay during the latter seventeenth century in response to the increasing European presence in their territory.

The iron projectile point, one modified nail, and a stone abrader that appears to have been used to grind down the edges of iron blades, all came from 7-15 cm below the surface in N3 W16 (Figure 8). This suggests that some recycling of European iron took place in this section of the housepit, which appears to be near the entrance. The second modified nail fragment was found 9 cm below the surface in the hearth, which implies that the Beothuk may have attempted to hot work some iron.

Five bone pendant fragments and a portion of modified bone

were recovered from the section of the hearth located in the southeast corner of the northwest quadrant (Figures 8, 9; Plate 22). The pendants have incised linear motifs on one side and a smooth polished finish on the opposite face. Two of the fragments were glued together in the field lab, forming the proximal end of a pendant. Its drilled suspension hole might have housed the animal sinew, rootlet, or other material used to attach the object to someone's clothing, or elsewhere. This is the first incidence of Beothuk bone pendants recovered in good cultural context. Hundreds of others are in the Newfoundland Museum collection, but these were found some time ago by amateur archaeologists not trained to conduct careful excavations. A number of pendants from Boyd's Cove found in apparently undisturbed conditions in the 1980s came from wall fill which implies that they were inadvertently dislodged from their original resting spots by Beothuk housebuilders.

In addition to six bone artifacts from the hearth in the northwest quadrant, there were 123 bones/pieces and various scattered shell, constituting a small midden. These all came from N1.5 W16, a 1 x 0.50 m unit, where a greasy black layer is most likely attributable to the organic material deposited in the hearth (Figures 8, 9; Plate 7). There is no greasy black soil or bone in the portion of the fire place found in the southeast quadrant despite the presence of fire-cracked rock, a black cultural layer, and reddish-coloured, oxidized subsoil indicative of burning (Figure 10; Plate 8).

19

Removal of the living floor from the northwest quadrant revealed a shallow depression extending five centimetres into the sterile substrate. This feature was roughly circular with a diameter of 30 cm and was covered by a bone mash layer near the bottom of the living floor (Plate 9). Under the bone mash the pit was filled with a 10 cm thick mixture of black sand/silt/gravel that contained one flake and small, randomly scattered shell fragments. This depression resembles a pit within the central hearth in housepit 4 at Boyd's Cove that was tentatively interpreted as a sleeping hollow (Pastore 1986:221). The absence of reddish-coloured, oxidized subsoil at the bottom of the Beaches feature suggests that it does not represent the remains of a former hearth that was covered over by a subsequent fireplace now occupying the centre of housepit 6.

The southeast quadrant living floor is 3-21 cm thick and produced 63 stone items, including Beothuk triangular bifaces, cores, scrapers and utilized flakes (Figures 8, 10). One wrought iron nail was also found on the living floor. Two Palaeo Eskimo tip flute spalls and a microblade that were mixed in with the Beothuk artifacts probably originated from the walls which slumped inwards after the house was vacated (Table 3) (Figure 8).

As alluded to earlier, cultural material found in the earthen walls of Beothuk housepits is typically predominantly prehistoric, making it quite distinct from artifacts found on the living floor. The 59 stone objects from wall fill in the southeast quadrant include Palaeo Eskimo, Little Passage and/or

Beaches Indian stone artifacts that had been left on the site before Beothuk people built the housepit by excavating the interior area and piling ground around it. The single iron artifact apparently from wall fill in N1 W14 was found 7 cm below the surface at the bottom of a layer of silty sand that appears to have formed over parts of the vacant housepit (Figure 10). This suggests that the metal item was not actually incorporated into the wall. Profiles of the southeast quadrant's northern and eastern sides show the pebble beach-cultural matrix that makes up the walls lying on top of isolated patches of buried sod. These are interpreted as the original surface upon which Beothuk housebuilders dumped the earth removed from the interior area of the structure (Figures 10, 11).

The low proportion of iron to stone artifacts from Beothuk contexts at the Beaches, 10:133, including 6:88 from housepit 6's interior, 3:43 from test trench 2, and 1:2 from housepit 5, also indicates early Beothuk occupation(s) when European materials had not replaced the more traditional lithic items to any significant degree. At Boyd's Cove, which has an iron to stone ratio of 903:140 for its housepit interiors, the Beothuk had largely replaced traditional materials with European alternatives by the A.D. 1650-1720 interval (MacLean 1989b:6, 7).

Similarly, the Inspector Island site (DiAq:1), which is approximately 12 km. away from Boyd's Cove, has an iron to stone ratio of 91:26 describing its housepit interiors. This is interpreted as a post-Boyd's Cove occupation although its

artifact assemblage suggests that both sites were utilized close together in time, if not contemporaneously (Pastore 1988:13). Some Beothuk sites in interior Newfoundland have produced well-made iron projectile points, partially modified iron, and other European materials in the absence of stone tools. These have not been clearly dated, but the dearth of traditional objects and materials, along with the improved quality of Beothuk ironworking, suggest use in the latter eighteenth-early nineteenth centuries A.D..

The only other European materials found in Beothuk provenience at the Beaches are two potsherds from test trench 2 (Plate 20). A third waterworn piece of the same type of ceramic found 10 cm below the surface at the bottom of brown forest humus in N32.5, and a lead fragment from similar context in N32.5 W29 could also be Beothuk artifacts. Boyd's Cove, Inspector Island and the aforementioned late-period interior assemblages contain copper, brass, pewter, various pottery, glass, and, often, trade beads (Pastore 1985:331; 1988:6, 7, 11, 12; MacLean 1990b:12), which imply greater accessability to European goods. The absence of such objects at the Beaches is strong evidence for early Beothuk occupations here. This also implies that the artifacts and features excavated this summer represent more traditional Beothuk behavior than occurred at later sites where changes had taken place in response to the increased numbers of Europeans and their goods.

The Beaches: Areas B-E

Our surveying of the Beaches produced new evidence for human activities that are sufficient for dividing the site into five subsections, referred to as Areas A-E (Figures 2, 3). The housepits and midden constitute Area A which has in situ cultural material reflecting at least some 560 years of Recent Indian occupations, from ca. A.D. 1080-1630 (Figure 4). Area A also contains smaller amounts of Maritime Archaic Indian and Palaeo-Eskimo artifacts that predate the Recent Indian occupations by hundreds and thousands of years.

Area B, which lies across the bog due west from Area A, produced stone artifacts representing prehistoric Beaches Indians and Palaeo Eskimos (Figures 2, 3, 12). This is a dense alder thicket with mature deciduous and coniferous trees scattered throughout it (Plates 3, 10). It is bordered on the north and northwest by a steep, wooded hill while a bog forms a natural barrier to the east. Between the southernmost test pits and the eroding bank on the sea coast, a distance of some 15 meters, closely packed mature trees provide an effective barrier to movement and no testing was conducted there (Figure 3; Plate 3). This section should not be omitted from subsequent analyses of Area B, however.

This summer 17 50 x 50 cm test pits were dug at five meter intervals within a roughly 400 square meter area. Five test units were sterile, but the other 12 produced 100 lithic artifacts that were unevenly distributed throughout a greasy dark brown-black

culture layer (Table 4; Figure 12). This stratum appears to be the northern extension of Culture Layer 1, which contained Maritime Archaic, Palaeo Eskimo, and Recent Indian artifacts mixed together, and was discovered along the south bank in 1972-73 (Carignan 1975:28-30). Area B has a similar combination of Palaeo Eskimo and Beaches Indian items, but Eskimo artifacts are much more common (Figure 12; Table 4). Further tests are required to more fully assess the distribution of cultural material and the possible locations of features here.

The culture layer was 1-8 cm thick throughout the area and the number of items from a particular square was directly proportional to the amount of this matrix in it. It begins to become patchy and thin above the N4 line and west of the W48 line where a steep hill probably marks the end of utilized space. Isolated thick pockets of greasy black soil are present at the foot of the hill, however, and N3.5 W63 contained an extensive culture level with 28 artifacts (Figure 12; Table 4). The richest concentration of artifacts came from N8.5 W48 where 34 items, including a Beaches style, side-notched projectile point, a triangular biface, the tip of another triangular biface or projectile point, and a microblade fragment, came from an eight centimetre thick culture layer (Plate 23). This was capped by 34 cm of moist brown peat. This unit had the only clear evidence for Recent Indian and Eskimo artifacts occurring together in Area B while the projectile point was the most diagnostic Indian object found.

Microblades from seven test pits and a tip flute spall from N4 W25 show the distribution of Palaeo Eskimo artifacts in Area B (Figure 12). The absence of projectile points, scrapers, knives, burin-like tools, and other diagnostic items of this culture is probably attributable to the small sections opened up, which combine for a total of 4.25 square meters (Figure 12). The cultural affiliations and related archaeological/anthropological information pertaining to the non-diagnostic artifacts from the other five squares should become clearer when Area B is investigated more closely.

Most of the Area B artifacts are made on grey-black and light blue rhyolites that are similar to material from previous Beaches excavations (Carignan 1975:43). This stone also resembles lithic debitage and bedrock in a large Native quarry discovered in Bloody Bay Cove this summer (see pages 29-35). A few items, including the Beaches projectile point from N8.5 W48, are made on purple-coloured stone that resembles other rhyolite present in prehistoric assemblages at the Beaches. Two Palaeo Eskimo microblades from N9 W58 are made on fine-grained, glassy tan/yellow cherts and a tip flute spall from N4 W25 is made on glossy, green coloured chert. Cores and flakes of white quartzite were common, but no finished objects made of this material were recovered (Table 4).

The reduced evidence for human activities towards the hill suggests that Area B represents part of the northern limit of pre-Little Passage occupations at the Beaches. The active erosion

along the southern bank and reference to old maps indicate that the total size of the site was much larger, possibly by some 12500 square meters, than is implied today. Area B offers a good opportunity to elaborate on the former human occupations there (Figure 2). Future excavations could discover the remains of hearths, houses, middens, and other features that would contribute towards this end. It would also be useful to obtain charcoal samples for Beaches Indians and other cultures which are not clearly dated at this site.

Area C

This section lies approximately 30 meters west from Area B on a thickly wooded, narrow ledge, ca. 10 meters wide (Figures 2, 3; Plate 11). It was discovered in the 1989 survey when Harold Hiscock noticed a dense scatter of purple flakes among light yellow clay and the roots of an upturned mature tree. 72 artifacts and 336 flakes collected from the surface at this time suggested Palaeo Eskimo and Maritime Archaic occupations (MacLean 1990a:15).

In July and August, 1990, three 1 x 1m and four 50 x 50 cm test pits were dug within an approximate 38 square meter area. They produced 374 prehistoric stone artifacts representing Palaeo Eskimo, Beaches Indians, and Maritime Archaic Indians (Figure 3; Plates 11, 12, 23, 24; Table 5). A patinated Beaches Indian style, side-notched, projectile point was found in S15 W91.5, while macroblades are indicative of Maritime Archaic people. Tip

flute spalls, microblades, and quartz crystal items signify Palaeo Eskimo cultures (Plates 23, 24).

Stratigraphy here consists of 10 cm of surface forest humus on top of a 2-3 cm thick black organic/rock layer, which lay on the yellow-tan clay substrate (Plate 12). Artifacts were mixed together throughout the bottom of the black and top of the clay substrate. The lack of cultural stratigraphy suggests that this bank had burned over during a forest fire, possibly one that swept through the area around A.D. 1912, resulting in all artifacts collapsing together. Charcoal is common throughout the black organic level, but was not collected because of the disturbed cultural context. The majority of objects, including retouched flakes, blade like flakes, cores, flake scrapers and crude preforms, are non-diagnostic and cannot be clearly assigned to a particular culture. Fortunately, Areas A and B at the Beaches were not affected by these forest fires.

The multi-cultural nature of the assemblage resembles the sample from Culture Layer 1 which was excavated approximately 60 meters to the east and probably a few meters to the south in 1972-73 (Carignan 1975:28). Area C's close proximity to the steep hill to the north implies that, similar to Area B, it represents the northern limit of a major occupation/activity centre that had been used for thousands of years, but is now mostly washed away (Figure 2). Like Area B, Palaeo Eskimo material appears to predominate here with slight evidence for Beaches Indians, although Area C differs in containing Maritime Archaic artifacts.

Area D

Much of the coastline west of Area C consists of a 2-3 meter wide rocky ledge with a heavy brush cover that is not very inviting for testing. We decided to sample it in the hope of providing as exhaustive a survey as was possible, and 26 shovel pits were placed at five meter intervals along a 120 meter long arc parallel to the shoreline. The units had a similar stratigraphy consisting of 10-18 cm thick forest humus over light brown clay, which extended to bedrock. All the pits were sterile of artifacts.

Area D is situated where the ledge opens up into a level portion that is 2-3 meters above sea level and approximately 120 meters away from Area B (Figure 2). Eleven 50 x 50 cm test pits were dug at five meter intervals within an approximate 190 square meter section. Five units produced a few flakes while the other six were sterile (Figure 13). Some of the flakes appear to have been utilized or slightly retouched, but no culturally diagnostic items were recovered (Table 6). The artifacts are made on purple and grey-black rhyolites that are common in Beaches assemblages.

Stratigraphy in this zone typically consisted of 4-15 cm deep forest humus over a 3-8 cm thick black organic level, that in turn covered grey or brown clay. Cultural material was recovered near the bottom of the black layer or the top of the underlying clay/gravel substrate. Two squares had no black stratum, but one of them, N50 W30, held three flakes around the top of the clay (Figure 13). Area D probably represents another

section of the fringe of the former occupation/activity centre that was utilized in prehistory.

Area E

Across the sandbar, some 210 meters east and a little to the south from Area A, Area E was discovered on a low, level bank about two meters above sea level (Figure 2; Plate 2). There is a healthy brush cover here now although large trees were adequately spaced to facilitate testing. Four test pits were dug at five meter intervals along a north-south transect that ran roughly parallel to the bank and was situated 2-3 meters in from the beach.

Twenty four stone artifacts, mostly consisting of retouched and utilized flakes, were recovered about 14 cm below the surface from one test pit, S10 E200. A Maritime Archaic component is suggested by the presence of two retouched macroblades, but the majority of items, including a large side-notched flake with a bifacially retouched working edge, are culturally non-diagnostic. The latter could be the proximal fragment of a stone axe with most of its convex working edge broken off (Plate 25). All the artifacts are made on grey-black stone that is similar to material in other Beaches collections and also resembles rhyolite from a major Native quarry discovered this summer in Bloody Bay Cove (see pages 29-35).

The cultural test pit was located at the foot of a steep rise that precluded further digging to the north and the three

units extending 15 meters to the south of S10 E200 had no artifacts. This suggests that Area E probably represents small scale activities that occurred around the northeastern limit of the same occupation/activity centre that was bordered on the northwest by Areas A-D (Figure 2). Thus, Area E contains potentially important information concerning vanished portions of the site. The different cultures who visited the Beaches over numerous millennia probably divided the former space south of the sandbar into settlement and activity components that were quite variable from one era to the next. The discoveries made at Areas B-E this summer will hopefully offer some insight into such questions.

Excavations at Bloody Bay Cove

Background information

In November, 1989, Bloody Bay Cove was visited by the survey team carrying out Part 1 of Phase 1 of the BHP (Figure 1; Plate 13). Bloody Bay Cove-1 (DeAl:1), a multi-component site found in 1974 (Carignan 1977:215), was examined at this time and although its unexcavated portion appeared quite intact, the cobble beach in front of it was littered with many flakes, cores and bifaces (MacLean 1990a:17). The source of these materials was not identified, but this site should be monitored for continued erosion.

The crew tested the shoreline on each side of the stream mouth in the bottom of the cove and found hundreds of light blue-

grey rhyolite flakes along with a number of crude triangular bifaces on the southern bank (Plate 14; Figure 15). The stream's north side has a slightly lower, more level surface with a mature forest cover. Test pits here produced additional evidence of lithic debitage, including large flakes and crude bifaces. The deposits on each side of the stream were recorded as separate new sites, but the absence of diagnostic artifacts precluded interpretations pertaining to the culture(s) responsible for the items. The stream bed also contained numerous scattered flakes and large cobbles of the same material found at the new sites. This stone resembled some of the rhyolite used for tool production at the Beaches (MacLean 1990a:18-21). There was insufficient time to implement more thorough surveying of Bloody Bay Cove in the fall, so one to two weeks were allotted during the 1990 summer field season to look for the location of a possible quarry there.

1990 Excavations

On August 7, 1990, excavations began at Bloody Bay Cove-3 (DeAl:5), which is one of the new sites found during the 1989 survey. We wanted to test in greater detail the level area on the north bank of the stream mouth, looking for more specific data relating to the users of the site. Eleven 50 x 50 cm test pits were dug and while two were sterile of artifacts, the other nine yielded 594 stone items and 6193 flakes (Figure 14; Table 8). No features were found, although this might be attributable to the

low relief of the bank in relation to the stream which suggests that the site could be prone to annual flooding during the spring run off. This could wash away hearths, house structures and related evidence of human occupations.

The excavations produced only one finished tool, a broadly side-notched knife similar to a Palaeo-Eskimo item from another Newfoundland site (Plate 27)(Pastore 1988:53). The rest of the sample consists of blade-like flakes, retouched flakes, a few bifaces, including some tool preforms, and cores. These, and the over 6000 flakes that were collected, suggest an activity area for preliminary stone working. This interpretation is supported by our discovery of a substantial quarry complex in the nearby hills of Bloody Bay Cove (Figure 15).

On August 7, in a shallow cove near Bloody Bay Point, we found a talus slope predominantly consisting of blue-grey coloured cores, flakes and a few variously coloured, scattered beach cobble-hammerstones. This was located immediately below a low, exposed cliff of apparently quarried material (Figure 15; Plate 15). In the days that followed, we expanded our explorations of the Bloody Bay Hills and found similar talus slopes, in association with worked outcrops, over an approximate 18 hectare (180,000 square meter) area (Figure 15).

These hills, which overlook Bloody Bay Cove from the north, consist of smoothly rounded, grey-black bedrock that is mostly bare of vegetation, except where covered with caribou moss or pockets of conifers (Plates 13, 16). The dark grey stone

patinates to a light blue-grey after being removed from the parent bedrock and left exposed on the surface. Dr. Robert Stevens, of Memorial University's Department of Earth Sciences, has identified it as a rhyolitic tuff, composed of 80% quartzite and various other minerals. It was formed from volcanic ash deposited on the surface millions of years ago. Dr. Stevens' analysis is ongoing and will be discussed in greater detail at a later date.

Three discrete quarried outcrops, with adjoining talus slopes composed of lithic debitage, appear to be primary stone working centres where chunks of suitable raw material were removed from the bedrock. These rough chunks were then chipped into smaller, more useable and portable fragments. Each area was plotted as a separate site, with the first talus slope recorded as Bloody Bay Point (DeAl:10). This section has a minimum surface distribution of lithic debitage measuring 11 x 11 m, for a total area of 121 square meters (Plate 15; Figure 15). After a steep ascent of some 90 meters, followed by a sharp veer towards the west on the level plain, the Bloody Bay Summit site (DeAl:9) is reached. This encompasses a 90 x 35m (3150 square meter) expanse of quarried bedrock/lithic debitage and a 47 x 32m (1504 square meter) talus slope to the northwest, which combine for a total area of 4654 square meters.

Perhaps the most spectacular evidence for prehistoric quarrying is the Charlie site (DeAl:11), located on the western end of the Bloody Bay Hills, where a 78 x 32m (2496 square meter)

talus slope of lithic debris lies below a worked outcrop (Figure 15; Plate 17). No depths were taken for this deposit, but the accumulation of flakes, cores and hammerstones is unparalleled among the other sites found this summer. In all, some 7000 square meters of exposed lithic debitage, including hammerstones, flakes, cores and randomly scattered crude bifaces, were measured at the quarry, but future excavations will undoubtedly show a much greater distribution of artifacts.

Despite the widespread presence of cores and flakes, our brief survey of the quarry did not produce any diagnostic artifacts, except for the Palaeo-Eskimo knife from Bloody Bay Cove-3 (DeAl:5) (Plates 27, 28). The profuse surface debitage suggests that the rhyolite outcrops had been worked for some time, possibly from the Maritime Archaic period up until the Little Passage. The latter and their descendants, the Beothuk, preferred using fine-grained grey-green chert for their stone tools.

Our excavations of prehistoric assemblages at the Beaches produced many flakes and bifaces made from dark grey stone which could have originated from Bloody Bay Cove. Previous research at the Beaches revealed that a similar dark grey rhyolitic tuff was utilized to varying degrees by many prehistoric groups. The Maritime Archaic assemblage from Culture Layer 2 was 78.8% this material, while the presumably more recent Maritime Archaic artifacts from Culture Layer 1 consist of 2.6% this stone. A local origin was suggested for the rhyolite although the

whereabouts of any quarries were not given (Carignan 1975:43). It now seems likely that the dark grey rhyolite, along with the less commonly used reddish, banded variety, and, possibly, the light grey banded material were procured in Bloody Bay Cove. The Beaches and Bloody Bay Cove are easily visible of each other which makes it quite conceivable that canoe trips were made between the two locations. The distance also represents a short walk over the winter ice. Further laboratory tests will elaborate on the relationship between the dark grey and light grey, banded rhyolite and indicate whether or not they might come from the same source.

The discovery of a substantial quarry in Bloody Bay Cove is very exciting for Newfoundland archaeology and should be a boon to the BHP. Further field work in the Bloody Bay Hills holds much potential for information pertaining to traditional means of obtaining resources in this area (Figure 1). It is suggested that a combined archaeology-geology approach is necessary to plot the distribution of the rhyolite throughout the surrounding region, which could encompass extensive distances along Newfoundland's coast and interior.

This large quarry probably represents a prehistoric industrial complex, consisting of worked rhyolite outcrops in association with numerous smaller, service sites. At the latter, people could have camped and engaged in preliminary stone working while visiting Bloody Bay Cove to obtain material to be made into tools. One of these possible activity areas is the Howard site

(DeAl:12), where crude bifaces and flakes were recovered from a 1 x 1 m section of the stream bed (Figure 15). Bloody Bay Cove-2 (DeAl:6) and Bloody Bay Cove-3 (DeAl:5), found on each side of the stream mouth, were probably used for a similar function (Figures 14, 15).

Berenson's Island (DeAk:9)

Our major discovery in Bloody Bay Cove complicated our plans for additional surveying throughout Bonavista Bay, but we did find one other site at Berenson's Island. Berenson's Tickle, a narrow channel between Berenson's and Morris Islands, was known to be an excellent salmon resource area and we decided to test it for signs of use (Figure 1). On August 3, Harold Hiscock, Laurie MacLean, three students, and one volunteer landed on Berenson's Island, on the east side of the tickle. About 10 meters in from the beach and two to three meters above sea level, a small, level clearing interspersed with alders suggested a good campsite.

Five 50 x 50 cm test pits were dug within an approximately 180 square meter area. Two of the five pits were sterile of cultural material, but the others produced a mixture of Native and European artifacts. Native items include one patinated grey-white stone hide scraper and numerous flakes. Fragments of glass, pottery, wrought iron nails and an iron knife make up the European sample (Table 10). Such scanty evidence for activities probably relates to people coming here to harvest marine resources and not staying for any extended period, although

additional testing would permit more conclusive interpretations about the site's function. This small site and the many other similar examples that no doubt exist throughout the islands of Bonavista Bay provide useful data that help to complete our knowledge of how people lived throughout the past.

Conclusions

This summer's operations should establish that a sufficient cultural resource exists to sustain long term development incorporating archaeology, tourism and education as desired by the BHP. New data concerning Native people who lived in this region for 5000 years add$ to previous archaeological research of the 1960s and 1970s. This information also enhances historic documentation and local oral traditions.

The main focus of excavations was the Beaches site (DeAk:1) where an intact Beothuk housepit and a multi-component midden were sampled. The complete site area, spanning some 4000 square meters, was tested for hitherto undiscovered signs of human activities. Sufficient information was found to split the site into five parts, referred to as Areas A-E. Some of these sections are richer than others and offer higher potential for future research, but all are important in outlining the limits of a former occupation/activity area that may have been up to 12500 square meters in size before eroding away.

The housepit and midden were both located in Area A which contains evidence for 560 years of continued use by Recent

Indians. These include, in chronological order, Beaches, Little Passage, and Beothuk groups. This period represents the last 400 years before European contact and the first 100-150 years of the historic era in Newfoundland. These Recent Indians were using land which had been previously occupied by Eskimo and Indian groups, some of whose artifacts were recovered this summer.

Approximately one-half of the midden was excavated using selectively placed test trenches, and discrete deposits attributable to each Recent Indian group were identified. Three radiocarbon dates falling within the A.D 1080-1590 interval provide important temporal parameters for these cultures at this site. An early Beothuk component is suggested for test trench 2 by a radiocarbon date of 460 ± 80 BP/A.D. 1410-1570. This is supported by the artifacts collected which are mostly traditional lithic items, with much less European objects. A Beaches deposit is implied in test trench 1 and Little Passage material occurs just north of this.

The preliminary faunal report indicates that the area was utilized for three seasons of the year by people who were predominantly concerned with obtaining marine resources, mainly seals, along with sea birds and a few fish and clams. These were supplemented with terrestrial species, including caribou, small furbearing animals, black bears, and, presumably, edible berries and shrubs.

The final faunal report is being prepared by Jennifer Cridland in St. John's and will provide a much more detailed

explanation of Recent Indian subsistence as it is suggested by the Beaches midden. However, many questions concerning the gradual creation of this garbage pile over a 500 year period remain unanswered. As the refuse does not represent one group or period, many different activities and cultural conditions probably contributed to its formation. It would be useful to more clearly discern the cultural divisions of the midden as a means of addressing specific questions about each Recent Indian group. Approximately one-half of its area was dug this year which implies that a significant amount of information remains underground. Complete excavation will probably provide a much more concise picture of Native subsistence during late prehistoric and early historic periods in southwestern Bonavista Bay.

Approximately one-half of housepit 6 at the Beaches was dug this summer, providing information pertaining to Beothuk life. This former structure and seven others are the remainder of 19 housepits identified there in A.D. 1876. Beaches housepits resemble others from coastal and inland Newfoundland with slightly excavated interiors and low, mounded earthen walls around their perimeter. Wooden poles stuck into these walls in an upright position or slightly angled inwards supported a frame that was covered with birch bark, sails, or caribou skins. No post holes were found in the walls of housepit 6, but this is possibly due to the loose pebble beach substrate that is prone to shifting. A small piece of birch bark found in the northwest

quadrant could be part of the former outer covering, but it might just as easily be a portion of another artifact.

A radiocarbon date of 390 ± 70 B.P. from the hearth of housepit 6 complements midden evidence for early Beothuk use of Area A. This is corroborated by the housepit artifact assemblage whose high frequency of stone implements compared to European materials, 88:6, reflects a vibrant traditional culture little affected by historic pressures. The stimuli for cultural change became stronger as increasing numbers of Europeans travelled to Newfoundland to participate in the migratory fishery and also to permanently settle. As the seventeenth century progressed, competition for harbours and exposure to foreign materials placed the traditional Beothuk culture under stress. Our excavations at the Beaches indicate that the Beothuk only a slight exposure to Europeans, although they may have felt compelled to leave the area shortly after these early occupations. Further research is needed to determine the termination of the Beothuk period here.

An iron projectile point and two modified nail fragments from housepit 6 reveal that some recycling of European materials took place at the Beaches. It is also possible that friendly Europeans supplied these items through trade or showed the Beothuk how to work iron. This might seem more probable in the early historic period, although European-modified nail fragments have been identified among later material from Boyd's Cove. Future research will elaborate on the question of possible Beothuk-European interactions in Bonavista Bay.

Excavation of other Beaches housepits should provide comparable radiocarbon dates, other small middens for further insights into Beothuk subsistence, and artifact assemblages that could elaborate on the relationship between indigenous people and Europeans. Increased amounts of European objects, possibly including trade goods, might be expected from structures that were occupied after housepit 6.

The modified nail fragments represent a particular approach to reworking wrought iron nails that was commonly practiced at Boyd's Cove and Inspector Island, in Notre Dame Bay. The Beaches items imply contact between Beothuk from Notre Dame Bay and Bonavista Bay, or a possible northeastern migration from the latter after ca. A.D. 1650. Additional excavations are necessary to elaborate on the relationship between these two major settlement areas.

Our partial excavation of housepit 6's hearth revealed a small Beothuk midden containing 123 bones/fragments. Similar to the larger midden, it indicates a preoccupation with marine mammals, mostly harp seal. The hearth also produced five bone pendant fragments that are Beothuk decorations with possible magical and/or religious significance. This is the first discovery of such items in undisturbed conditions. Various bone mash layers in the fire place are evidence for the Beothuk mixing bone marrow with animal fat in this structure.

Area B produced artifacts belonging to Palaeo Eskimos and Beaches Indians. It suggests a northern extension of culture

layers discovered in the late 1960s and early 1970s. Additional excavations could locate discrete undisturbed components pertaining to these groups which would be important in chronicling and understanding the prehistoric period after the Maritime Archaic era. Although Beaches Indians artifacts were first discovered at this site almost 20 years ago, this culture is poorly understood in terms of its period, subsistence, and other questions. Thus, Area B is a priority subject for future field work at the Beaches.

Area C is very rich in prehistoric artifacts attributable to Maritime Archaic Indians, Palaeo Eskimos, and Beaches Indians. Similar to Area B, it represents part of the northern boundary of a former large site to the south. Unfortunately, Area C objects occur in mixed context that seems attributable to forest fires that burned off the original soil matrix. The actively eroding bank in front of Area C should be monitored for the continued loss of cultural material and the possibility of this destruction spreading elsewhere throughout the site.

Area D marks the northwest limit of the former occupation/ activity area. It would be useful to dig a test trench here to better understand the stratigraphy as an indication of the age of the deposit and some of the natural factors that have affected it over time. This could also find diagnostic artifacts of the people(s) who utilized the area in the past. Area E yielded a collection of retouched/utilized flakes that signify the northeastern boundary of the former site. Future testing would be

helpful in determining the people responsible for this cultural material and its possible function or significance.

The 1990 field plan provided for a closer inspection of Bloody Bay Cove than had been possible in 1989. Bloody Bay Cove 3 (DeAl:5) was systematically tested and produced extensive evidence for the primary stages of stone tool production. Our subsequent surveying of the Bloody Bay Hills, starting from Bloody Bay Point, revealed widespread lithic debitage, consisting of crude cores, flakes, bifaces, and randomly scattered beach cobble hammerstones, in association with worked rhyolite outcrops. Some 7000 square meters of surface debitage are distributed over three sites within an 18 hectare region.

A fourth site was recorded where rough bifaces and large flakes were found in the stream bed below the western hills. This might be an example of localized stone working at a temporary camp located in a more sheltered area than is offered on the exposed rhyolite bedrock. There are probably many such small activity areas scattered along the base of the hills and future work in Bloody Bay Cove should be directed at finding such localities.

The large amount of quarried byproducts suggests much Native use of this rhyolite, possibly over a long period of time. The stone, which has been identified as a rhyolitic tuff at Memorial University, resembles material in Maritime Archaic and Palaeo Eskimo assemblages from the Beaches and other nearby sites. This is a tentative clue as to who used the quarry. Further

archaeological and geological tests are necessary to map the distribution of this rhyolite along the coast and possibly inland. More work is needed in Bloody Bay Cove to find diagnostic artifacts and radiocarbon dates indicating who worked these hills, and how. Quarrying techniques may have changed over time as particular groups preferred different varieties of stone, such as the predominant grey-black variety or the reddish banded rhyolite that occurs in a smaller proportion.

Our discovery of this major quarry raises new implications for Bloody Bay Cove 1 (DeAl:1), which was found on the other side of the cove in 1974. It might be useful to excavate some of the remaining portions of this site for information that connects it with the quarry. The southern side of Bloody Bay Cove has a number of likely settlement areas and it would also be useful to examine these locations.

Acknowledgements

The successful implementation of the first summer of the BHP represents direct and indirect input from many different sources. Newfoundland's Historic Resources Division supplied permit No. 90.08 for archaeological field work and also kindly loaned us tents and other camping equipment used at the Beaches. The Department of Development provided the bulk of funding for the operations, while the Gander CEIC office and a Youth Strategy grant paid the student costs and crew chief wages. BHP manager Harold Hiscock and Youth Strategy coordinator Susan Hiscock

juggled numerous administrative and field responsibilities throughout the summer. Harold's knowledge of the local topography and field prowess remain important assets to the project as do Susan's skills as a hostess to tired and dirty field workers. Esteemed visitors, including archaeologist Dr. Ralph Pastore, geographer Dr. Gordon Handcock, and anthropologist Ingeborg Marshall, kindly offered useful insights concerning our work.

In the field, crew chief Bill Gilbert kept meticulous notes, drew profiles, and skillfully organized his staff throughout the Beaches excavations. Faunal analyst Jennifer Cridland and her husband, George Hiseler, helped dig the midden. Jennifer subsequently spent much time in Ottawa and St. John's identifying the bone sample. Howard Moss, of Burnside put in many long hours as boat operator and was a welcome site to crews looking forward to returning home at the end of their shift. The students, Sheldon Handcock, Ted Kennedy, Laurie Lane, Angie Legge, Glynnis Moss, Charlie Powell, Darrell Squire and Barry Troke, conducted themselves admirably and would be an asset to any future excavations. The residents of Burnside were gracious hosts and supplied much information concerning traditional use of local resources. I look forward to equally enjoyable summers.

45

Tables

46

Table 1a: Midden, Test Trench 1 Artifacts

Item (Stone except where noted)	N32 W24	N32 W25	N32.5 W23	Total
Blade like flakes	-	4	-	4
Cores	3	3	-	6
Endscrapers	1	-	-	1
Flake scrapers	2	-	-	2
Lanceolate bipoints*	-	1	-	1
Ovate bifaces*	-	1	-	1
Projectile points	-	1	-	1
Quartz flakes	2	4	-	6
Ramah chert flakes	1	-	1	2
Retouched flakes	3	4	1	8
Scrapers	1	2	-	3
Tip flute spalls	-	1	-	1
Triangular bifaces	1	1	-	2
Wrought iron nails	-	1	-	1
Total	14	23	2	39

Table 1b: Midden, Test Trench 2 Artifacts

Item (Stone except where noted)	N29 W24	N29 W25	Total
Ballast flint flakes	-	1	1
Blade like flakes	2	-	2
Bone awls	1	1	2
Cores	2	1	3
Clinched nails (wrought iron)	1	-	1
Flake scrapers	2	1	3
Microblades	1	-	1
Modified bone	-	1	1
Modified longbones	1	-	1
Potsherds	2	-	2
Projectile points	1	-	1
Quartz cores	2	2	4
Quartz flakes	2	1	3
Quartz crystal flakes	-	1	1
Quartz scrapers	-	1	1
Ramah chert flakes	-	3	3
Retouched flakes	13	4	17
Scrapers	-	1	1
Triangular bifaces	-	2	2
Wrought iron fragments	1	1	2
Total	31	21	52

Table 1c: Midden, N34.5 W24.5 N34.5 W24

Barrel hoop	-	1
Blade like flake	1	-
Bone fragment, modified	1	-
Projectile point	1	-
Retouched flake	1	-
Slate object	1	-
Total	5	1

* Maritime Archaic
__ Palaeo Eskimo

47

Table 2: Midden faunal sample

Unit	Taxon	#
N1.5 W19	Probable sea duck	1
	Common eider *Somateria mollissima*	1
	Common eider or scoter *Somateria* or *Melanitta* species	1
	Double-crested cormorant *Phalacrocorax auritas*	1
	Harp seal *Phoca groenlandica*	2
	Seal species	8
	" " , small	1
	Black bear *Ursus americana*	1
		16
N29 W24	Pine martin *Martes americanus*	3
	Sculpin possibly *Myoxocephalus* *Cottidae*	7
	Seal species	4
	Harp seal *Phoca groenlandica*	1
	Probable seal	1
	Caribou *Rangifer tarandus*	1
		17
N32 W24	Canada goose *Branta canadensis*	1
	Large goose species	1
	Double-crested cormorant *Phalacrocorax auritas*	1
	Beaver *Castor canadensis*	1
	Otter *Lutra canadensis*	3
	Seal species	3
	" " , small	3
	Harp seal *Phoca groenlandica*	1
	Harp or harbour seal	3
		17
N32 W25	Canada goose *Branta canadensis*	5
	Large goose species	1
	Double-crested cormorant *Phalacrocorax auritas*	4
	Otter *Lutra canadensis*	3
	Probable harp seal	1
	Seal species	4
	Black bear *Ursus americanus*	1
		19
N32.5 W23	Wolf *Canis lupus*	1
	Probable caribou	1
	Otter *Lutra canadensis*	1
	Harp seal *Phoca groenlandica*	2
	Probable harp seal	1
	Seal species	6
		12

48

Table 2 (continued)

Unit	Taxon	#
N33.58 W24.42 (Test pit 24)	Canada goose Branta canadensis	5
	Goose species	1
	Large goose species	7
	Common raven Corvus corax	1
	Duck species	5
	Large duck species	2
	Probable common eider	1
	Sea duck	1
	Common eider Somateria mollissima	5
	Small gull Larus species	2
	Double-crested cormorant Phalacrocorax auritas	2
	Probable seal	3
	Seal species	77
	Small seal species	1
	Harp seal Phoca groenlandica	1
	Harp or harbour seal	3
	Probable harbour seal Phoca vitulina	1
	Caribou Rangifer tarandus	5
	Pine martin Martes americana	2
	Beaver Castor canadensis	1
		126
N34.5 W24	Goose species	2
	Probable Canada goose	3
	Otter Lutra canadensis	3
	Probable seal	1
	Seal species	4
	Harp seal Phoca groenlandica	2
	Probable harp or harbour seal	7
	Probable harp seal	1
	Caribou Rangifer tarandus	3
		26
1990-test pit 1	Seal species	1
1990-test pit 11	Harp seal Phoca groenlandica	1
	Harbour seal Phoca vitulina	1
	Seal species	9
	Large seal species	1
	Small seal species	1
		13
1990-test pit 20	Probable harp seal	2
	Seal species	1
		3
	Total =	250

Table 3a: Housepit Artifacts, Northwest Quadrant

Item*	N1.5 W17	N1.5 W16	N2 W17	N2 W16	N3 W17	N3 W16	Total
Abrader	-	-	-	-	-	1	1
Birch bark fragment	-	-	-	1	-	-	1
Blade like flake	-	-	-	1	-	1	2
Core	-	1	2	-	1	2	6
Flake scraper	2	-	-	1	-	-	3
Iron fragment	-	-	1	-	-	-	1
Limestone fragment	-	1	-	-	-	-	1
Modified bone fragment	-	1	-	-	-	-	1
Modified nail fragment	-	1	-	-	-	1	2
Nail(wrought iron)	-	-	-	1	-	-	1
Pendant (bone)	-	5	-	-	-	-	5
Projectile point(iron)	-	-	-	-	-	1	1
Projectile point (stone)	-	1	1	-	1	2	5
Retouched/utilized flake	-	1	2	-	1	5	9
Total	2	11	6	4	3	13	39

Table 3b: Housepit Artifacts, Southeast Quadrant

Item*	N0 W15	N0 W14	N1 W15	N1 W14	[N2] [W14]	Total	Total (a+b)
Abrader	-	-	-	-	-	0	1
Biface	-	2	-	-	-	2	2
Biface thinning flake	1	1	-	-	-	2	2
Birch bark fragment	-	-	-	-	-	0	1
Blade like flake	3	2	3	2	-	10	12
Core	2	1	1	-	-	4	10
Endscraper	2	2	2	-	-	6	6
Flake(quartz)	-	1	1	1	-	3	3
Flake(quartz crystal)	-	-	1	-	-	1	1
Flake scraper	-	1	-	3	-	4	7
Iron object	-	-	-	1	-	1	2
Linear flake	-	-	-	1	-	1	1
Microblade	1	-	-	1	-	2	2
Modified nail fragment	-	-	-	-	-	-	2
Nail (wrought iron)	-	-	1	-	-	1	3
Projectile point (iron)	-	-	-	-	-	-	1
Projectile point (stone)	-	-	-	-	1	1	6
Retouched blade like flake	2	-	1	-	-	3	3
Retouched/utilized flake	25	23	7	18	-	82	91
Scraper	1	-	1	1	-	3	3
Side notched flake	0	1	-	-	-	1	1
Sidescraper	-	1	-	-	-	1	1
Thumbnail scraper	1	3	-	-	-	4	4
Tip flute spall	2	-	-	-	-	2	2
Triangular biface	3	-	-	1	-	4	4
Total	~~45~~	~~40~~	18	18	1	121	

* Stone except where noted. [] Surface find in NE quadrant.

43 38 118

50

Table 4a: Area B Artifact Distribution*

	N3.5	N4					
Artifact type	W63	W25	W33	W35	W38	W48	W58	Total
Quartz flake	2	-	1	-	-	-	2	5
Retouched quartz flake	2	-	-	-	-	-	-	2
Quartz blade like flake	4	-	-	-	-	-	-	4
Quartz microblade	2	-	-	-	-	-	-	2
Quartz core	9	-	-	-	-	-	1	10
Quartz linear core	1	-	-	-	-	-	-	1
Quartz thinning flake	1	-	1	-	-	-	-	2
Quartz utilized flake	3	-	-	-	-	-	-	3
Quartz scraper	1	-	-	-	-	-	-	1
Retouched flake	1	1	1	1	-	1	-	5
Retouched/utilized flake	1	1	-	-	-	-	1	3
Core	1	1	-	-	-	-	-	2
Ramah flake	-	1	-	-	-	-	1	2
Blade like flake	-	1	3	-	-	2	1	7
Flake scraper	-	1	-	-	-	1	1	3
Microblade	-	-	-	-	1	-	2	3
Linear core	-	-	-	-	-	-	1	1
Retouched blade like flake	-	-	-	-	-	-	1	1
Tip flute spall	-	1	-	-	-	-	1	2
Total	28	7	6	1	1	4	12	59

* All items are made from stone.

51

Table 4b: Area B Artifact Distribution*

	N8.5				N9	N19	N35	
Artifact type	W38.5	W42	W48	W63.5	W58	W38	W62	Total
Quartz flake	-	1	1	-	-	4	-	6,5 =11
Retouched quartz flake	-	-	1	-	-	-	-	1,2 = 3
Quartz blade like flake	-	-	-	-	-	-	-	0,4 = 4
Quartz microblade	-	-	-	-	-	-	-	0,2 = 2
Quartz core	-	-	1	-	-	3	-	4,10 =14
Linear core	-	-	-	-	-	-	-	0,1 =1
Thinning flake	-	-	1	-	-	-	-	1,2 = 3
Quartz utilized flake	-	-	-	-	-	-	-	0,3 = 3
Quartz scraper	-	-	-	-	-	-	-	0,1 = 1
Retouched flake	-	-	1	-	-	-	-	1,5 = 6
Retouched/utilized flake	-	1	4	-	-	-	-	5,3 = 8
Core	-	-	4	-	-	-	-	4,2 = 6
Ramah flake	-	-	-	-	-	-	-	0,2 = 2
Blade like flake	1	1	11	1	1	1	1	16,7 =23
Flake scraper	-	-	1	-	-	3	-	4,3 = 7
Microblade	1	-	-	-	2	-	-	3,3 = 6
Linear core	-	-	-	-	-	-	-	0,1 = 1
Retouched blade like flake	-	-	1	-	-	-	-	1,1 = 2
Rectangular biface	-	-	1	-	-	-	-	1,0 = 1
Triangular biface	-	-	2	-	-	-	-	2,0 = 2
Projectile point	-	-	1	-	-	-	-	1,0 = 1
Tip flute spall	-	-	-	-	-	-	-	0,1 = 1
Scraper	-	-	1	-	-	-	-	1,0 = 1
Total	2	3	31	1	2	11	1	51,5 =100

37

59 = 110

* All items are made from stone.

52

Table 5: Area C Artifacts*

	Test Pit						
Artifact	S11 W87.5	S13 W91.5	S14 W91.5	S15 W90.5	S15 W91.5	E.R	
Biface	1	-	12	2	1	-	(16)
Biface (Slate)	-	-	-	1	-	-	(1)
Biface thinning flake	1	1	3	-	-	-	(5)
Biface thinning flake (Ramah chert)	-	-	2	-	-	-	(2)
Blade like flake	9	-	60	1	-	-	(70)
Blade like flake (Quartz)	-	-	6	-	-	-	(6)
Blade like flake (Quartz crystal)	-	-	-	-	1	-	(1)
Core	2	-	28	1	-	-	(31)
Core (Quartz)	-	-	3	1	5	-	(9)
Core (Quartz crystal)	-	-	-	-	1	-	(1)
Endblade preform	-	-	-	-	-	1	(1)
Endscraper	-	-	1	1	-	-	(2)
Endscraper preform	1	-	-	-	-	-	(1)
Flake (Quartz)	1	-	5	-	5	-	(11)
Flake (Quartz crystal	-	-	1	-	1	-	(2)
Flake (Ramah chert)	-	-	2	-	-	-	(2)
Flake scraper	1	-	18	1	1	-	(21)
Knife (slate)	-	-	-	1	-	-	(1)
Linear core	-	-	1	-	-	-	(1)
Linear core (Quartz)	-	-	1	-	-	-	(1)
Macroblade	-	-	4	-	-	-	(4)
Microblade	-	-	8	-	-	-	(8)
Microblade (Quartz crystal)	-	-	1	-	-	-	(1)
Projectile point	-	-	-	1	-	-	(1)
Retouched blade like flake	-	-	4	-	-	-	(4)
Retouched flake	2	-	109	5	-	-	(116)
Retouched flake (Quartz)	-	-	6	-	-	-	(6)
Retouched flake (Ramah chert)	-	-	1	-	-	-	(1)
Retouched microblade	-	-	1	-	-	-	(1)
Scraper	-	-	33	-	-	-	(33)
Thinning flake (Ramah chert)	-	-	3	-	-	-	(3)
Thumbnail scraper (Ramah chert)	-	-	1	-	-	-	(1)
Thumbnail scraper	-	-	1	-	-	-	(1)
Triangular biface	-	-	-	2	-	-	(2)
Tip flute spall	-	-	3	2	2	-	(7)
Total	18	1	318	19	17	1	(374)

* All items are made from stone.
E.R. = Eroding bank.

Table 6: Area D Artifacts*

Item	N50 W30	N55 W35	N60 W35	Total
Biface thinning flake	-	1	-	1
Blade like flake	-	1	1	2
Flake scraper	1	-	-	1
Retouched/utilized flake	2	1	1	4
Total	3	3	2	8

Table 7: Area E Artifacts*

Item	S10 E200
Blade like flake	9
Core	3
Retouched/utilized flake	9
Retouched macroblade	2
Side notched flake	1
Total	24

* All items are made from stone.

Table 8a: Bloody Bay Cove-3 (DeAl:5) Artifacts*

Item	N14 E7	N0 W8	N0 W20	N1.5 W0.5	N6 W0.5	N6 W13	Total
Biface	-	-	-	2	10	-	12
Blade like flake	3	1	28	18	44	98	192
Core	-	2	3	3	57	4	69
Endscraper	-	-	-	-	11	5	16
Flake scraper	-	7	18	-	19	20	64
Hammerstone	-	-	-	-	-	1	1
Lanceolate biface	-	-	-	-	1	-	1
Macroblade	-	-	-	-	-	1	1
Microblade	-	-	-	-	-	4	4
Ovate biface	-	-	-	-	1	-	1
Projectile point	1	-	-	-	1	-	2
Projectile point preform	-	-	-	-	1	-	1
Rectangular biface	-	-	-	-	1	-	1
Retouched flake	-	1	13	1	26	7	48
Retouched/utilized flake	-	15	17	2	20	23	77
Retouched/utilized blade like flake	-	-	1	-	-	-	1
Scraper	-	-	6	-	5	4	15
Sidescraper	-	-	-	-	8	6	14
Spear point	-	-	-	-	2	-	2
Stemmed flake	-	-	-	-	-	1	1
Triangular biface	1	-	-	-	7	-	8
Total	5	26	86	26	214	174	531

* All items are made from stone.

54

Table 8b: Bloody Bay Cove-3 Artifacts*

Item	N6.5 W16.5	S0.5 W26	River Bed	Total	Total (a + b)
Biface	-	1	-	1	13
Blade like flake	23	5	-	28	220
Core	1	11	2	14	83
Endscraper	1	-	-	1	18
Flake scraper	4	2	-	6	70
Hammerstone	-	-	-	-	1
Lanceolate biface	-	-	-	-	1
Macroblade	-	-	-	-	1
Microblade	-	-	-	-	4
Ovate biface	-	-	-	-	1
Projectile point	-	-	-	-	2
Projectile point preform	-	-	-	-	1
Rectangular biface	-	-	-	-	1
Retouched flake	2	1	-	3	51
Retouched/utilized flake	3	1	1	5	82
Retouched/utilized blade like flake	3	-	-	3	4
Scraper	1	-	-	1	16
Sidescraper	-	-	-	-	14
Spear point	-	-	-	-	2
Stemmed flake	-	-	-	-	1
Triangular biface	-	-	-	-	8
Total	38	21	3	62	594

* All items are made from stone.

__ Includes one endscraper with no provenience.

Table 9: Bloody Bay Quarry (DeAl:9-12) Collections

Item	DeAl:9	DeAl:10	DeAl:11	DeAl:12	Total
Biface (crude)	1	-	-	-	1
Blade like flake	2	1	1	2	6
Core	2	-	4	2	8
Endscraper	1	-	-	-	1
Flake scraper	2	-	2	-	4
Linear core	1	-	-	-	1
Ovate biface	3	-	2	2	7
Retouched flake	5	-	2	-	7
Retouched/utilized flake	1	-	4	5	10
Sidescraper	1	-	1	-	2
Triangular biface	-	-	1	-	1
Total	19	1	17	11	48

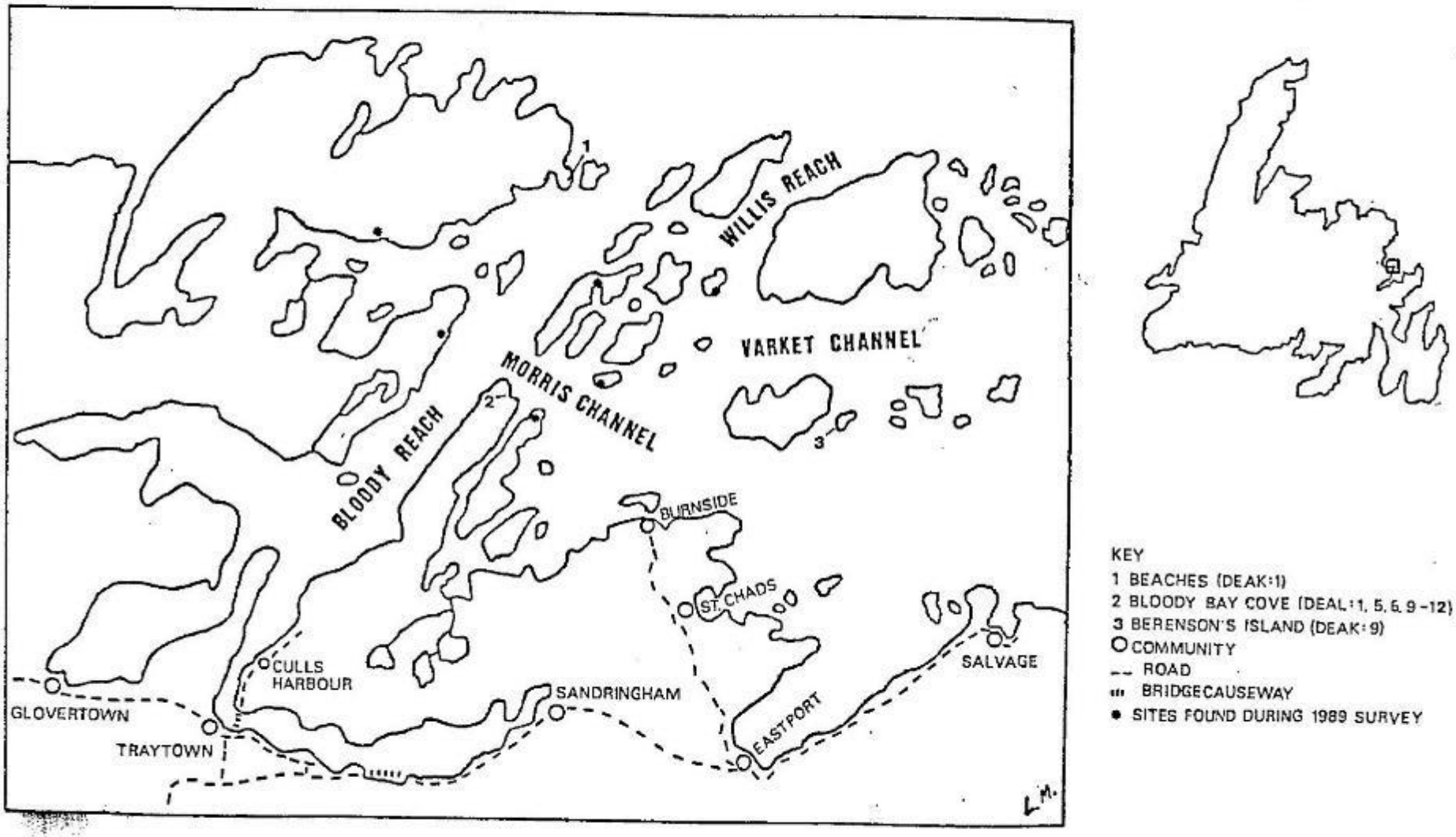
Table 10: Berenson's Island (DeAk:9) Artifacts

	Test pit #			
Item	2	3	5	Total
Glass bottle fragment	1	2	14	17
Endscraper	-	-	1	1
Iron knife	-	1	-	1
Potsherd (RFW)	1	-	-	1
Retouched/utilized flake	1	1	-	2
Window pane	-	6	-	6
Wrought iron nail	-	3	-	3
Total	3	13	15	31

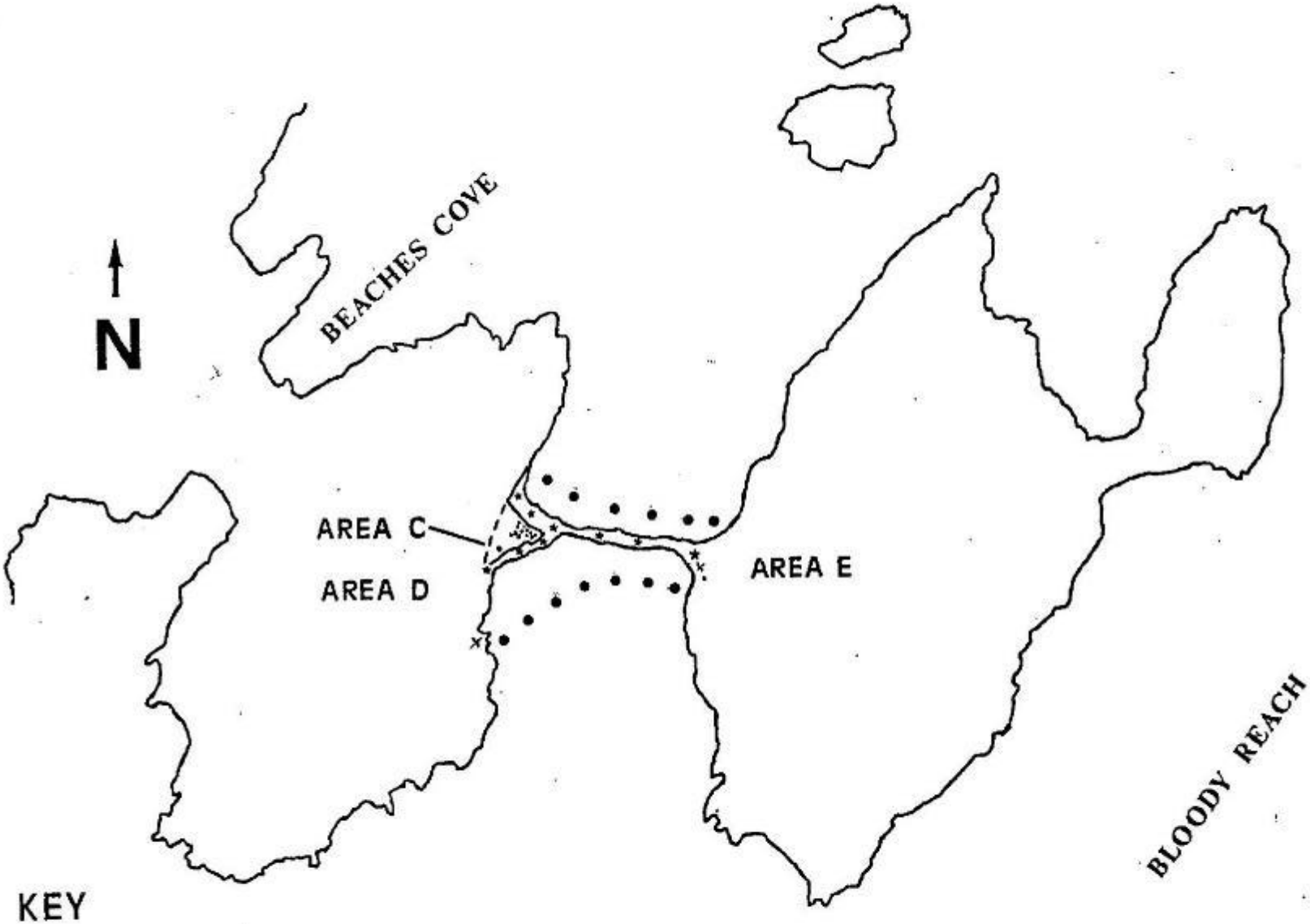
56

Figures

FIG 1 BURNSIDE HERITAGE PROJECT: 1990 SURVEY AREA



BEACHES (DeAk:1)-1990



KEY

AREAS A & B

••• LIMITS OF SITE IN A.D. 1715, NOW ERODED AWAY

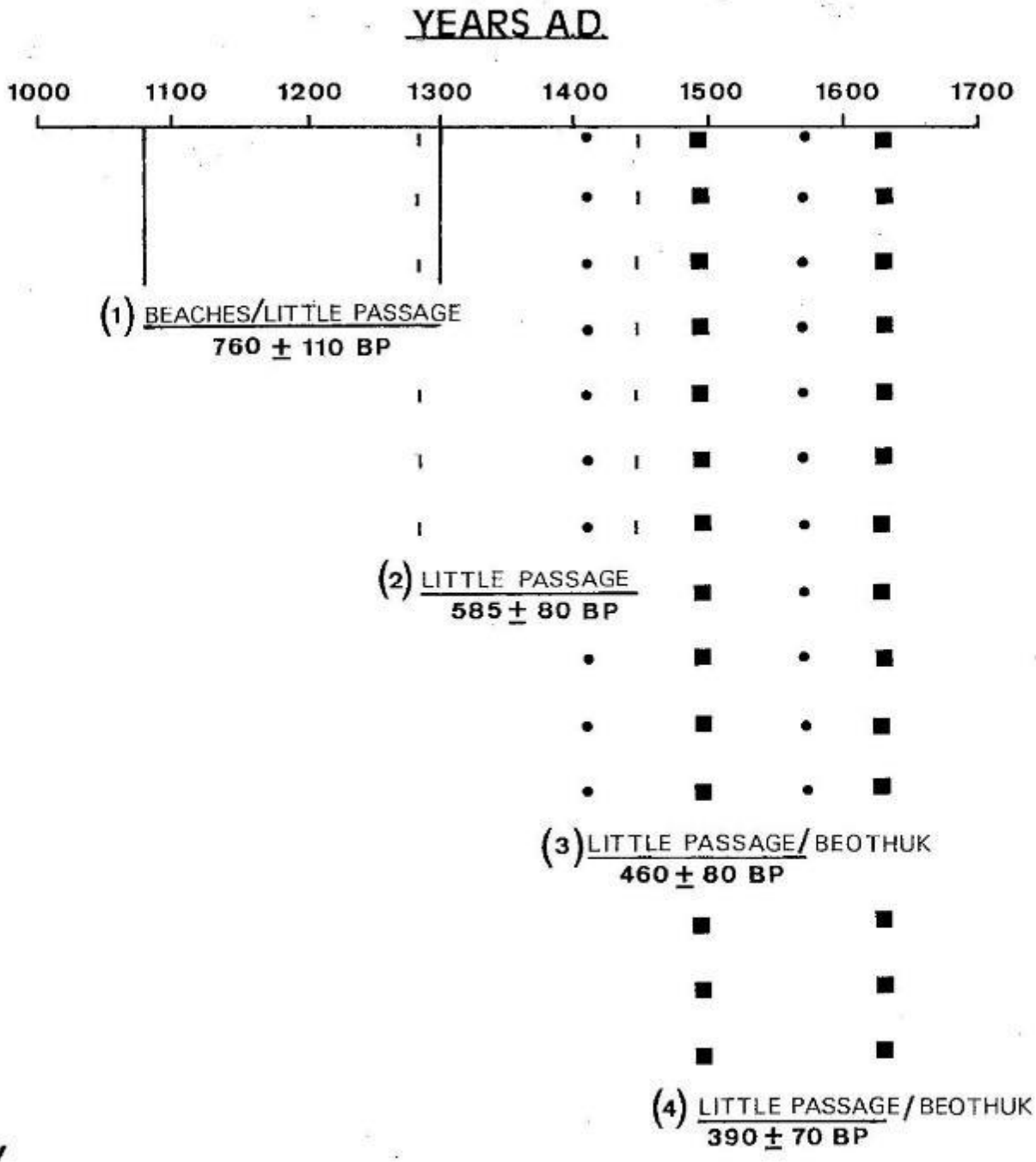
★ ★ MODERN BEACH

L. M.

THE BEACHES (DEAK:1) - 1990
AREAS A-C
KEY
EXCAVATED AREA
BEACH
MODERN UNIT
BOG
ROCK
HP HOUSEPIT
EXCAVATED HOUSEPIT
1989 TEST PIT
HIGH TIDE MARK
SAND BAR
AREA A
AREA B
AREA C
10 METERS
N

BEACHES (DeAk:1), AREA A: RADIOCARBON DATES

FIG 4



KEY

(1) BETA – **39286**; TEST TRENCH 1 – MIDDEN

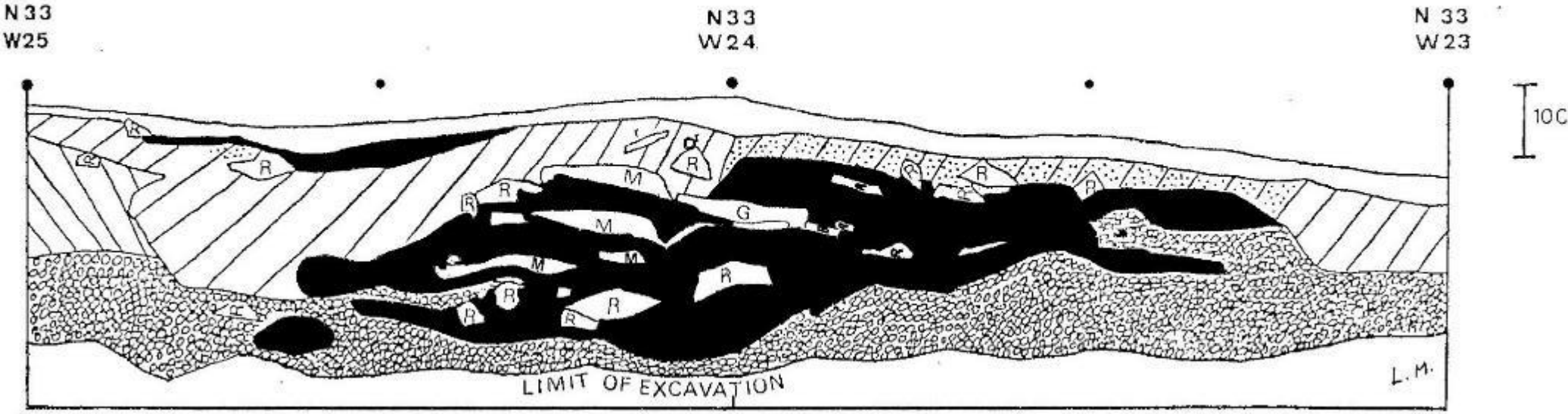
(2) BETA – **34272**; TEST PIT **24** – MIDDEN

(3) BETA – **39285**; TEST TRENCH **2** – MIDDEN

(4) BETA – **39900**; HEARTH – HOUSEPIT **6**

BEACHES (DeAk:1)-1990:MIDDEN, TEST TRENCH 1, NORTH WALL

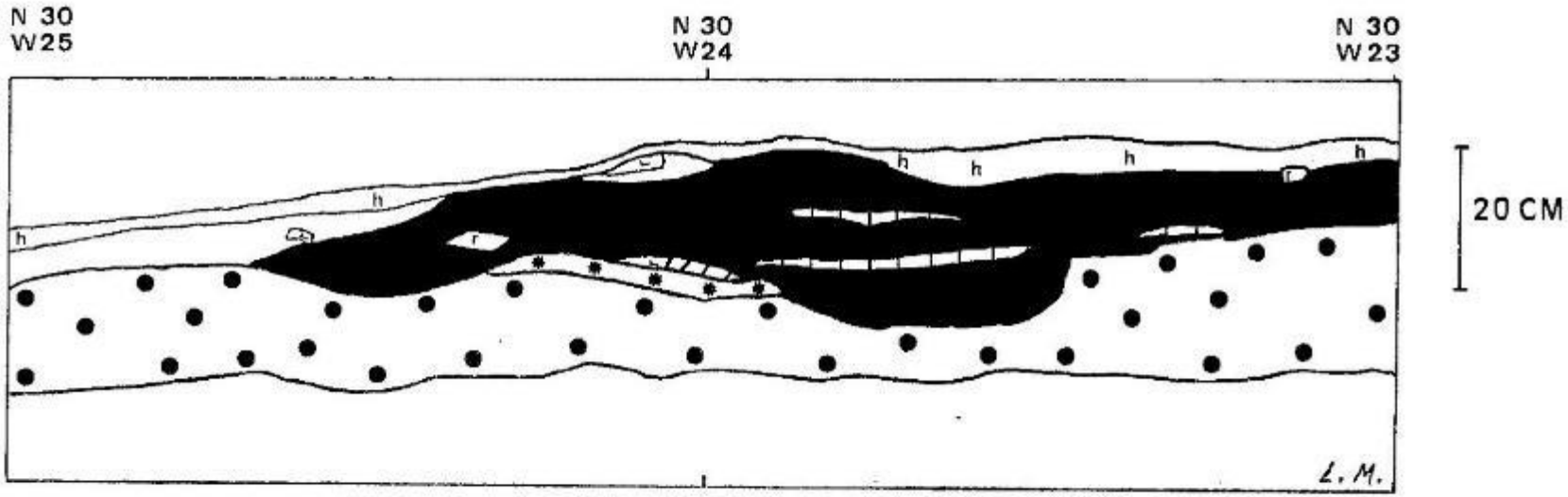
FIG 5



KEY

- BROWN FOREST HUMUS
- GREY SILTY CULTURAL
- " " " / DENSE SAND MIX
- BROWN STERILE GRAVEL
- GREASY BLACK CULTURAL
- G — GREY SAND LENS
- STERILE PEBBLE BEACH SUBSTRATE
- R — ROCK
- r — ROOT
- M — BONE MASH
- B — BONE
- * — CHARCOAL

FIG6 BEACHES (DeAk:1)-1990: MIDDEN, TEST TRENCH 2 NORTH WALL

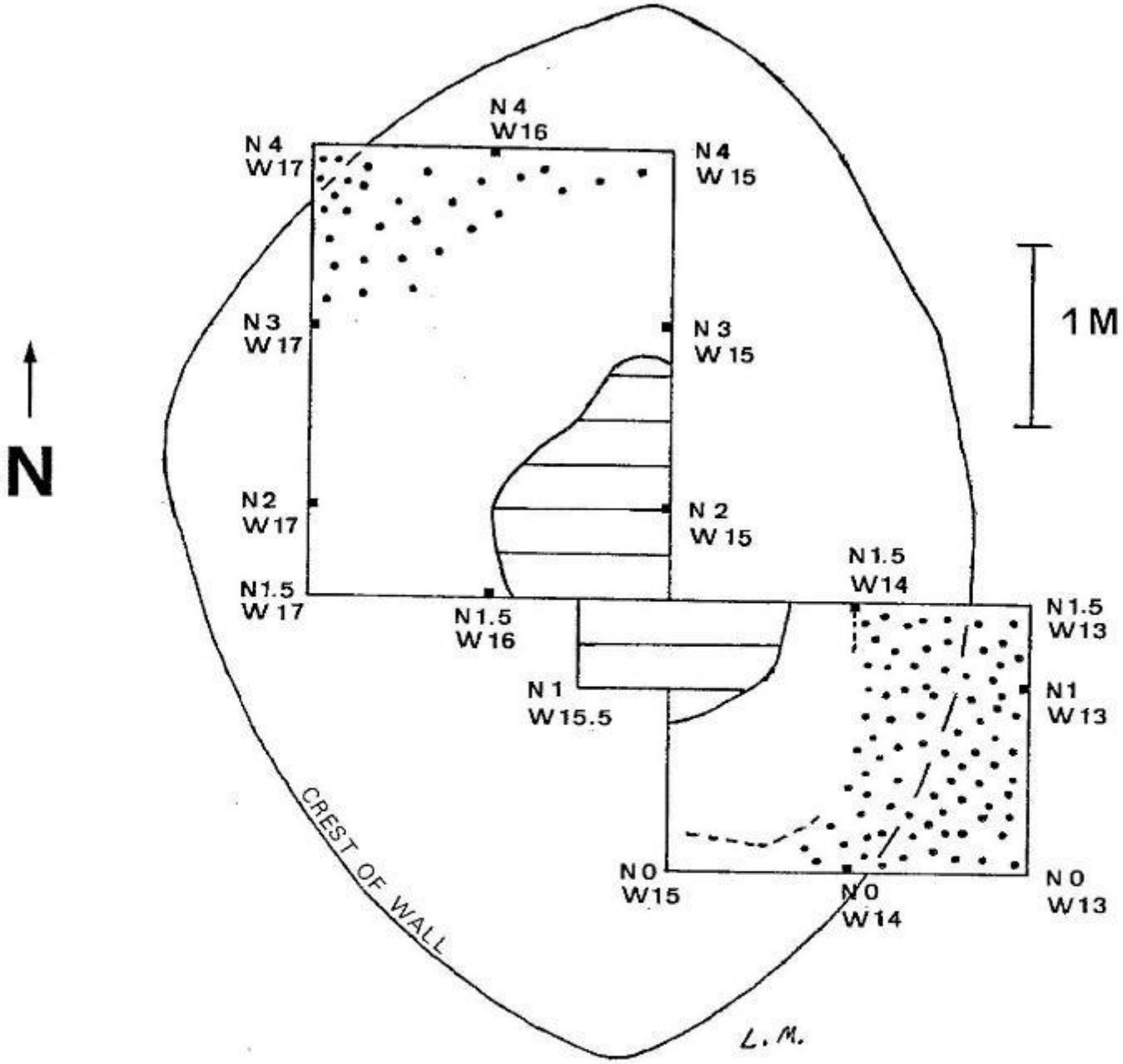


KEY

- h — BROWN FOREST HUMUS
- GREY SILT/SAND MIXTURE
- GREASY BLACK CULTURE LAYER
- BURIED SOD
- ASH/SAND/SHELL MATRIX
- WHITE SAND
- PEBBLE BEACH SUBSTRATE
- r — FIRE CRACKED ROCK

BEACHES (DeAK:1)-1990, HOUSEPIT 6

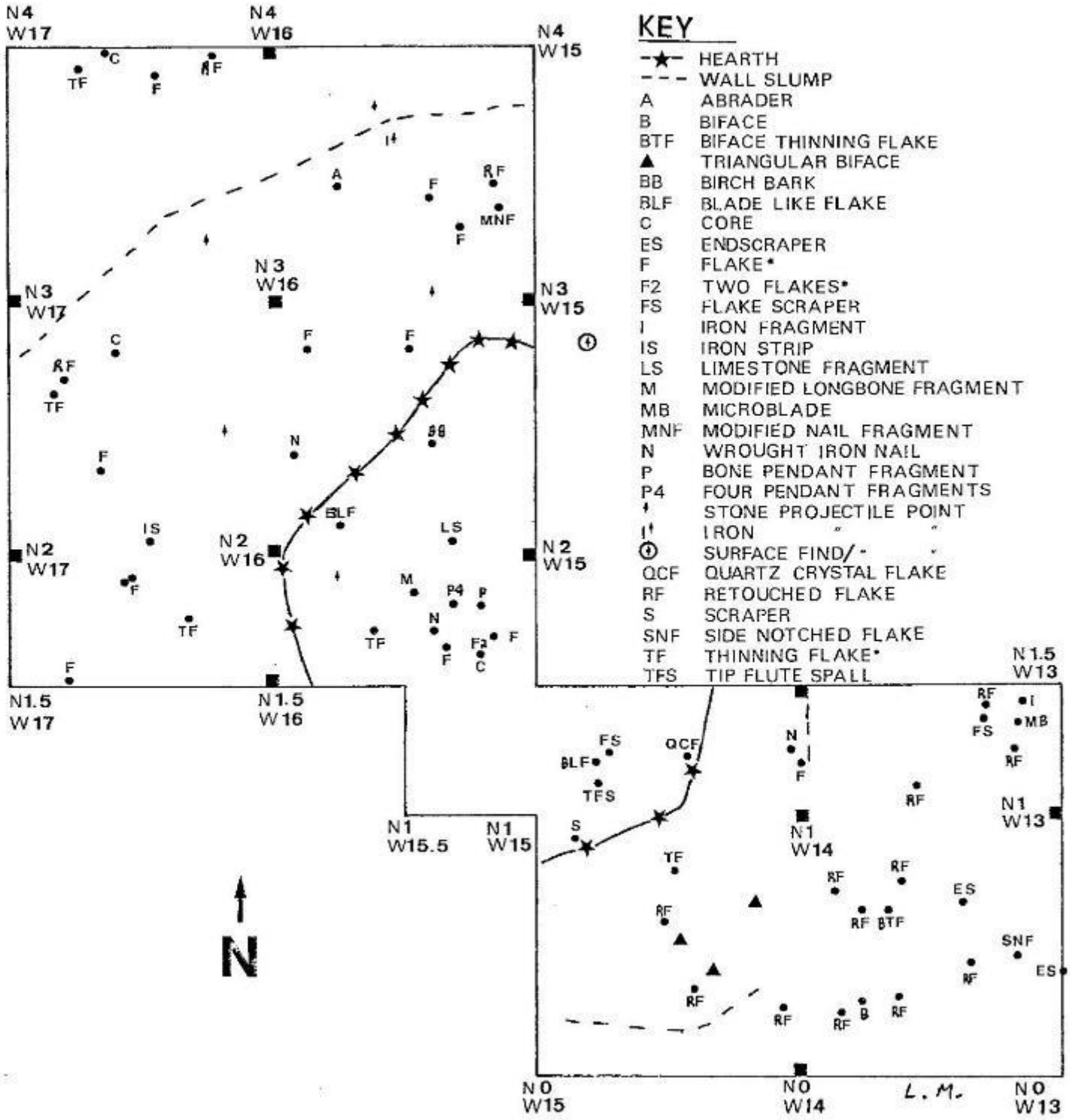
FIG 7



KEY

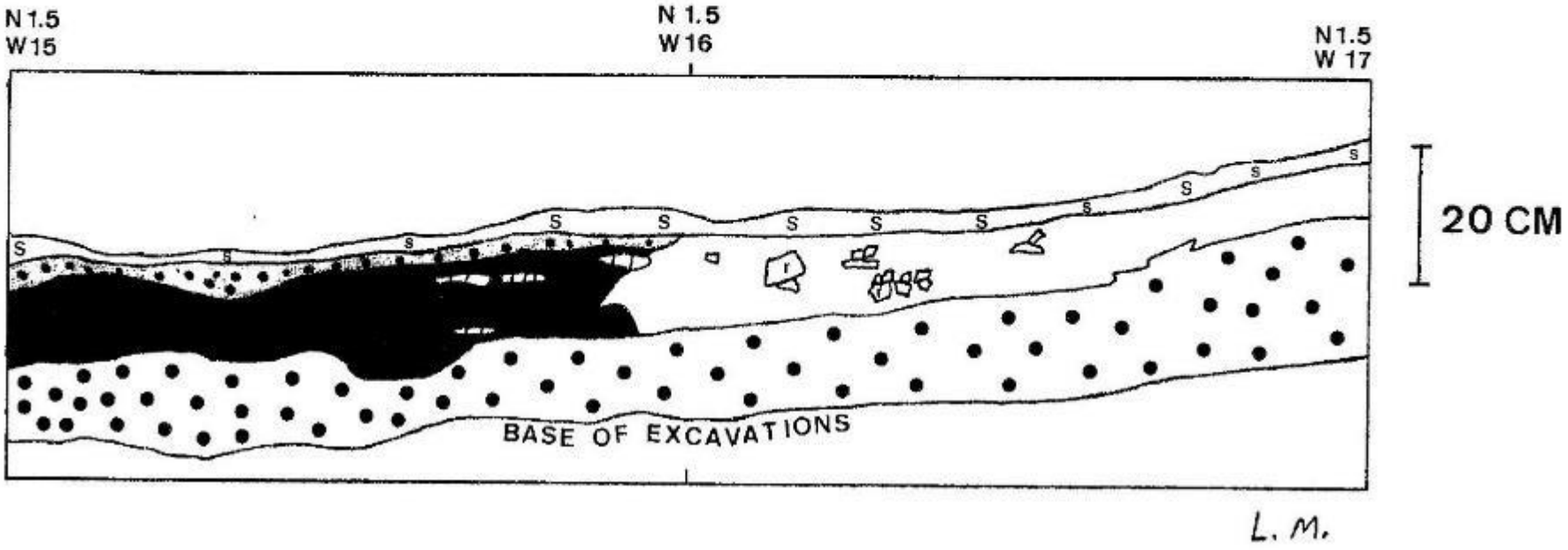
- EXCAVATED AREA
- HEARTH, INCLUDING SLUMPAGE
- WALL FILL
- WALL SLUMP

FIG 8 the BEACHES (DeAk-1); HOUSEPIT 6 ARTIFACTS



*NOT INCLUDED IN ARTIFACT TOTALS

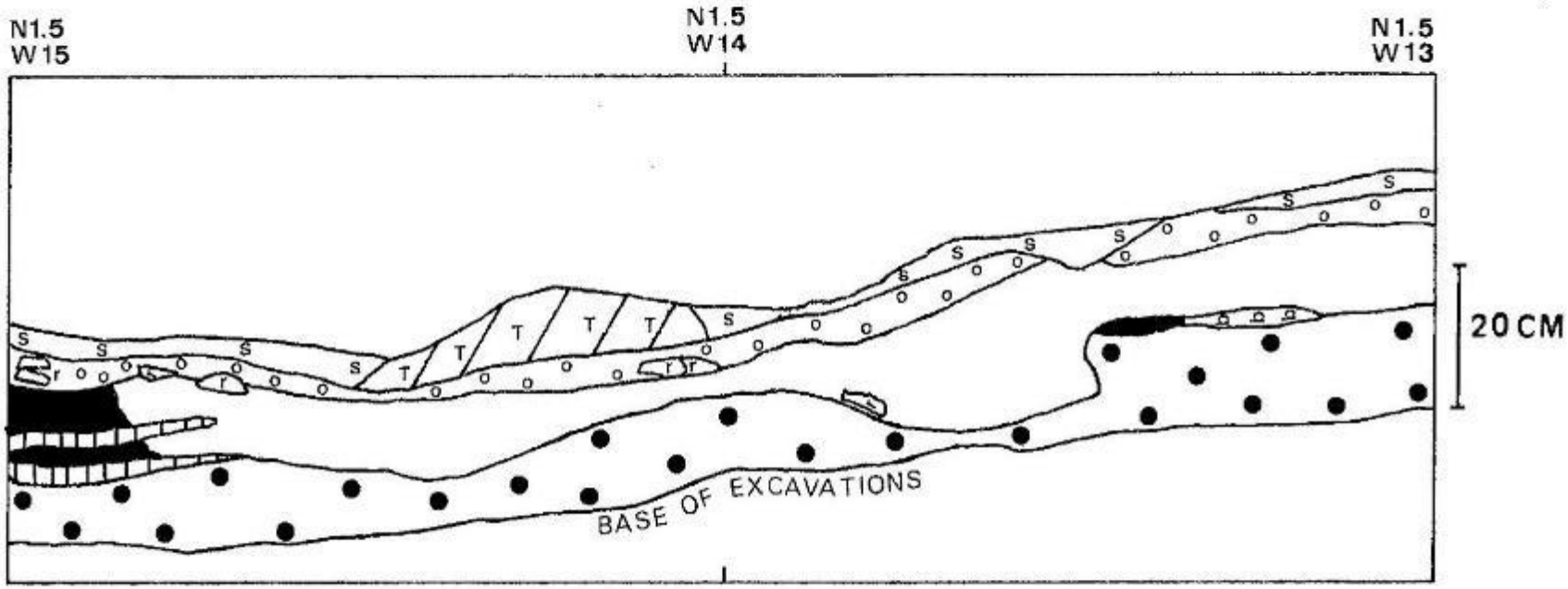
FIG 9 the BEACHES (DeAk:1) - 1990; HOUSEPIT 6, NW QUADRANT - SOUTH PROFILE



KEY

- S — SOD/HUMUS
- SANDY SILT
- RED OXIDIZED SOIL
- SILT/SAND/GRAVEL : LIVING FLOOR
- PEBBLE BEACH SUBSTRATE
- GREASY BLACK ORGANIC (HEARTH)
- FIRE-CRACKED ROCK

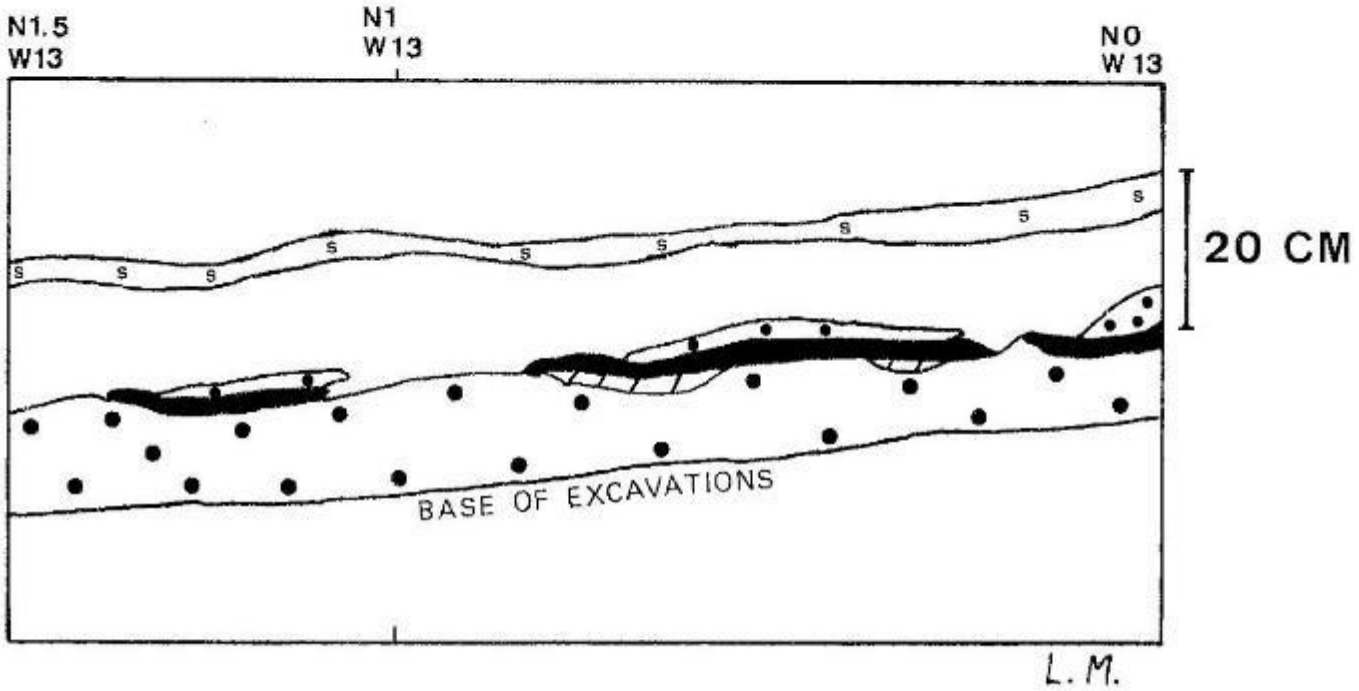
FIG 10 the BEACHES (DeAk:1)- 1990; HOUSEPIT 6, SE QUADRANT NORTH PROFILE



KEY

- S SOD/HUMUS
- /T/ TREE STUMP
- SANDY SILT
- r FIRE CRACKED ROCK
- RED OXIDIZED SOIL (HEARTH)
- BLACK ORGANIC
- BURIED SOD
- PEBBLE BEACH SUBSTRATE
- SILT/SAND/GRAVEL (CULTURE LAYER)

FIG 11 the BEACHES (DeAk:1) - 1990
HOUSEPIT 6, SE QUADRANT - EAST PROFILE



KEY

- [S] SOD/HUMUS
- [ ] SILT/SAND/GRAVEL
- [•] PEBBLE BEACH MATRIX
- [■] BURIED SOD
- [▨] GREY LEACHED ZONE

FIG 12 THE BEACHES (DeAk:1) - 1990: AREA B

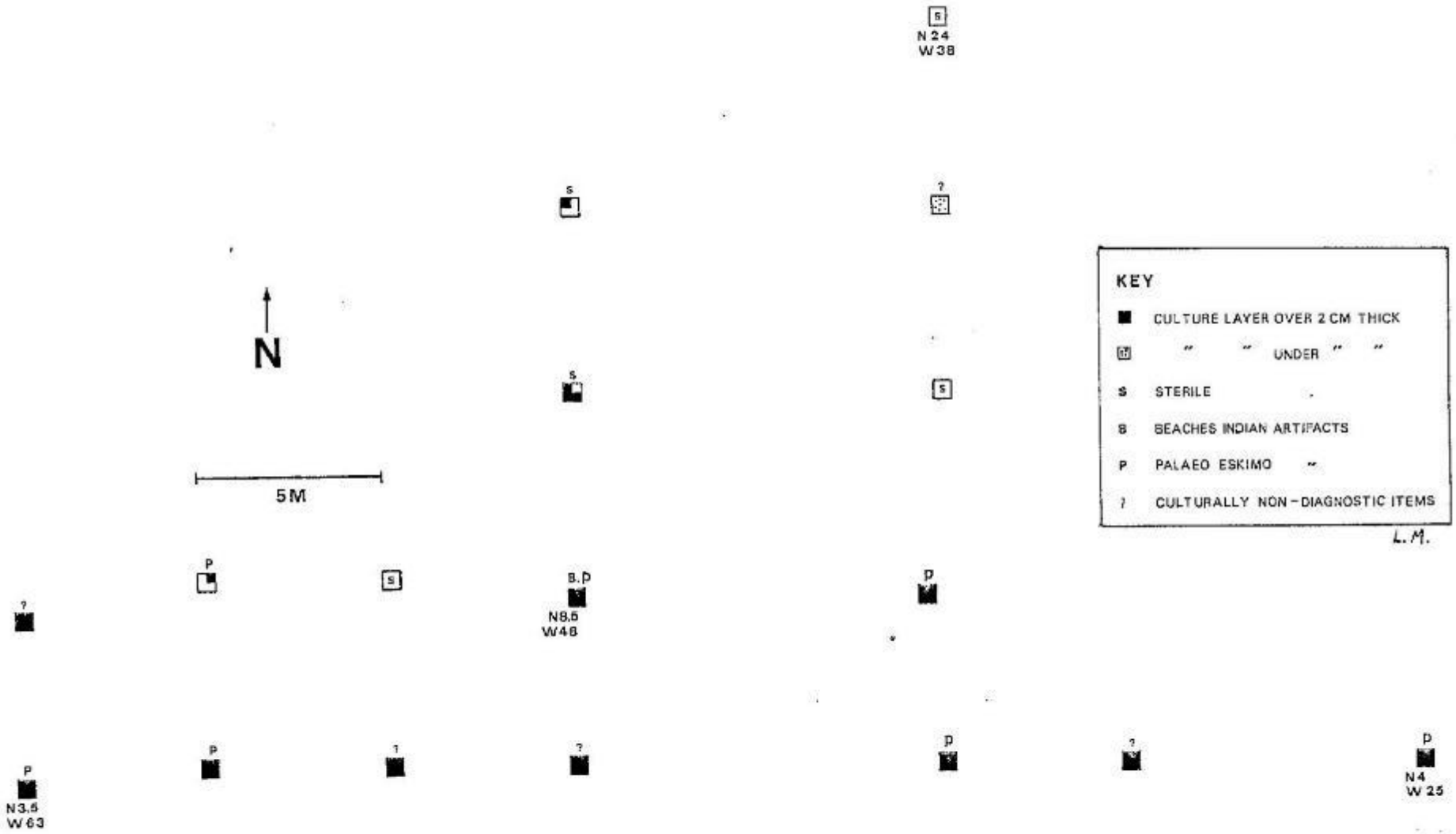
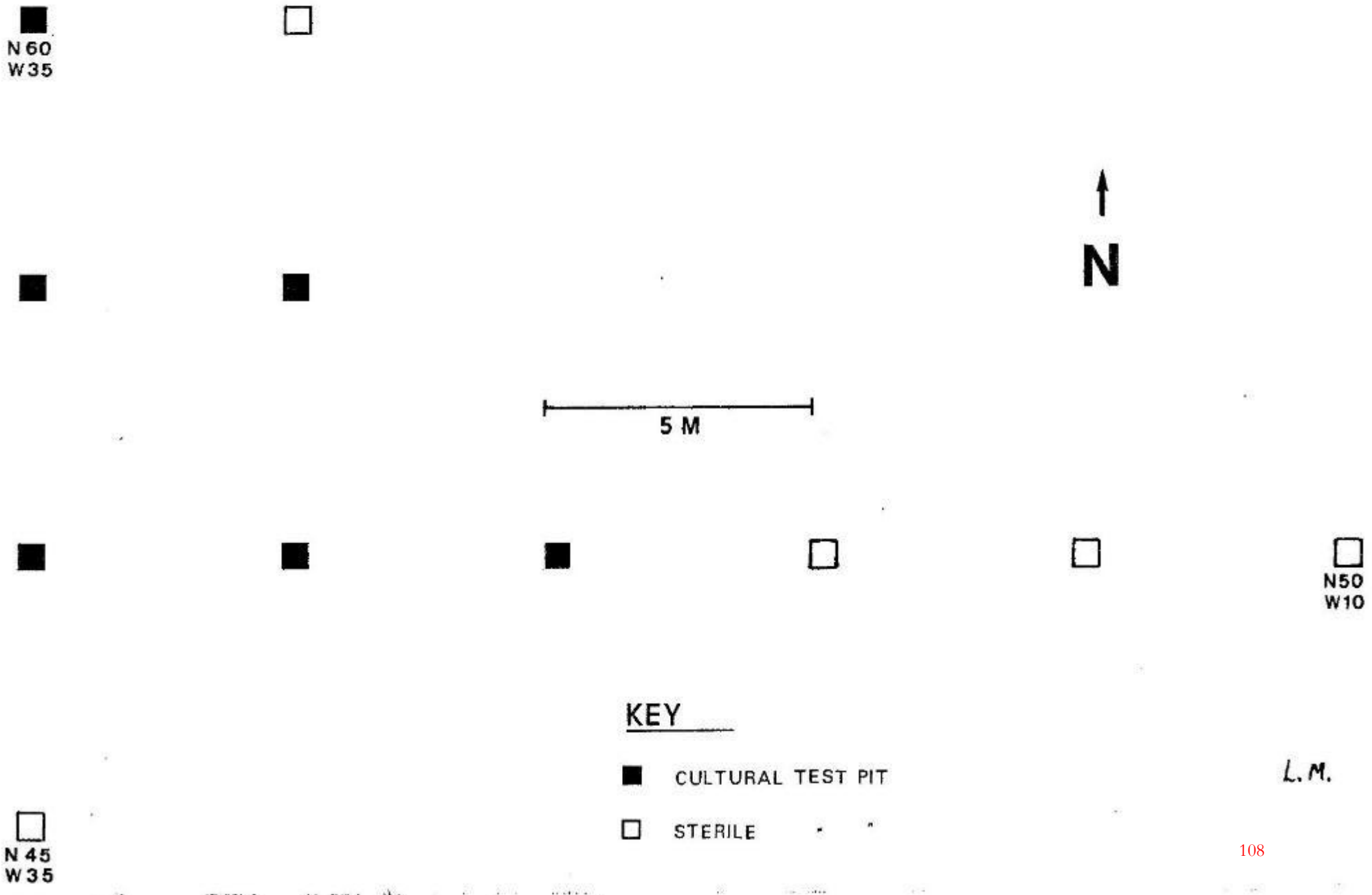


FIG 13 the BEACHES (DeAk:1) - 1990, AREA D



L. M.

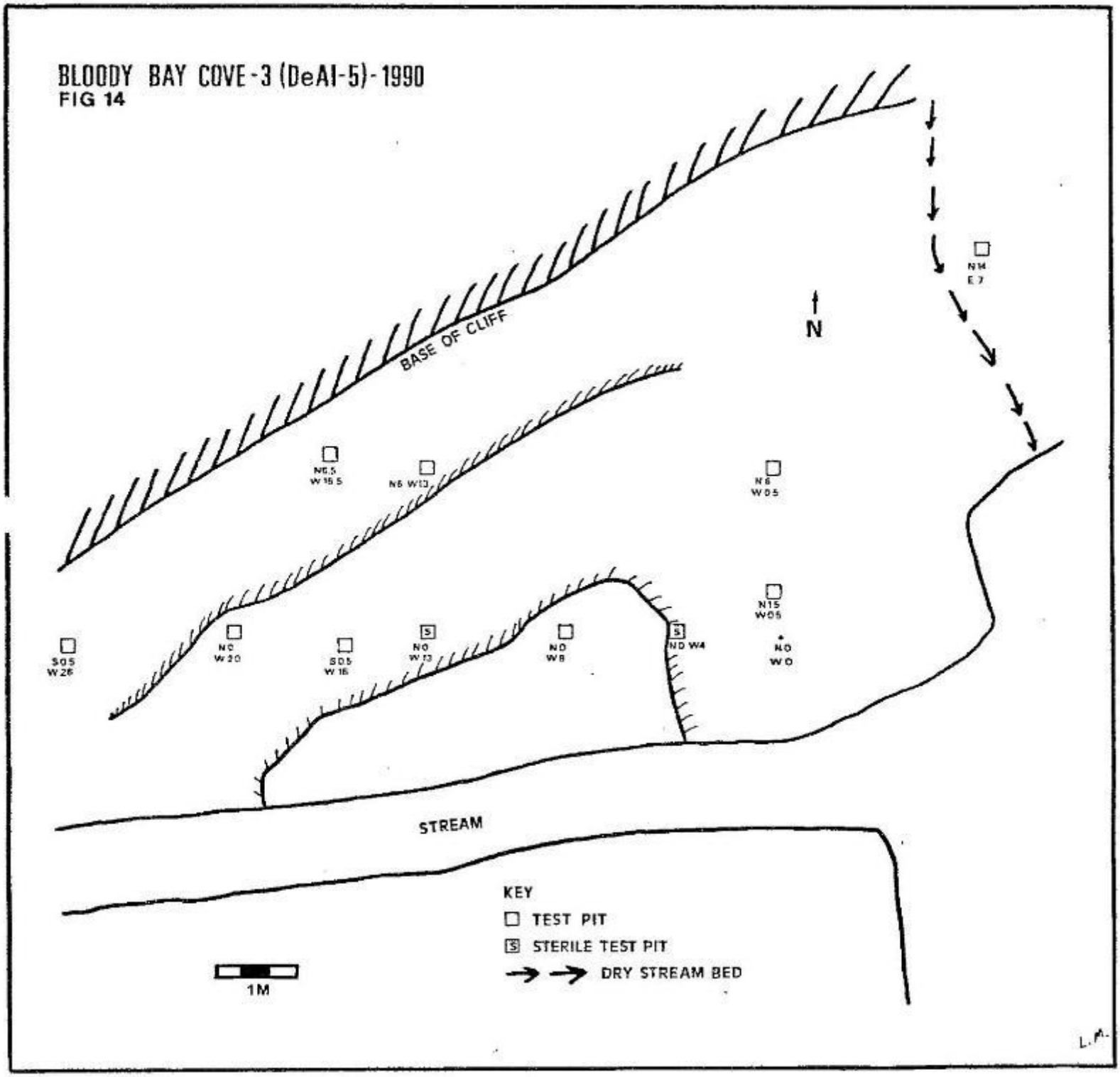
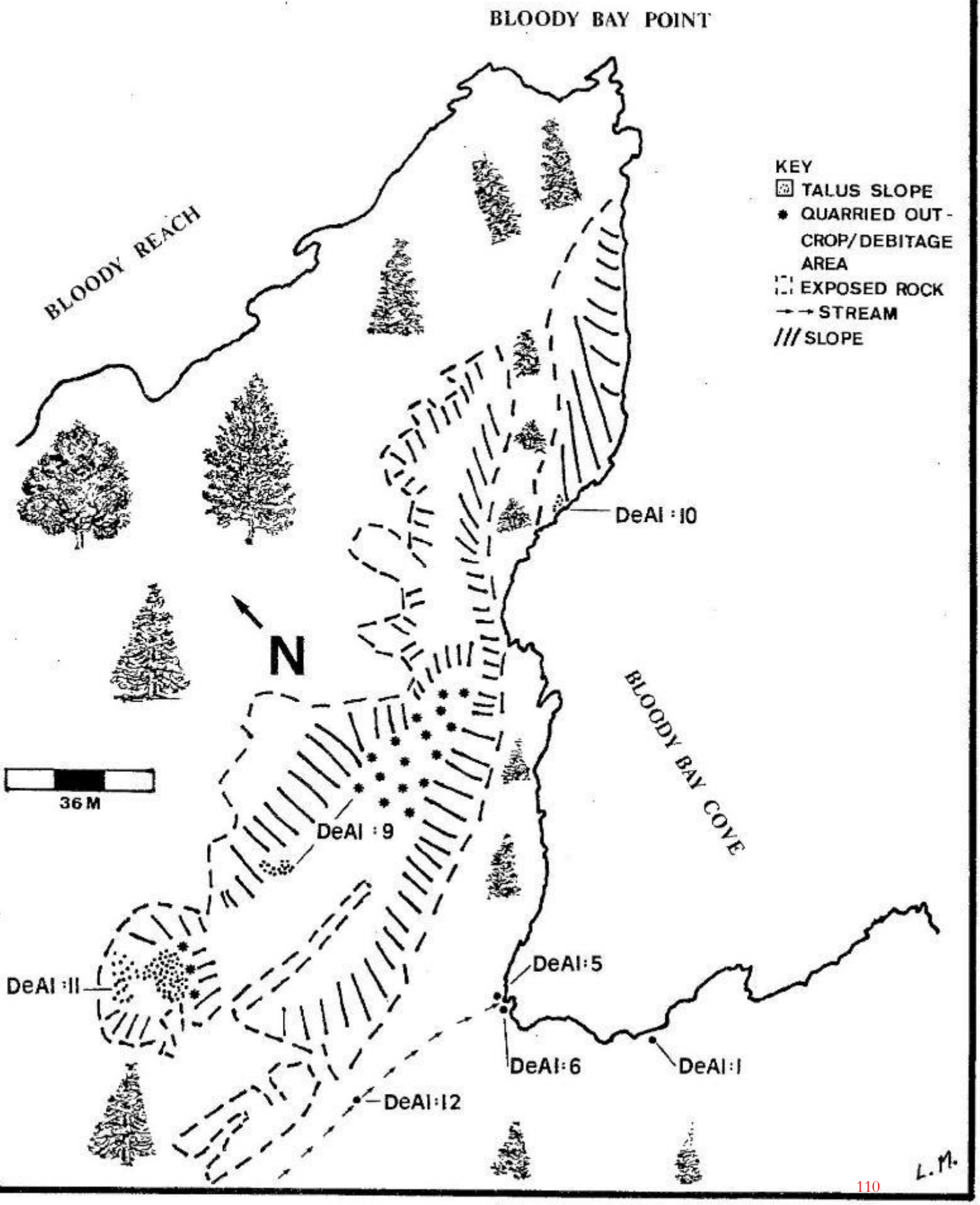

BLOODY BAY COVE-3 (DeAl-5)-1990
FIG 14
BASE OF CLIFF
N
STREAM
KEY
TEST PIT
STERILE TEST PIT
DRY STREAM BED
1M

FIG. BLOODY BAY COVE SITES - 1990



PLATES

Plate 1: Burnside Heritage Project Field Lab – 1990.

Plate 2: The Beaches (DeAk-01), southeast portion of Area A. Note sandbar covered by high tide. Area E is on the opposite bank (page 76A).

(Colour overhead of the entire Beaches site, showing location of Areas A – E, page 76B)

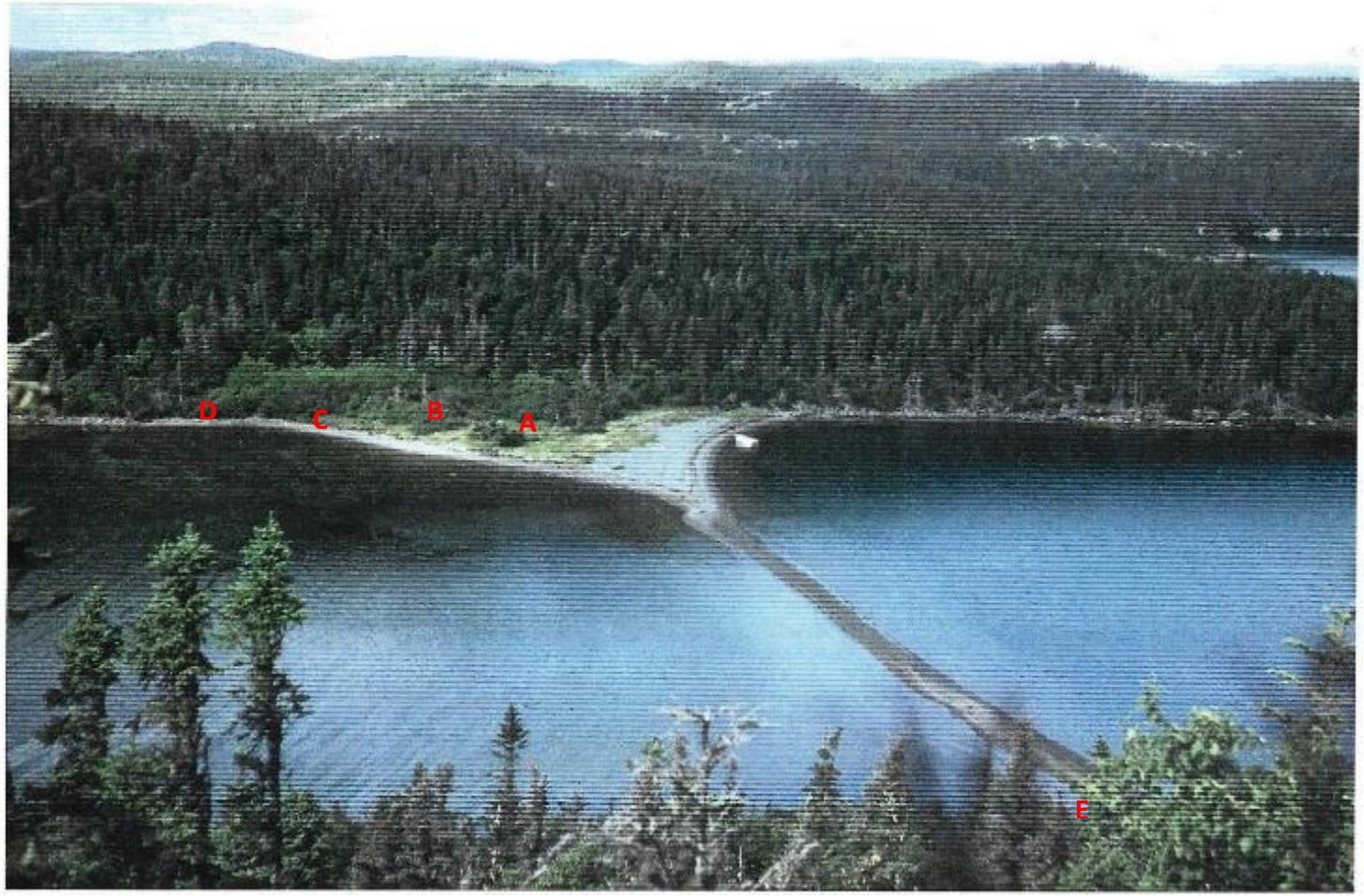
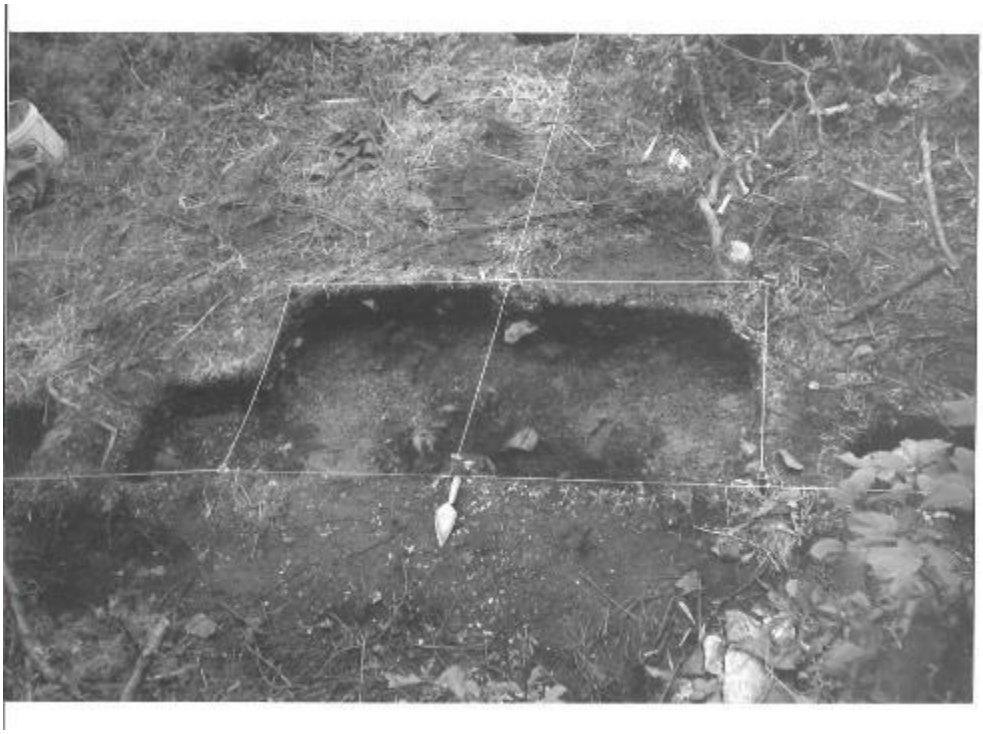

D
C
B
A
E

Plate 3: The Beaches (DeAk-01), west of Area A; note bog in center background and Area B off to the right.

Plate 4: The Beaches (DeAk-01): overhead view of midden excavations.

Plate 5: The Beaches (DeAk-01): Test Trench 1, North Profile.



The Beaches (DeAk-01): Test Trench 1.

The Beaches (DeAk-01): Test trench 2.

Plate 6: The Beaches (DeAk-01): Housepit 6 excavation.

Plate 7: The Beaches (DeAk-01): Housepit 6, south profile of northwest quadrant (colour version – page 82B).

Plate 8: The Beaches (DeAk-01): Housepit 6, north profile of southeast quadrant (color version, page 84B).

Plate 9: The Beaches (DeAk-01): The Beaches (DeAk-01): Housepit 6, bottom of hearth.


B
R

Plate 10: The Beaches (DeAk-01): Area B.

Plate 11: The Beaches (DeAk-01): Bank west of Area B. Area C lies beyond the shallow point.


B

Plate 12: The Beaches (DeAk-01): Excavations at Area C.

Plate 13: Bloody Bay Cove, looking northwest.

Plate 14: Bloody Bay Cove stream mouth:

Bloody Bay Cove-2 (DeAl-06) – left

Bloody Bay Cove-3 (DeAl-05) – right

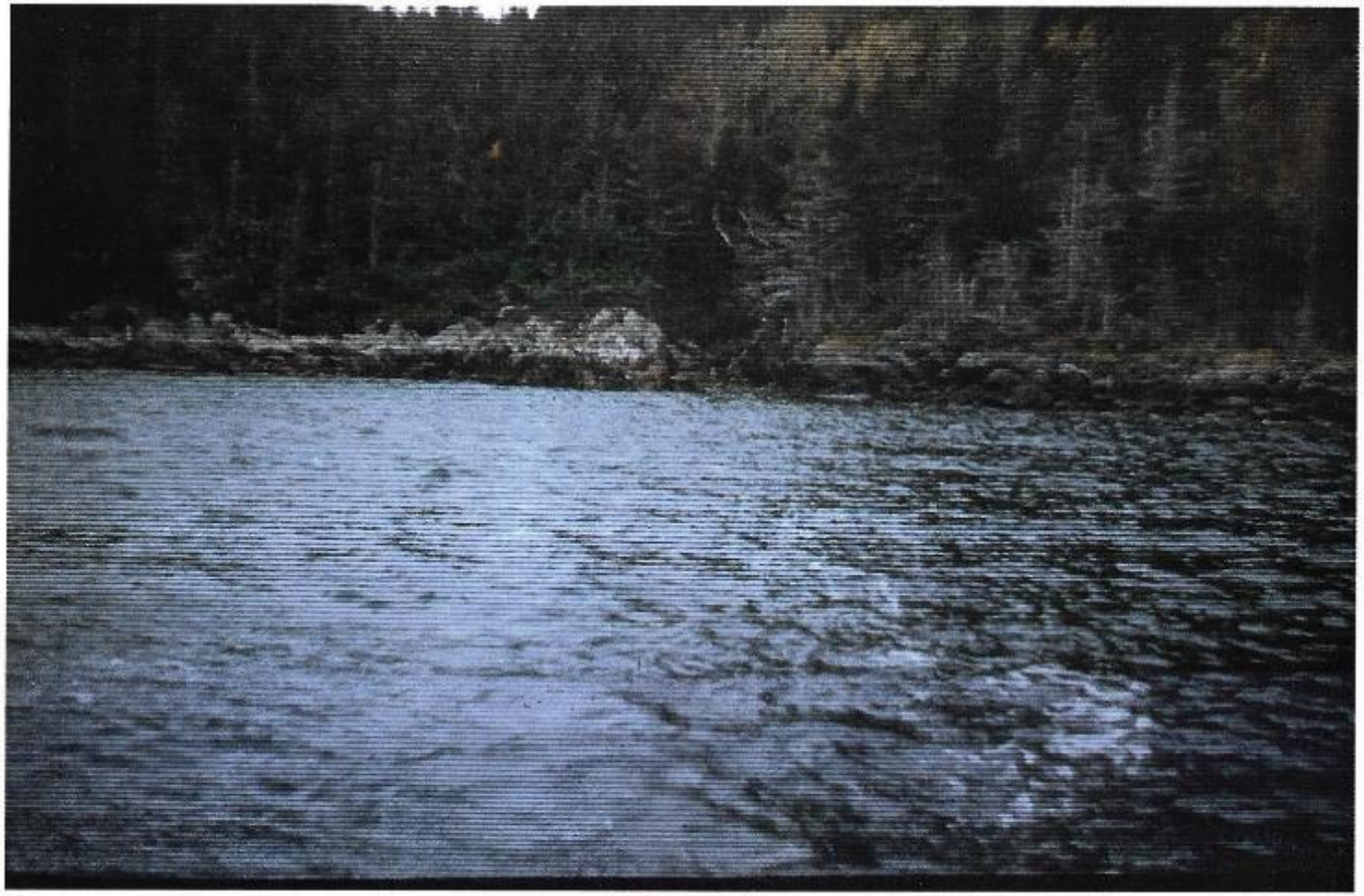


Plate 15: Bloody Bay Cove Point (DeAl-10).

Plate 16A: Bloody Bay Cove Summit (DeAl-09) – Lithics found on surface

(B) Bloody Bay Cove Summit (DeAl-09) and the Charlie site (DeAl-11)

BLOODY BAY COVE SUMMIT (DeAl-09), SURFACE CLUSTER

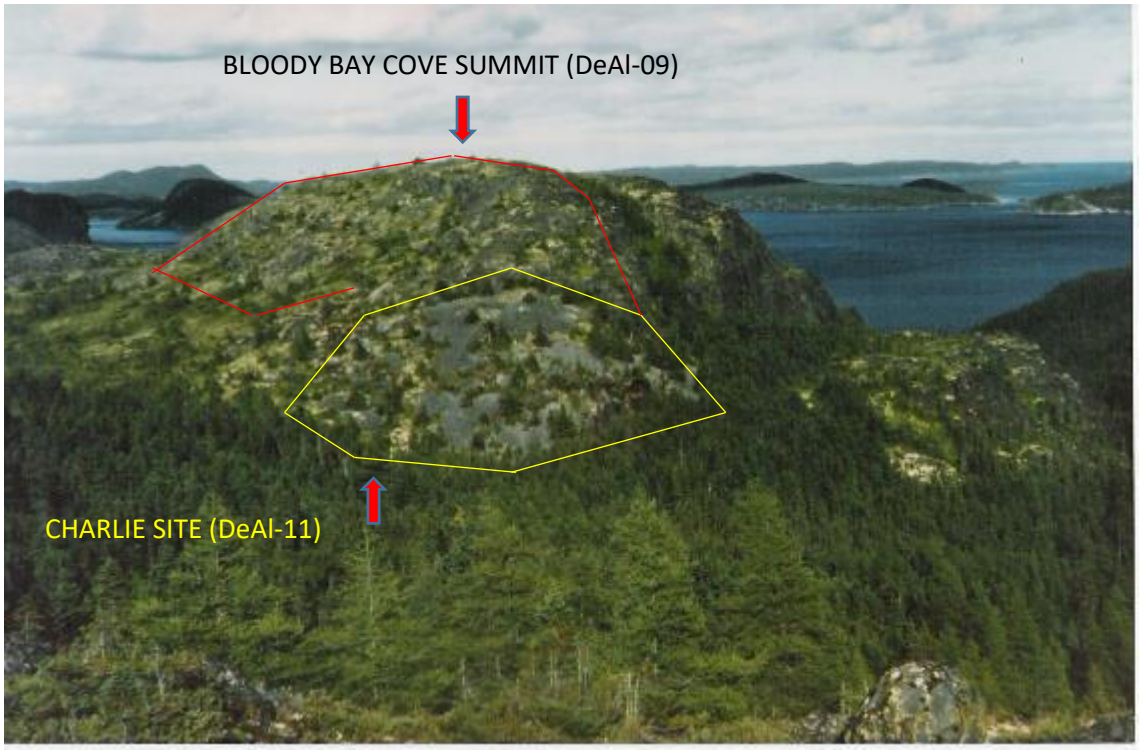


Plate 17: Charlie site (DeAl-11) – portion of artifact-rich talus slope (see Plate 16B).

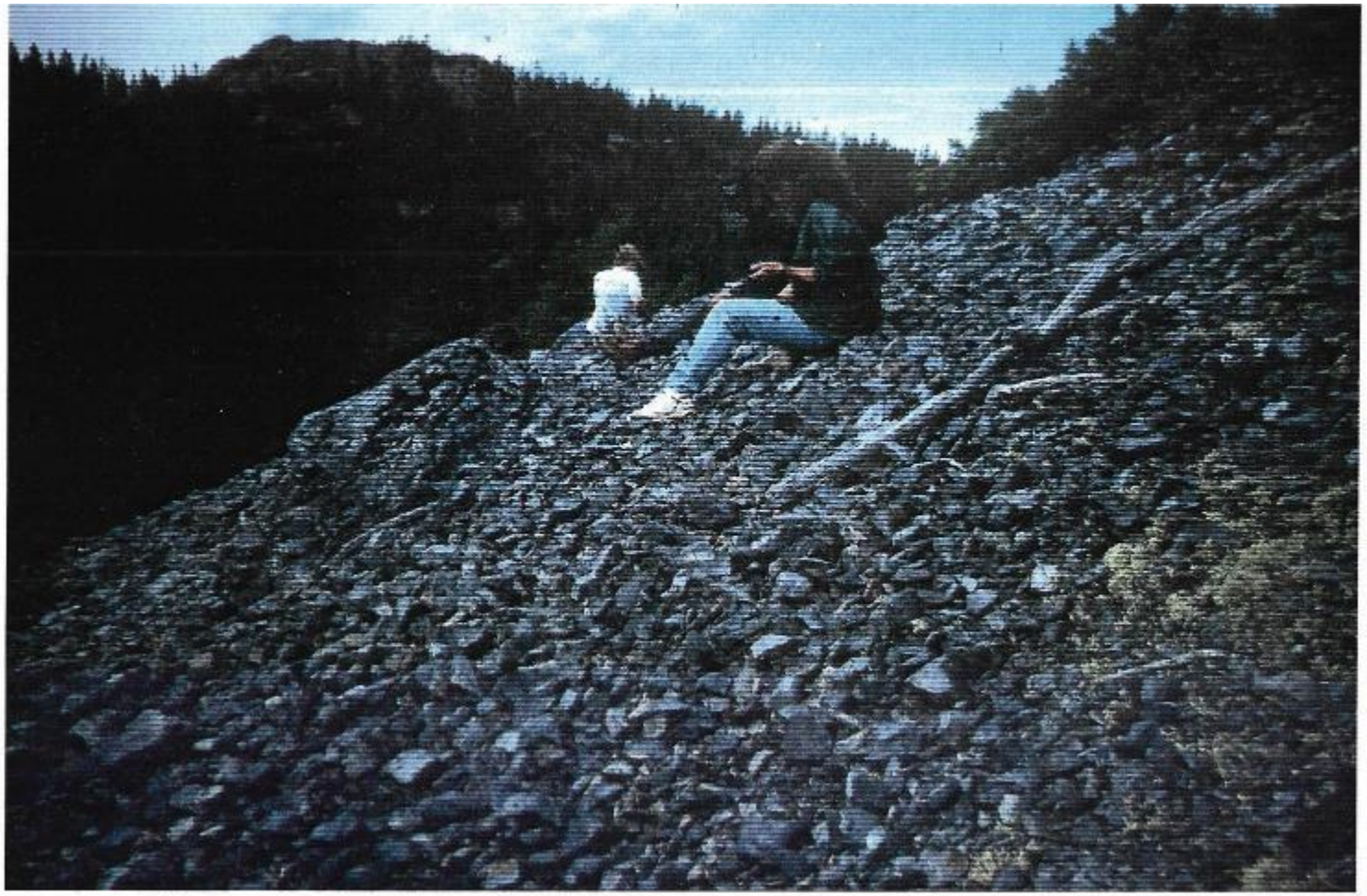


Plate 18: Maritime Archaic or Recent Indian artifacts from Test Trench 1 at the Beaches (DeAk-01).

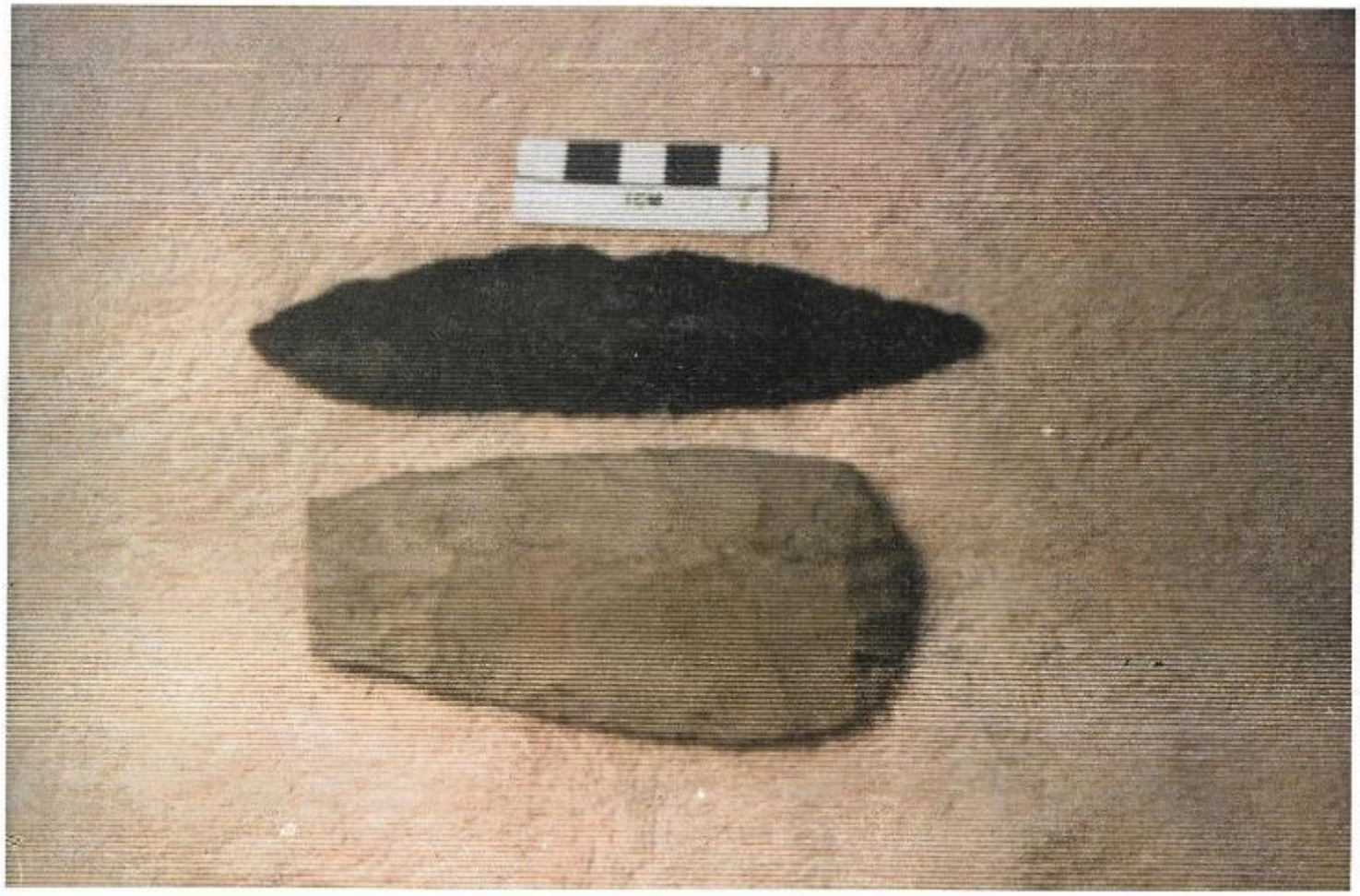


Plate 19: Area A projectile points:

A-F Little Passage/Beothuk items from Housepit 6 living floor

G Little Passage item from Housepit 5 wall

H Beaches style example from Housepit 7 wall

I Beaches style example from Test Trench 1

J Little Passage example from midden


A
B
C
D
E
F
G
H
I
J
1CM

Plate 20: Merida potsherds

A From N32.5 W23

B, C From Test Trench 2


1CM
A
B
C

Plate 21:

A Modified nail fragment from N3 W16 (Housepit 6) at the Beaches (DeAk-01)

B European knife fragment from N3 W16 (Housepit 6) at the Beaches (DeAk-01)

A

B

Plate 22: Beothuk bone pendant fragments from inside Housepit 6.


1CM

Plate 23: Prehistoric artifacts from Housepit 6, southeast quadrant wall fill:

A, B Tip flute spalls

C, D Microblades

E Rectangular biface with shallow side notches

F Side-notched blade

G Waterworn biface with concave base


1CM

Plate 24: Recent Indian Artifacts:

A Projectile point from S15 W91.5/Area C

B Projectile point from N8.5 W48/Area B

C, D Triangular biface fragments N8.5 W48/Area B


1CM
A
B
C
D

Plate 25: Area C artifacts:

A Endscraper

B Tip-fluted endblade preform

C Ground slate fragment

D-F, H Microblades

G, I Tip flute spalls

Plate 26: Area E artifacts:

A Slate knife fragment

B Macroblade

C Side-notched flake


1CM


1CM

Plate 27: Bloody Bay Cove-3 (DeAl-05) Artifacts:

A Recent Indian biface

B Bifacial proximal fragment of a stemmed point preform

C Cylindrical biface


1CM
A
B
C

Plate 28: Lithic debitage (rough flakes with dorsal scares) from the Charlie site (DeAl-11)


1CM

118 119

Bibliography

Carignan, Paul. 1975 The Beaches: A Multi-Component Site in Bonavista Bay. National Museum of Man Mercury Series, Archaeological Survey of Canada, Paper 39. Ottawa.

Devereux, Helen. 1969 The Beaches Site, in Five Archaeological Sites in Newfoundland. Department of Provincial Affairs, Province of Newfoundland. St. John's.

Lloyd, T.G.B. 1875 The Beothucs, in the Journal of the Royal Anthropological Institute of Great Britain and Ireland. vol. 4. London

Head, C. Grant. 1976 Eighteenth Century Newfoundland. McClelland and Stewart Limited. Toronto.

MacLean, Laurie. 1989a Inventory of Locke Collection Catalogued by Laurie MacLean from December 1, 1988-March 31, 1989. Report on file at Newfoundland's Historic Resources Division, St. John's.

1989b The Beothuk Adoption of Iron Technology. Unpublished M.A. thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

1990a Final Report of a 1989 Archaeological Survey in Bonavista Bay. Report on file at Newfoundland's Historic Resources Division, St. John's.

1990b Final Inventory of Locke Collection Catalogued by Laurie MacLean from December 1, 1988-March 31, 1989 and January 9-April 6, 1990. Report on file at Newfoundland's Historic Resources Division, St. John's.

Major, Kevin. 1979 Terra Nova National Park Human History Study. Manuscript no. 351, Parks Canada. Ottawa.

Pastore, Ralph. 1983 A Preliminary Report on Investigations at Boyd's Cove-1, A Beothuk and Recent Indian Site in Notre Dame Bay, Newfoundland, in Archaeology in Newfoundland and Labrador-1982. Annual Report No. 3, Jane Sproull Thomson, Callum Thomson (eds.), Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland. St. John's.

1984 Excavations at Boyd's Cove, Notre Dame Bay-1983, in Archaeology in Newfoundland and Labrador-1983. Annual Report No. 4, Jane Sproull Thomson, Callum Thomson (eds,) Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador. St. John's.

119-120

1985 Excavations at Boyd's Cove-1984: A Preliminary Report, in Archaeology in Newfoundland and Labrador - 1984. Annual Report No. 5, Jane Sproull Thomson, Callum Thomson (eds.), Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador. St. John's.

1986 Excavations at Boyd's Cove: The 1985 Field Season, A Preliminary Report, in Archaeology in Newfoundland and Labrador - 1985. Annual Report No. 6, Jane Sproull Thomson, Callum Thomson (eds.), Newfoundland Museum, Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador. St. John's.

1988 Excavations at Inspector Island, 1987: A Preliminary Report. Manuscript on file at Newfoundland's Historic Resources Division, St. John's.

ARCHAEOLOGICAL SURVEY OF TEMAGEN GOSPEN

Archaeological Research Permit 90-04

submitted to

Miawpukek Band
Conne River, Bay D'Espoir
Newfoundland
A0H 1J0

December 1990

CREDIT SHEET

Fieldwork and research

G. Penney
T. John

Report writing

Gerald Penney Associates Limited
P.O. Box 13787
St. John's, Newfoundland
A1G 4B3

_____
Gerald Penney, President

MANAGEMENT SUMMARY

An archaeological survey of Temagen Gospen resulted in the discovery of Temagen Gospen-1 (DaBj-1), a prehistoric Recent Indian site, and three historic Micmac sites. Seventeen artifacts and a wood charcoal sample for radiocarbon age determination were recovered from DaBj-1. Informant interviews at Burgeo established Micmac use patterns in the area.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PLATES

INTRODUCTION

This project is a continuation of archaeological and ethnographic studies undertaken for the Miawpukek Band in an attempt to establish Micmac use and occupancy of southwestern Newfoundland. Areas in this region previously surveyed for the Band include King George IV Lake and Burnt Pond. As well Penney (1986-1989) conducted overview assessments in White Bear Bay, Grey River and Grandy Brook. Penney (1985) has proposed a prehistory for the island's southwest coast.

DESCRIPTION OF PROJECT

The primary objective of the project was to locate where W.E. Cormack and Sylvester Joe, during their 1822 trek across the island, met the Gabriel family and to survey the lake's shoreline.

TOPONOMY

The lake of this investigation in not named on the most recent topographic maps. "Temagen Gospen" is taken from James Howley's (1919) geological map of Newfoundland which plots Cormack's route and names the lake. A Bay St. George outfitter refers to the lake as Middle Pond, between Spruce and Burnt Ponds, and this name appears on a new owner's lease. Informants at Burgeo use Gable Pond, almost certainly a corruption of the surname Gabriel, to reference the lake.

STUDY AREA

Temagen Gospen (Figure 1) is one of a series of north flowing lakes and ponds draining the high ground between the headwaters of White Bear River and Northwest River. The region is characterized by rolling hills, wooded on their sides, and bogs. Cormack (Howley 1974:155) described the western interior as "entirely primitive" with peat bogs and granite rock outcrops.

The area is classed as "having very slight limitations to the production of ungulates" (Canada 1972), the only limitation being climactic. The Grey River highlands, to the east, and Burnt Ridge, to the north, are classed as having no limitation for ungulates.

Temagen Gospen, which flows into Spruce Pond, was not flooded by the diversion of Spruce Pond-Burnt Pond-Victoria Lake into Granite Lake. The rocky shoreline is low with steep, forested hills. Islands and rocks occur throughout the lake (Plate 1).

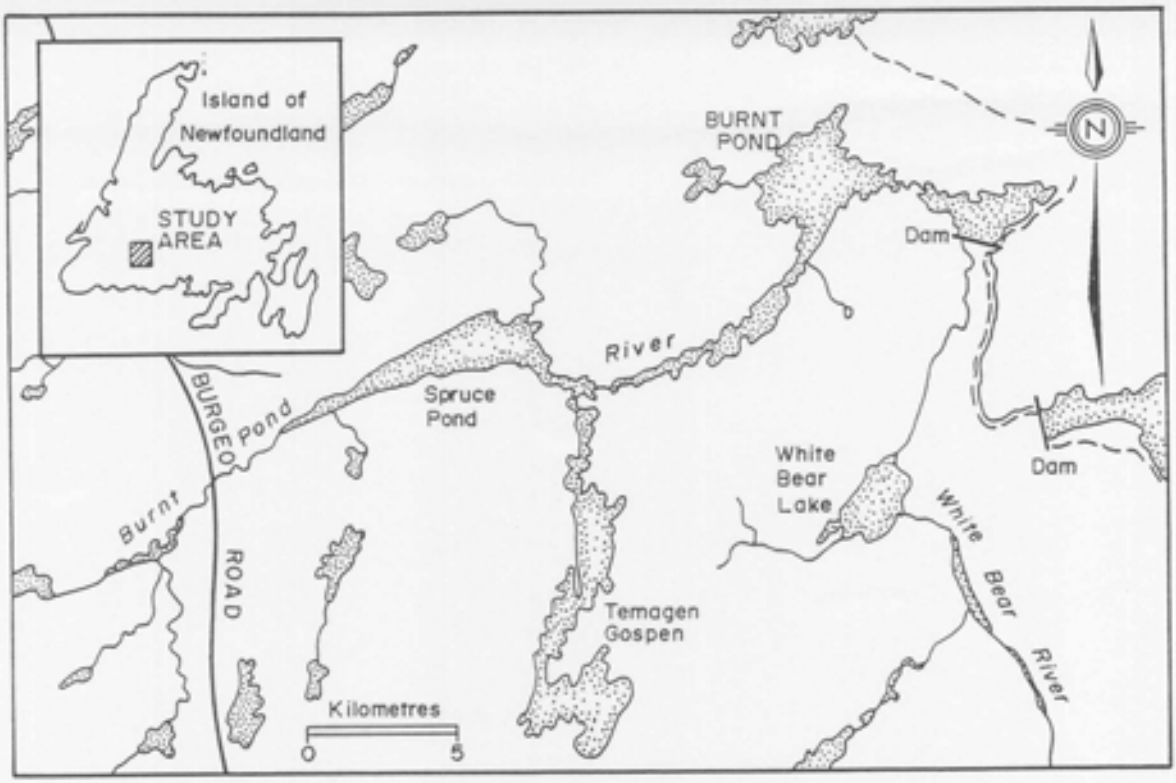


Figure 1: Location map

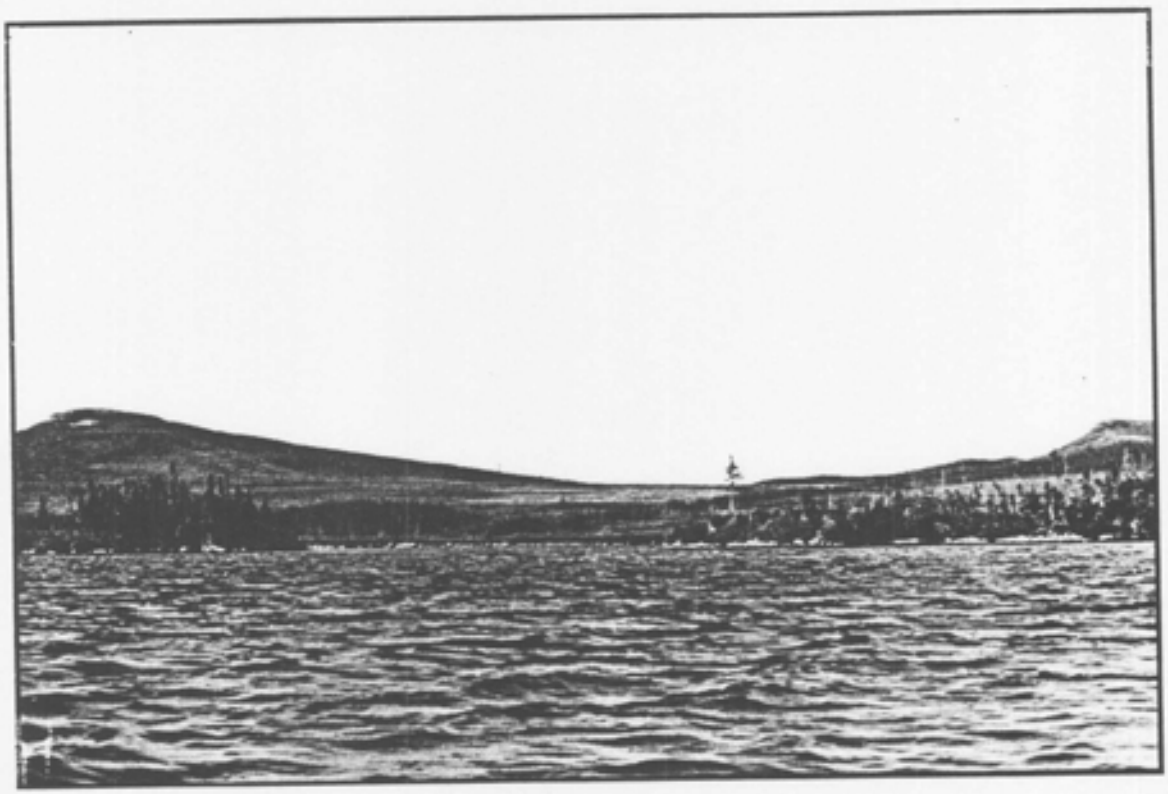


Plate 1: Temagen Gospen southwest view

Victoria Lake, which emptied into Red Indian Lake and Exploits water system, now flows south to Burnt Pond and, then by canal, to Granite Lake and Maelpaeg, discharging into Bay d'Espoir. Granite, Spruce, Temagen Gospen, and Burnt Pond flowed into the White Bear River system before diversion.

Cormack and Joe encountered two Micmac groups in this area. After leaving James John at Crooked Lake (14 October) they set out westward and reached a party of 13 Micmac camped along the shoreline of either Meelpaeg or Ebbegunbaeg Lake (18 October). From here they travelled southwest and reached Temagen Gospen (29 October) where the Gabriel family was hunting deer and trapping (Howley 1974:150-159). Appendix A is a photocopy of Howley's text of Cormack's journal for this period.

Millais (1907:222), in an "accurate list of the Indian trappers and their respective hunting-grounds in Newfoundland", has Frank Joe hunting the Burgeo and western Meelpaeg country and Little Frank Benoit at Spruce Pond and the country northwest of Meelpaeg. Speck (1922:132-134), who mapped Newfoundland Micmac-Montagnais hunting teritories in 1914, put Frank Joe in the territory from Sandy Lake through Red Indian and Victoria Lakes but makes no mention Frank Benoit.

RESEARCH PLAN AND METHODOLOGY

The study area was accessed by fixed wing aircraft and the pond surveyed by motorized canoe (11 June to 17 June). Areas along the shore which appeared as good camping areas were foot surveyed and sub-surface test pits were dug using methods described in Historic Resources Impact Assessment Guidelines (1982). Two days (26-29 November) were spent conducting informant interviews at Burgeo.

RESULTS

Field data

DaBj-1, a prehistoric Recent Indian site, was discovered on the east side of Temagen Gospen, halfway up the pond (Plate 2). The site (19 meters x 21 meters) is located in a birch grove at the bottom of a small, north-facing cove. On the western point of the cove is a modern (mid-20th century) Micmac hunting camp (Plate 3). Two other modern Micmac hunting camps were found, south of DaBj-1 and at the south end of the pond on the west side (Plates 4 and 5). These sites are shown in Figure 2.

Surface investigation at the cove discovered two wire barrel hoops hinting of 20th century Micmac presence. In the area of a birch windfall root were found wire nails, bottle glass, stove

parts, and tin fragments associated with a 20th century birch bark tilt. Mixed in with this material were stone flakes and tools.

Four test pits were dug outside the windfall root area. All contained flakes, artifacts, charcoal and fire cracked rock; one produced decomposed caribou bone. There was no evidence of housepit excavation or any surface features. Wood charcoal from one test pit produced a radiocarbon age (Beta 38380) of 530±50 BP or A.D. 1370 to A.D. 1470.

Artifacts

Seventeen artifacts, all of chert, and 48 flakes were recovered from DaBj-1 including scrapers (Plate 6:c,e-f), projectile points (Plate 6:a,b), a triangular biface (Plate 6:d). Table 1 lists the 17 artifacts, which have been conserved, catalogued and stored at the offices of Gerald Penney Associates Limited.

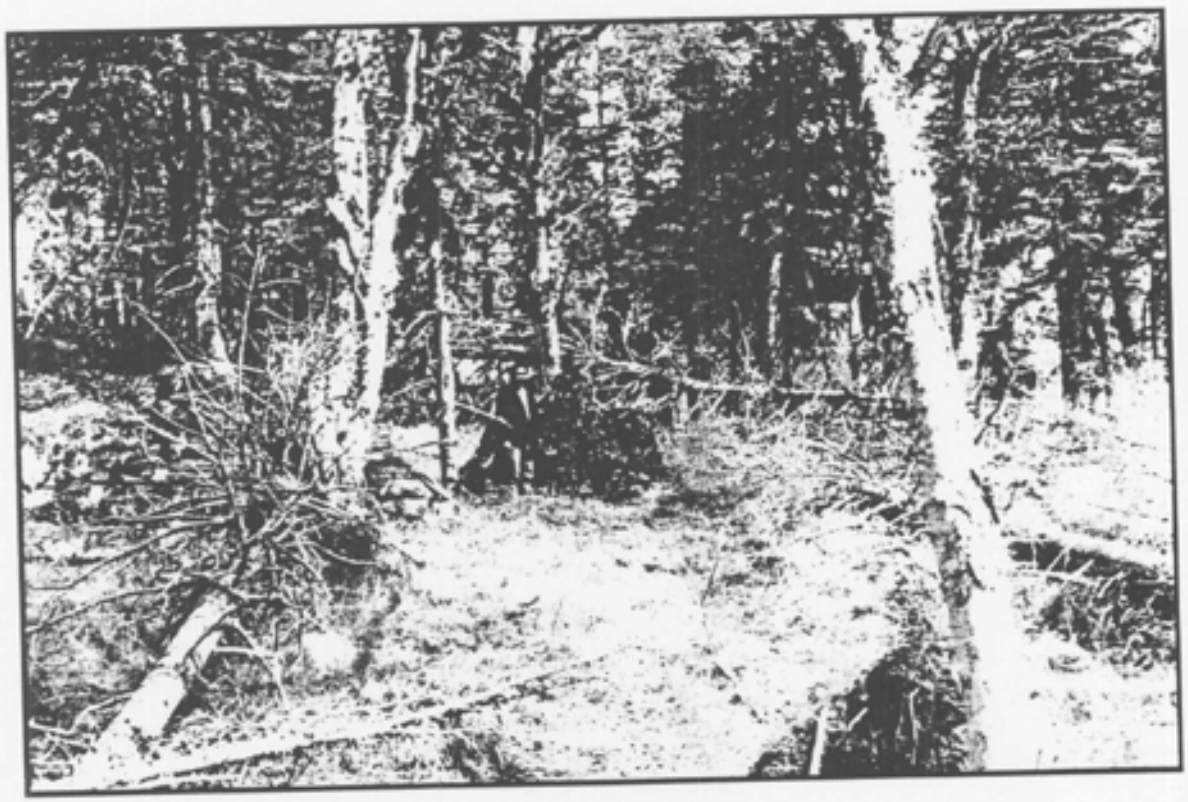


Plate 2: Windfall root (beach immediate right)

Plate 3: Tilt west of DaBj-1

Plate 4: Micmac tilt south end of pond

Plate 5: Micmac tilt south end of pond

Plate 6: DaBj-1 artifacts
a. b. projectile points c. and e. to h. scrapers d. triangular biface

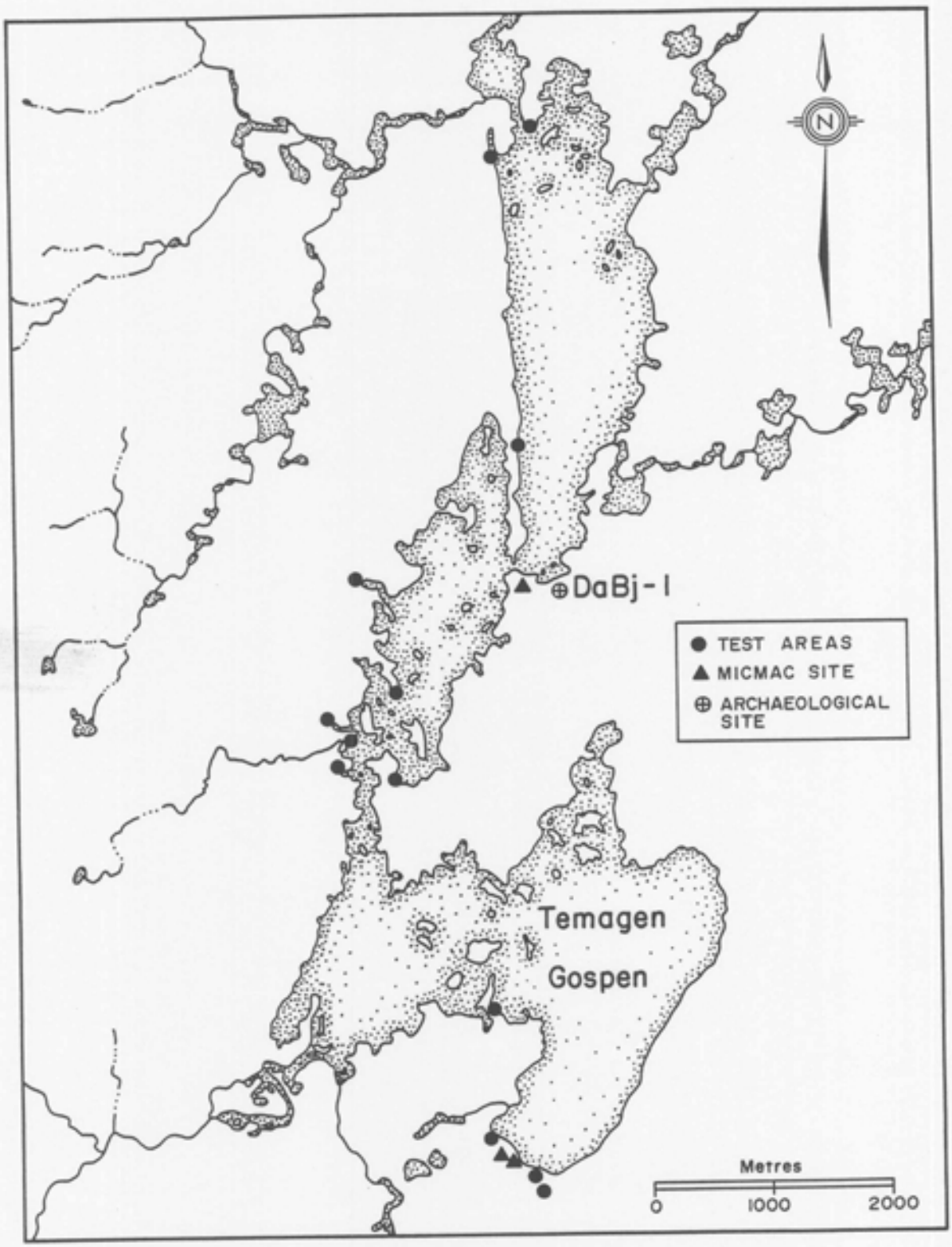


Figure 2: Temagen Gospen sites

Table 1: Artifacts recovered at DaBj-1

Artifact type	#
Scraper	5
Linear flake	3
Retouched flake	3
Projectile point	2
Biface edge	1
Biface tip	1
Triangular biface	1
Utilized flake	1
Total	17

Discussion

Micmac informants at Burgeo were interviewed for family hunting and trapping data related to Temegan Gospen. They confirmed 20th century use by the Benoit and Joe families. The prehistoric and Micmac sites confirm continuous use of Temagen Gospen as an interior hunting location for native people. The radiocarbon date fits it into the general scheme of known Recent Indian occupation of the island interior.

The likely location of the Gabriel site, at the southwest end of the lake, did not produce any evidence in the form of artifacts or features from the 19th century. Two recent tilts attest to continued Micmac presence and it is doubtful if the prehistoric site further down the lake would have been discovered without the Micmac set-up there.

The prehistoric site, which is not on a major river system, appears isolated. A preponderance of scrapers at the site (29%) suggest hide preparation as a major site activity. Excavation of the site could greatly add to an understanding of Amerindian culture on the eve of European rediscovery.

INFORMANTS

Burgeo	Topsail
John Henderson	Ian McDonald
Eric Rhymes	
Frank Benoit	
Kitchner Skinner	

REFERENCES

Government of Canada
1972 Land Capability for Wildlife-Ungulates: Red Indian Lake 12A. Lands Directorate, Environment Canada, Ottawa.

Government of Newfoundland and Labrador
1982 Historic Resources Impact Assessment Guidelines. Historic Resources Division, Department of Municipal and Provincial Affairs, St. John's.

Howley, J.P. (editor)
1974 The Beothucks or Red Indians. Coles, Toronto (originally published 1915, Cambridge University Press, London).

Millais, J.G.
1907 Newfoundland and Its Untrodden Ways. Longmans, Green and Co., London.

Penney, Gerald

1989 Archaeological Survey of Burnt Pond. Report on file, Historic Resources Division, Department of Municipal and Provincial Affairs, St. John's.

1987a Archaeological Survey of King George IV Lake. Report on file, Historic Resources Division, Department of Municipal and Provincial Affairs, St. John's.

1987b Historic Resources Overview Assessment of Northwest Arm, Grandy Brook and Roadrunner Lake. Report on file, Historic Resources Division, Department of Municipal and Provincial Affairs, St. John's.

1986 Historic resources Overview Assessment of White Bear Bay. Report on file, Historic Resources Division, Department of Municipal and Provincial Affairs, St. John's.

1985 A Prehistory of the Southwest Coast of Newfoundland. Unpublished M.A. thesis, Department of Anthropology. Memorial University of Newfoundland, St. John's.

Speck, Frank
1922 Beothuk and Micmac. Museum of the American Indian, New York.

APPENDIX A

Photocopy extracts from W.E. Cormack's 1822 journals in J.P. Howley, The Beothucks or Red Indians, pages 151 and 157.

October 28th.—The small lakes were sufficiently frozen over for us to walk upon them. As we advanced westward the aspect of the country became more dreary, and the primitive features more boldly marked. Pointed mountains of coarse red granite, standing apart, lay in all directions northerly and southerly of each other. Most of them are partially shrouded with firs, bald, and capped with snow. As we neared the south end of an extensive lake in order to get round it, we observed a low islet near the middle entirely covered with a large species of gull. Those birds seemed as if they had congregated to take flight before the lake was frozen over. I named this lake in honour of a friend at the bar in Edinburgh, "Wilson's lake." At the extreme south end we had to ford a rapid river of considerable size, running to the southward, which, from its position, we inferred was "Little River," and which discharges at the south coast.

October 29th.—Drawing near to a mountain-ridge, higher than any we had yet crossed, and which from appearance we supposed might be the last between us and the sea coast, we had great satisfaction in discovering smoke rising from a wood on the opposite side of a lake near the foot of it. We indulged in the hope that some timber party from the settlements at St George's Bay was encamped here. Our toils were in fancy ended. On reaching the lake, the party encamped seemed to distrust us, not venturing to show themselves openly on the shore. After a time, however, they were convinced by our appearance, gestures, and the report of our guns, that we were not Red Indians nor enemies. A canoe was then launched and came across to us. The canoe was of the kind already described, of wicker-work, covered with skins, and paddled by two pretty Indian girls. I unceremoniously saluted them in the Indian manner and we accompanied them to their camp. They were of a party of Mickmack Indians, encamped at this lake because deer and firewood were plentiful. One man only belonged to this encampment, and he was out hunting when we arrived. None of the party understood a word of English; my Indian however explained. They told us, to our no little mortification, that we were yet sixty miles from St George's Harbour, or about five days walk if the weather should happen to be favourable, and that it lay in a north-west direction. The last information proved that my Indian had of late pertinaciously insisted on a wrong course. This small party consisted of eight individuals—one man, four women, and three children; one an infant, was strapped or laced to its cradle, and placed upright against the side of a wigwam, as any piece of domestic furniture might be. They had left St George's Harbour three months before; since then, had been in the interior, and intended to spend the winter at Great Cod Roy River in St George's Bay. As every hour was precious towards the final accomplishment of my object, I proposed to my Indian host to accompany me to St George's Bay; my offer was agreed to, and a stipulation made to set off in two hours. In the absence of this Indian, who told me his name was Gabriel, his family—consisting, as already observed, of females and children—were to provide for themselves. For this purpose two guns and ammunition were left with them. One of the young women was a capital shot; during our halt with them she left the camp and shot a fat deer close by. Having partaken of the best piece of venison the interior could produce, together with smoked deers' tongues, we set off. Owing to our enfeebled condition, this man's vigour and strength were enviable.

PRELIMINARY REPORT OF THE 1990 SITE SURVEY IN THE TOWN OF PORT AU CHOIX

Prepared for:
Historic Resources Division
Historic Sites Branch
Department of Municipal and Provincial Affairs
Government of Newfoundland and Labrador

Prepared by:
Dr. M.A.P. Renouf
Archaeology Unit
Memorial University of Newfoundland
St. John's, Newfoundland

3 May 1991

Permit No. 90.07

1 INTRODUCTION

The 1990 field season at the Port au Choix National Historic Park was the fourth of the Port au Choix Archaeology Project, which began in 1984 (Renouf 1985a; 1985b; 1985c; 1986a; 1986b; 1987; Renouf and Macpherson 1988; Brown 1988). The overall objective of this program of research is the comparison of prehistoric economic strategies at the Port au Choix and Point Riche Peninsulas (figure 1). Aboriginal cultural material ranges from Maritime Archaic Indian (c. 4200-3200 B.P.), pre-Dorset Palaeoeskimo (c. 3500-3000 B.P.), Groswater Palaeoeskimo (c. 2700-2100 B.P.), to Dorset Palaeoeskimo (c. 2000-1200 B.P.). The main achievements of the 1984-1986 field seasons were: [1] site survey with location of three historic and 14 prehistoric sites, [2] systematic testing of five Palaeoeskimo sites ranging in time from approximately 3000 to 1500 B.P., [3] the excavation of one area at Phillip's Garden East, a stratigraphically complex Groswater Palaeoeskimo site, [4] the excavation of one house and the testing of two others at the Dorset Palaeoeskimo site of Point Riche, [5] excavation of two houses and one midden at the Dorset Palaeoeskimo site of Phillip's Garden, and [6] salvage excavations at two Dorset Palaeoeskimo burial sites, Crow Head Cave and Gargamelle Rockshelter (Brown 1988). Because a Maritime Archaic Indian cemetery site was found in Port au Choix (Tuck 1976) it is likely that one or more associated habitation sites should be located in the area. However, we did not find such a site during our 1984-86 surveys and as a result the Port au Choix Archaeology Project has focused on Palaeoeskimo cultural remains.

This uneven balance was addressed in the 1990 field season, the general objectives of which were: [1] to begin excavating Phillip's Garden West, which was originally thought to be a Groswater Palaeoeskimo site, [2] to continue excavation at Phillip's Garden East in the hopes of clarifying the complex stratigraphy, locating a second house feature, and widening the collection of organic artefacts, [3] continuing excavation at Phillip's Garden, focusing on areas outside the house features, and [4] conducting an intensive and systematic site survey to establish the presence or absence of a Maritime Archaic habitation site. A critical part of the survey was the town of Port au Choix itself which is one of the most promising spots for Maritime Archaic settlement. Because the town lies outside the Park boundaries, survey in this area was funded by the Historic Resources Division, Department of Municipal and Provincial Affairs, Provincial Government of Newfoundland and Labrador, the Provincial Government of Newfoundland and Labrador's Student Employment Program, the Federal Government's Challenge 90 Program, Memorial University of Newfoundland's Office of Research, and the town council of Port au Choix. The following is a short report of that part of the project which was funded by Historic Resources Division, under Archaeological Research Permit 90.07. This is part of a larger report prepared for the Canadian Parks Service (Renouf 1991), a copy of which will be presented to Historic Resources Division.

2 SITE SURVEY

2.1 Introduction and Objectives

A major focus of the 1990 field season was a systematic survey in and around the town of Port au Choix. The objectives of the survey were: [1] to systematically search for Maritime Archaic Indian habitation sites to complement the information on Maritime Archaic culture derived from the cemetery site located in the town, [2] to locate Palaeoeskimo habitation sites within the town area to obtain a more complete geographical coverage of Palaeoeskimo sites, and [3] to search for a Palaeoeskimo mortuary site to complement the investigated habitation sites in the region. Site locations

are indicated in figure 1 and more exact information has been plotted on aerial photographs.

2.2 Town Water Mains Survey

The town of Port au Choix is in the process of upgrading its water and sewage system, and in 1990 this involved opening up areas of ground along the north side of Back Arm. The main area of council excavation was closely parallel to the shore, and trenches were cut perpendicular to this extending to the hill behind, upon which known Palaeoeskimo sites are located (Renouf 1985a:24-31). The town alerted us to the planned work and provided us with maps, and the survey team, headed by Kevin McAleese, checked all tracts of proposed disturbance. He confirmed that all areas close to the shore were at too low an elevation for prehistoric remains. However, some of the perpendicular outliers did go through areas of high potential, in particular the terrace that looks out over both the Back Arm and Old Port au Choix Cove, on which the Northcott/Rumbolt sites are located (Renouf 1985a:24-31). Although these sewer lines do not in themselves disturb a site, they will inevitably lead to house building which could easily involve site destruction. One site, Gaslard's Lane, is located immediately beyond one of these sewer lines (see section 2.8).

2.3 Gargamelle Point (EeBi-25)

This is a small surface site, approximately 2000-2200m,^{2} located on a gravel terrace, about 10 m.a.s.l., at an exposed point of land that affords a wide view of the sea from the south side of Gargamelle Cove. There are some areas where peat covers the gravel, but most of the cultural material was lying exposed on the gravel surface. There were no features, but lithics were fairly abundant, falling into two main categories: burin-like tools and small arrowheads. These points were modified from other Dorset Palaeoeskimo tools, mostly but not exclusively endblades, by means of striking a single or double notch close to the distal end. When hafted, this modified endblade could function as a small triangular point or arrowhead. All artefacts were heavily patinated, presumably through exposure, on all surfaces except where there was more recent edge retouch which exposed fresh surfaces. Thus, it appears that the tools were left at this spot after its initial use by Dorset Palaeoeskimos and that sometime later the location was re-occupied and many of the lithics were modified for re-use. The small size of the site, the relatively few artefacts, and the narrow range of functional types suggests that this was a very short term site. Present day use of this location indicates the particular function: a modern duck hunting blind still stands at this spot where, according to local residents, the local currents keep water open all year, attracting and concentrating waterfowl.

Artefacts from Gargamelle Point (EeBi-25)

Artefact Class	Frequency	Percentage
"Endblade" (almost all are small arrowheads)	30	28.9
Retouched flake	28	26.9
Burin-like tool	9	8.7
Biface/biface fragment	8	7.7
Core/core fragment	6	5.8
Small soapstone fragment	6	5.8
Raw material (Schist and nephrite)	6	5.8
Utilized flake	3	2.9
Pumice	3	2.9
Microblade	2	1.9
Uniface	1	0.96
Axe	1	0.96
Schist tool fragment	1	0.96
Total	**104**	**100.00**

Note: Fifty-two flakes were also found

2.4 Joe Offrey Site (EeBi-26)

A very small amount of cultural material was found in back of Mr. Joe Offrey's house, on a bulldozed gravel terrace, about 6 m.a.s.l., located well back from the southern shore of Back Arm. Most of the site has been destroyed by land clearance for house building but a small part may be undisturbed under localized areas of remaining peat. Raw material indicates Palaeoeskimo occupation, but the only potentially diagnostic artefact found was a biface base, which is similar in thinness and surface flaking to some examples from the Groswater Phillip's Garden East site.

Artefacts from the Joe Offrey Site (EeBi-26)

Artefact Class	Frequency	Percentage
Retouched flake	5	33.3
Microblade	4	26.7
Biface/biface fragment	2	13.3
Core/core fragment	1	6.6
Hammerstone	1	6.6
Red slate fragment	1	6.6
Chert cobble	1	6.6
Total	**15**	**99.70**

Note: Nineteen flakes were also found

Artefacts from the Party Site (EeBi-30)

Artefact Class	Frequency	Percentage
Microblade	4	33.3
Biface/biface fragment	2	16.7
Retouched flake	1	8.3
Utilized flake	1	8.3
Endblade	1	8.3
Sideblade	1	8.3
Tip flute spall	1	8.3
Unidentified slate (?) object	1	8.3
Total	**14**	**99.8**

Note: Also found were 670 flakes, including a small number of pink quartzite.

2.5 Party Site (EeBi-30)

This site is located in a clearing on the tucamore-covered terrace just above the current beach on the south shore of Back Arm, at about 5 m.a.s.l. The area, about 440m^2, was cleared in the 1950's or thereabouts by Mr. Ike Jennings, a now deceased local resident who built temporary dwellings in several locations along Back Arm. A grassed over depression marks Mr. Jenning's tilt, and more recent use of the area is reflected in the burned out remains of a shack that had been used by Port au Choix youths as a party location. Palaeoeskimo and Prehistoric Indian cultural material eroded

out of the site at a bank overlooking the beach, the Palaeoeskimo material coming from a dark layer (similar to Level 2 at Phillip's Garden) and the Indian material coming from a lower layer of rounded gravel; the low elevation of the site suggests Intermediate or Recent Indian rather than Maritime Archaic. Three 1m^2 and two 1 x 0.5 metre test units were excavated in the clearing and they yielded a small amount of Dorset Palaeoeskimo material. A pit feature was found in one test unit and was highlighted by a level of grey greasy silt that was not found in the other test excavations.
On the previous page is a list of artefacts from the site, excluding the two biface fragments that are the only items which can be attributed to prehistoric Indian rather than Palaeoeskimo occupation.

2.6 Gaslard's Lane (EeBi-31)

This site is located on the terrace overlooking both Back Arm and Old Port au Choix Cove (plate 17b) and is a good position for sheltered access to both these bays. About 350 metres west of this site, at the end of Gaslard's Lane[1] 52 flakes, a tip flute spall, a microblade and a core fragment were found scattered over a large area, approximately 200 metres north-south across the ridge and 100 metres east-west along the ridge. The area has been disturbed by some local looting and by ATV traffic, bringing the material to the surface. This is a continuation of the rich archaeological material that probably extends along the entire ridge, at the other end of which is the Northcott/Rumbolt site. Finds from Gaslard's Lane look like Dorset Palaeoeskimo; however, given the wide chronological range of Palaeoeskimo artefacts from the Northcott/Rumbolt site, it could include some older material.

2.7 Sid Buckle (EeBi-32)

East of Gaslard's Lane along the ridge described in section 2.8., six chert flakes were found in a recently bulldozed area, about 150m^2, immediately north of Sid Buckle's house on Murphy's Lane.

2.8 Streambank Site (EeBi-33)

A few Palaeoeskimo-looking flakes were found along the bank of the outlet stream of Spring Pond which flows into Back Arm via its southern shore. Most of the material was found in a 400m^2 area in behind the old "Inshore-midshore" business premises, at about 3 m.a.s.l. and mixed with historic and modern material, reflecting the modern disturbance of the area through bulldozing and building.

2.9 Dobbin Cave (EeBi-34)

Located within the Park (7A63), this cave is situated between Eastern Point and Barbace Point on the Port au Choix Peninsula headland. Reported in 1985 (Renouf 1985a:21-24) and re-investigated in 1986 by Brown (1988), this is may be the disturbed aboriginal burial cave reported Howley (1915). There is some sign of historic but not recent disturbance where some limestone rocks have been pulled out of the inside and lie in a jumble at the cave mouth. Inside the cave there has been more recent camping/sheltering activities. Frost action brought two artefacts to the surface of the cave floor, a burin-like tool and a biface.

---

[1]Road names, although not in common usage, exist on the Town Council map.

2.10 Eastern Point (EeBi-35)

This is an area of caves and overhangs located southwest of Dobbin Cave, outside the Park boundary. The cave and overhang area lie in back of a grassy meadow and a local resident, Mr. Albert Dobbin, reported that someone found an ivory carving and a socketed bone piece from there when he was a youth. We found a human vertebra in one of the caves, probably brought to the surface by frost action.

2.11 Spence Site (EeBi-36)

This is a prehistoric Indian site which is located in Olga Spence's backyard, about 100 metres back from the west shore of Back Arm, at an estimated 2-3 m.a.s.l.. This area is the narrowest part of the isthmus that joins the Port au Choix and Point Riche Peninsulas to the mainland Northern Peninsula. House construction, road construction and gardening has considerably disturbed this site, but there are some intact areas in Mrs. Spence's "upper" back yard. Cultural material was found in test units over an area 140 metres by 140 metres and the site might extend into neighbouring back yards. The Indian rather than Palaeoeskimo designation is based on two large biface fragments which are outside the Palaeoeskimo size range and a large piece of retouched Ramah chert. Other material found included two chert core fragments, a quartz crystal, and 78 flakes.

2.12 Dead Whale Site (EeBi-37)

A few flakes, a core and a side-notched biface with an irregularly shaped blade were found in widely separated areas on the northeast point of Old Port au Choix Cove near where a dry stream bed cross-cuts the gravel road. Cultural affiliation is uncertain.

2.13 Discussion

Since one of the survey's main objectives was to find a Maritime Archaic habitation site, we were more systematic about it this year than in others. Since the cemetery site was located at about 21 feet (6.4 metres) above sea level we looked at the topography of the area reconstructed for a sea level at the 20 foot contour (6.1 metres). Reconstructing sea level at either the 15 foot (4.6 metres) or 20 foot contour, the Point Riche and Port au Choix Peninsulas would have formed an island. Since Maritime Archaic Indians tend to situate their main habitations in a generalized location from which they can exploit the resources of both land and sea, it seemed more likely that the site we were looking for would be on the "mainland" side of the town rather than on the "island side", and the boundary between these two area was located approximately at the junction of the main road with two secondary roads, which occurs near the Sea Echo Motel. This was is just a rough estimate, since the uplift curve has not been establish for this region. If we are correct in saying that the Maritime Archaic Indians would have chosen a generalized location for their settlement, it logically follows that they would have chosen a specialized location, in this case an island, for a special site such as a cemetery. Based on this reasoning we paid particular attention to surveying locations that fulfilled most or all of the following criteria; [1] located on the south side ("mainland side") of Back Arm, [2] lying at elevations around 6 m.a.s.l. or higher, [3] situated near what would have been a point of land where boats could have been easily pulled up onto the shore, [4] located near fresh water sources, and [5] situated with a view of the cemetery. In the end we did find what seems to be a Maritime Archaic site (the Spence Site) in this area, but at a much lower elevation than anticipated. We will continue to search similar elevations in the town of Port au Choix for other Maritime Archaic sites.

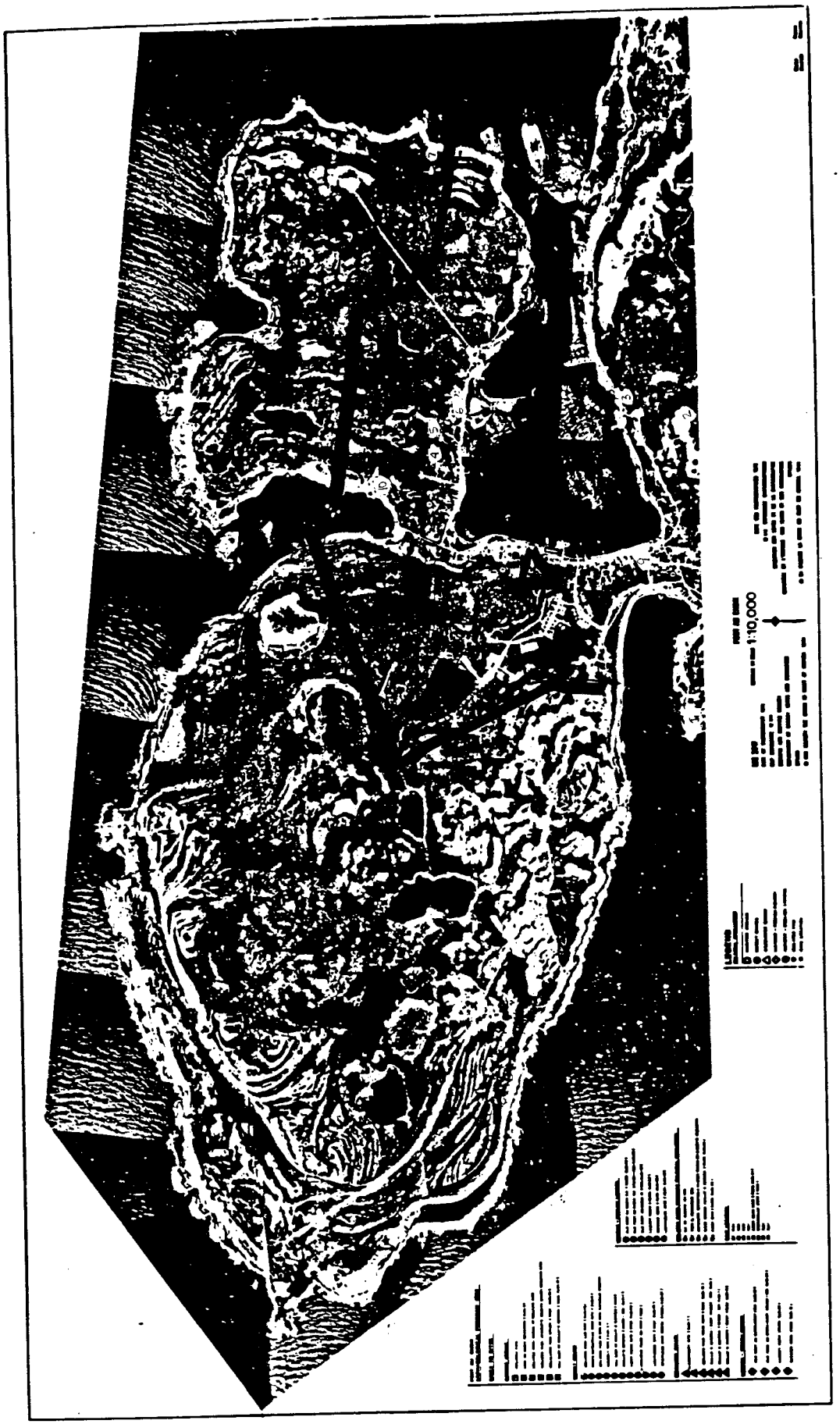


Figure 1: Site Locations

REFERENCES

BROWN S.C.B. 1988. Archaeological Investigations at Crow Head Cave and the Gargamelle Rock Shelter in the Port au Choix National Historic Park, Newfoundland. Unpublished report prepared for Historic Resources Branch, Atlantic Region, Parks Canada.

HOWLEY J.P. 1915. The Beothucks or Red Indians. Cambridge: Cambridge University Press.

RENOUF M.A.P. 1985a. Archaeology of the Port au Choix National Historic Park: Report of 1984 Field Activities. Unpublished report on file at Historic Resources Research, Parks Canada, Atlantic Division, Halifax.

RENOUF M.A.P. 1985b. Archaeological Research in the Port au Choix National Historic Park, Northwestern Newfoundland. Polar Record 22(14):693-697.

RENOUF M.A.P. 1985c Report of the Archaeological Investigations of the Port au Choix and Point Riche Peninsulas.Archaeology in Newfoundland and Labrador, 1984, edited by J.Sproull Thomson. Historic Resources Division, Department of Culture, Recreation and Youth, Annual Report 5.

RENOUF M.A.P. 1986a. Report of 1985 Excavations at the Point Riche and Phillip's Garden sites, Port au Choix National Historic Park. Prepared for Historic Resources Research, Atlantic Region, Parks Canada.

RENOUF M.A.P. 1986b. 1985 Excavations at Phillip's Garden and Point Riche, Port au Choix National Historic Park, Archaeology in Newfoundland and Labrador 1985, edited by J. Sproull Thomson and C. Thomson, 158-195. Historic Resources Division, Department of Culture Recreation and Youth, Annual Report 6

RENOUF M.A.P. 1987. Archaeological Investigations at the Port au Choix National Historic Park: Report of 1986 Field Activities. Unpublished report on file at Historic Resources Research, Parks Canada, Atlantic Division, Halifax.

RENOUF M.A.P. 1991. Archaeological Investigations in the Port au Choix National Historic Park; Report of the 1990 Field Season. Unpublished report prepared for Historic Resources Branch, Atlantic Region, Canadian Parks Service.

RENOUF M.A.P. and J.B. MACPHERSON 1987 Palynological Investigations in and near the Port au Choix National Historic Park. Prepared for Historic Resources Research, Atlantic Region, Parks Canada (8 pages).

TUCK J.A. 1976. Ancient Peoples of Port au Choix Newfoundland Social and Economic Studies, 17. Institute of Social and Economic Research, Memorial University of Newfoundland.

LeDrew, Fudge
and Associates Limited
Environmental Consultants

MARINE ARCHAEOLOGICAL SURVEY GREAT MOSQUITO COVE, BULL ARM, TRINITY BAY, NEWFOUNDLAND

L-321
FINAL REPORT

PREPARED FOR:

MOBIL OIL CANADA PROPERTIES
7TH FLOOR, ATLANTIC PLACE
BOX 62
215 WATER STREET
ST. JOHN'S, NEWFOUNDLAND
A1C 6C9

PREPARED BY:

LEDREW, FUDGE AND ASSOCIATES LIMITED
607 TORBAY ROAD
ST. JOHN'S, NEWFOUNDLAND
A1A 2Y3

B. LeDrew, President

AUGUST 20, 1990

EXECUTIVE SUMMARY

The underwater areas of Great Mosquito Cove and Peddle's Cove that are slated for development by Mobil Oil Canada Properties were surveyed for the presence of marine archaeological material. The reconnaissance comprised an initial visual survey using a Remotely Operated Vehicle (ROV), followed by shallow and deep water archaeological diving and test pitting programs. From this, conclusions regarding archaeological resources in the study area are offered. Historic resources within the study area were assessed for their significance and impact management requirements.

Even though historic documentation and archaeological data indicates that Great Mosquito Cove was used periodically from as early as 1500 years ago up to the present day, the results of the present underwater survey suggests that occupation was certainly not extensive. This conclusion is based on the fact that nowhere in the study area were there located substantial concentrations of historic resources. In fact, all material recorded during the study dates to no earlier than the present century. As a result, mitigation measures are not indicated.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PLATES

1.0 INTRODUCTION

1.1 PROPOSED DEVELOPMENT

Mobil Oil Canada Properties is considering the development of a GBS construction site in Great Mosquito Cove, Bull Arm, Trinity Bay, Newfoundland (Figure 1.1, Plate 1). This development will result in the fabrication of a variety of shoreline facilities and will therefore result in surface and sub-surface disturbance at various locations under water in the cove (Figure 1.2)

1.2 RATIONAL/OBJECTIVES

The Isthmus of Avalon has been known to have been attractive to prehistoric and early historic occupants of the Island of Newfoundland. Several archaeological sites spanning at least 3500 years have been found on the Isthmus at Sunnyside, Stock Cove, Arnold's Cove and Come By Chance, and on the islands of Placentia Bay. The Sunnyside area and, most likely, Great Mosquito Cove were also visited by John Guy in his sailing barque[1] the Indeavour in 1621. The Isthmus region, including a cove referred to by Guy as Flagstaffe Harbour, which is probably Great Mosquito Cove (Seary 1971), was at that time occupied by Beothuk Indians, but they soon afterwards withdrew north to Bonavista Bay and Notre Dame Bay in face of at least occasional hostility from increasing numbers of European seasonal and permanent settlers (Whitbourne 1622 in Cell 1982). This history of occupation, the availability of land for settlement and the relatively safe anchorage suggested that there may be archaeological sites on land and under water in Great Mosquito Cove.

---

[1] A sailing ship with from three to five masts, all of them square rigged except for the after mast which is fore-and-aft rigged.

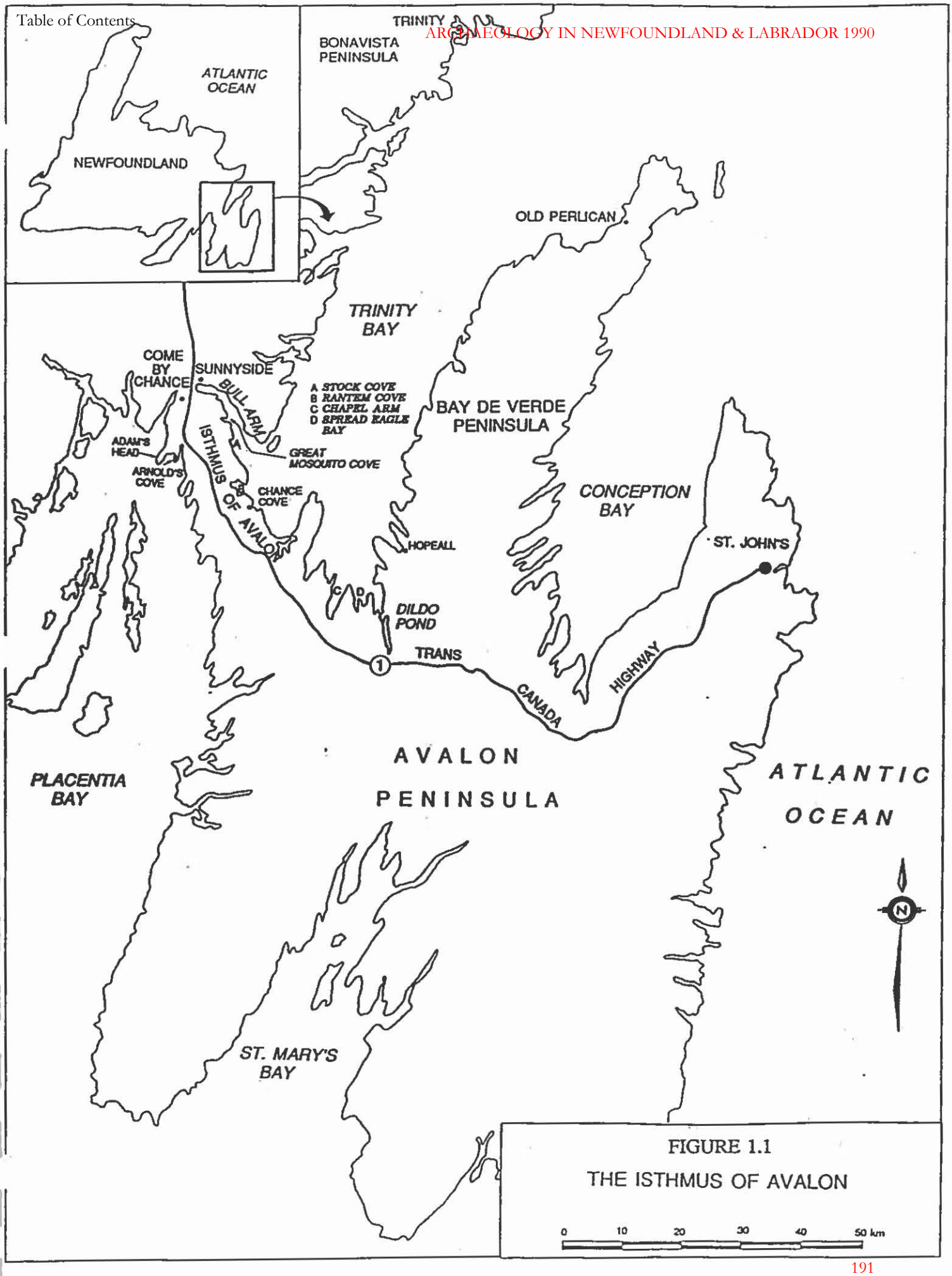
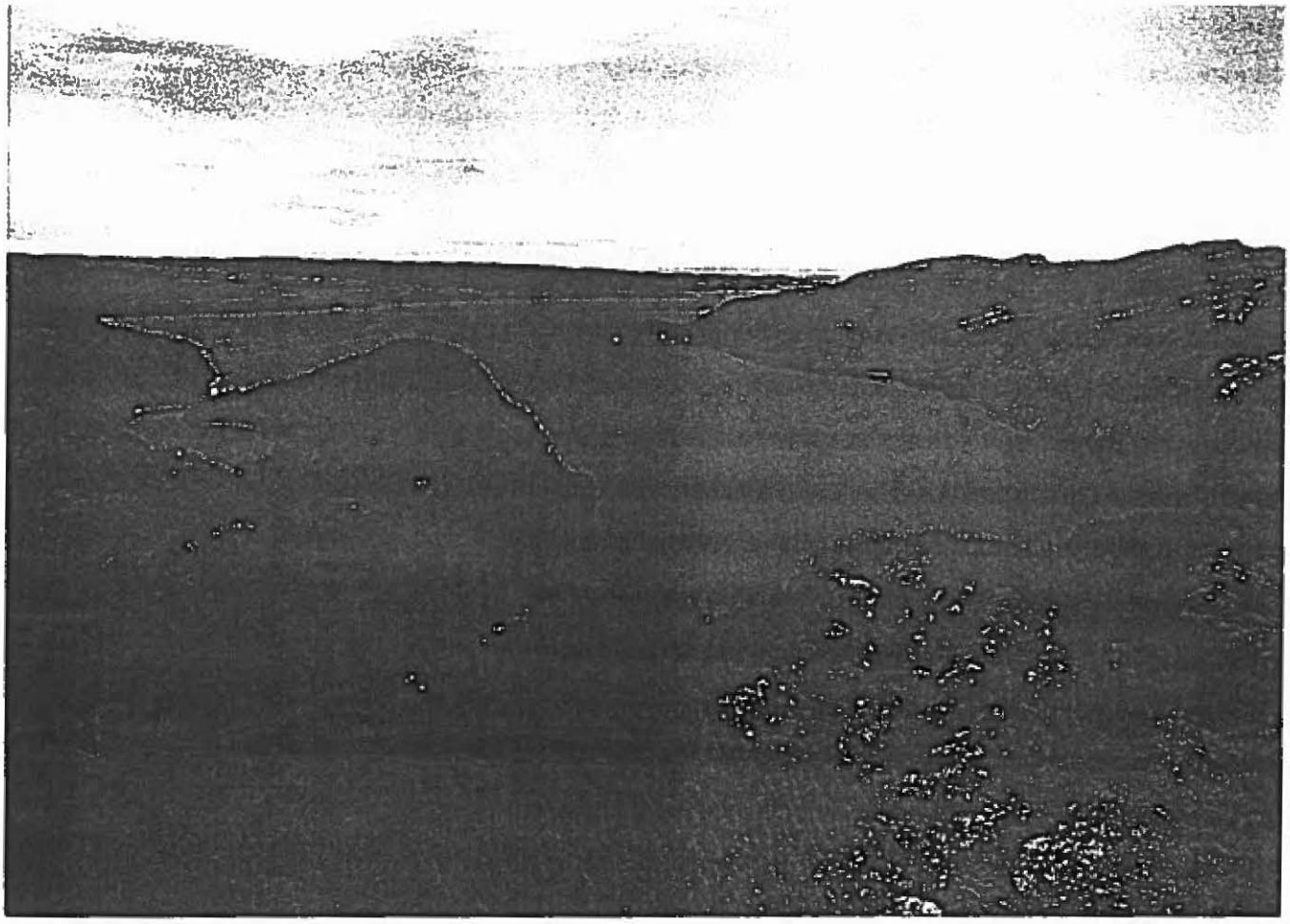


FIGURE 1.1
THE ISTHMUS OF AVALON

Plate 1.1 Great Mosquito Cove, View East



Prior to the underwater reconnaissance undertaken by members of Newfoundland Geosciences Limited during the fall of 1989 no marine archaeology had been conducted in Great Mosquito Cove, or elsewhere in Bull Arm for that matter. That cursory "visual survey" revealed the presence of small concentrations of historic material dating from the 18-20th centuries in Peddle's Cove, Bob Peddle's Cove and Great Mosquito Cove. All material found was sufficiently close to shore to indicate deposition into the water from a shore station (NGL 1990).

Ships had penetrated Bull Arm as far as Sunnyside since the early 1600s, when John Guy sailed in to meet and trade with the Beothuk; "Red Indians" (Howley 1915). Journals kept by Guy and Henry Crout (Quinn 1979; Cell 1982) have recently been reevaluated by Mr. William Gilbert who, similar to Quinn, suggests that Great Mosquito Cove is the Flagstaffe Harbour mentioned in the 17th century journals, where Guy's ship anchored for a total of four days on two different occasions in 1612. Further to this, Mr. Clifford Evans (Evans 1981, 1982) recovered European material dated to the mid-to late-1600s from Frenchmen's Island, Trinity Bay. Therefore, it was felt that there was substantial potential for the presence of early European and Newfoundland-derived marine archaeological deposits originating from shore stations, anchored vessels and wrecked ships, located under water in Great Mosquito Cove.

Based on the above, the general objectives of the present underwater project were to thoroughly inspect the harbour bottom at Great Mosquito Cove to determine the nature and extent of archaeological material in the proposed construction area and to recommend mitigation measures if indicated. An ROV survey was undertaken initially to furnish a comprehensive visual inspection of the study area; from this were derived strategies and priorities for subsequent shallow and deep water swim searches and archaeological test pitting.

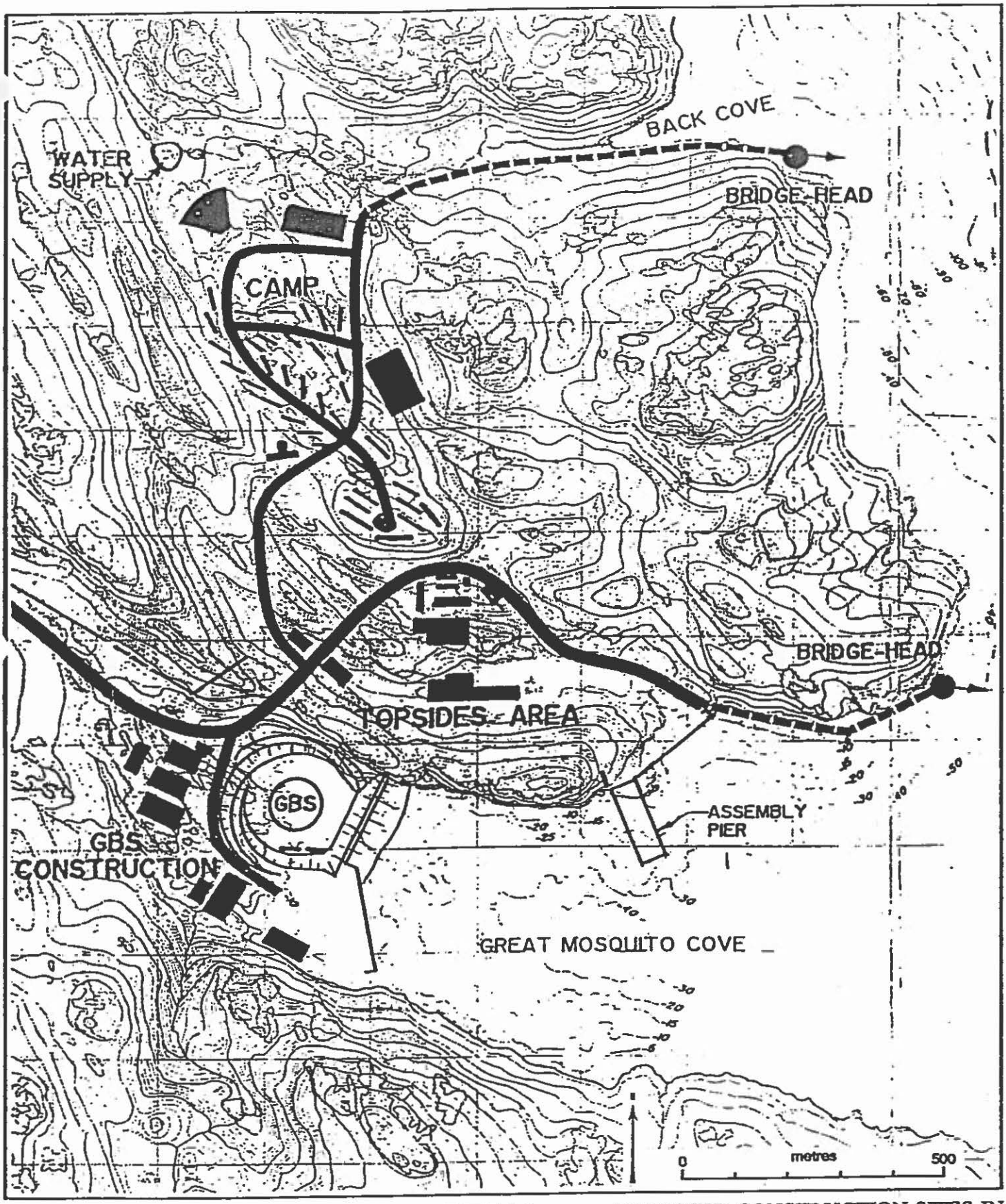


FIGURE 1.2 PROPOSED CONSTRUCTION SITES IN GREAT MOSQUITO COVE

The shallow and deep water archaeological diving programs were implemented to investigate locations not covered during the shallow water diving of December 1989 (NGL 1990) and areas between ROV transects that may have avoided inspection. Potential sites identified during the ROV work were to be investigated further.

A program of systematic test pitting was undertaken in areas off-shore from known land sites, (i.e. those recorded during the terrestrial archaeological survey) and in the vicinity of any potential cultural features or artifact concentrations identified in both shallow and deep water areas during the ROV and the diving reconnaissance. The rational for test pitting was to fully determine the nature and extent of cultural material encountered.

1.3 PROJECT PERSONNEL

Project Manager; Mr. J. Callum Thomson, Archaeologist, LFA.

REMOTELY OPERATED VEHICLE SURVEY (ROV)

Mr. Peter Davies, ROV operator, Polaris Marine Services Limited.

Mr. George King, Boat operator and deckhand, Trinity, Newfoundland.

Mr. Roy Skanes, B.A., M.A. (pending) Archaeologist, LeDrew, Fudge And Associates (LFA).

Ms. Mary Scott, B.A. Archaeological Assistant, LFA.

Mr. David Robbins, B.Sc., Marine Biologist, (LFA).

SHALLOW WATER DIVING AND TEST PITTING PROGRAMME

Mr. Peter Davies, Diving Supervisor, Polaris Marine Services Limited.

Mr. Perry Diamond, B.Sc., project diver, (LFA).

Ms. Deborah Steel-Flynn, M.Sc., Marine Biologist, project diver, LFA.

Mr. David Robbins, B.Sc., Marine Biologist, project diver, LFA.

Mr. David Seaward, Fisherman and boat operator from Center Cove, Trinity Bay.

Mr. Roy Skanes, B.A., M.A. (pending) Archaeologist, Field Supervisor (Marine) and project diver, LFA.

DEEP WATER DIVING PROGRAMME

Mr. Chris Blackwood, project diver, Polaris Marine Services Limited.

Mr. Peter Davies, Diving Supervisor, Polaris Marine Services Limited.

Mr. Lou Osmond, project diver, Polaris Marine Services Limited.

Mr. Dean Simms, project diver, Polaris Marine Services Limited.

Mr. Roy Skanes, Archaeologist, Field Supervisor, LFA.

Figures for the report were rendered by Mr. Graham Carmichael of NGL. Photographs used in the text were provided in part by Mr. Douglas Goodridge of Mobil Oil (Plates 1, 3 and 4) and Mr. Roy Skanes, LFA. Preliminary examination of the ballast flint and suggestions as to its origin were offered by Dr. Robert Stevens of Memorial University's Earth Sciences Department.

1.4 PROJECT SCHEDULE

ROV survey; June 4-11

Support barge moved from Sunnyside to Great Mosquito Cove; June 13

Shallow water archaeological diving; June 18-21

Archaeological test pitting; June 22-25

Deep water diving programme; June 27-29

Demobilization, Moving Barge From Great Mosquito Cove; June 30

1.5 REPORT ORGANIZATION

This final report is intended to provide the proponent, Mobil Oil Canada Properties, with a complete and thorough outline of the procedures followed and results obtained from the underwater archaeological survey undertaken at Great

Mosquito Cove during June 1990. A preliminary field report was submitted on July 3, 1990. The reconnaissance comprised a preliminary visual survey using a Remotely Operated Vehicle (ROV), followed by shallow water archaeological diving and test pitting programs. Subsequent to this, a programme of deep water archaeological diving was implemented. From these works conclusions regarding archaeological resources in the study area are offered.

The present document is structured according to the Historic Resources Division Stage 1 Guidelines (Government of Newfoundland and Labrador) and presents a brief description of the study area, the study methodologies used and the principal results obtained. Based on the research findings of the study, the report concludes by offering an overall archaeological assessment of the cove with conclusions drawn as to the level of use and occupancy in and around the immediate area.

The various methodologies employed for the archaeological programs are discussed chronologically, that is the order in which they were implemented.

2.0 PROPOSED DEVELOPMENT PROJECT

Great Mosquito Cove is the selected site for construction of the platform (GBS) for oil production from the Hibernia field on the Grand Banks of Newfoundland. The major site preparation activities are planned for the period between mid-1990 and 1993. These will include:

- Ground clearing, excavation, backfilling, levelling and other site preparation;

- Nearshore civil works to provide a breakwater, dry dock and quays which will involve excavation and backfilling;

- Channel preparation for tow-out lanes, landfill and sea reclamation at Peddle's Cove for construction of the topside assembly; and

- Preparation of some land facilities such as anchor points for the deep water mating site.

3.0 STUDY AREA

The study area for the underwater archaeological reconnaissance comprised all of Great Mosquito Cove, from the extreme west end up to and including Peddle's Cove which is located roughly midway along the north shore (Figure 3.1).

Great Mosquito Cove is approximately 1.6 km long and 0.85 km wide at the mouth. The orientation is almost due east-west and opens into Bull Arm, a 20 km long fjord located at the southwest corner of Trinity Bay (Figure 3.1).

Great Mosquito Cove is thickly wooded around most of its margins. Much of the north side is a bare rock face which drops precipitously into the water from 100 m elevation. A small cove located midway along the north side, known locally as Peddle's Cove, is less thickly forested than areas along the south side. Deep deposits of peat have formed over the bedrock and because of this the area has remained sparsely wooded. There is a small gravel beach at the northwest corner of the cove backed by a wet, peat covered terrace. A small inlet drains two streams near the southwest corner of the cove. Several hectares of relatively flat terrace are situated to the south and west of the inlet.

The south side of Great Mosquito Cove slopes quite steeply to the water with the region directly adjacent to the shoreline being heavily wooded. Another small cove located midway along this shore, known as Bob Peddle's Cove (not to be

confused with Peddle's Cove on the north side) offers a gravel beach but no level ground beyond the beach.

The west end of Great Mosquito is again relatively heavily wooded and has three small coves along this end; one roughly midway north-south, with remaining two located in the extreme northwest corner. All three have gravel and rock beaches with only the central one offering anything approaching a raised terrace back from the waters edge.

The topography underwater in Great Mosquito Cove in certain areas parallels that on land. This is evident on the north side in that the bottom slope is extremely steep and is composed of large angular boulders, fallen chunks of bedrock and massive bedrock outcrops. The slope is such that at approximately 60 m from shore the water depth is up to 25 m deep.

Along the south side the situation is similar but somewhat less dramatic than along the north. The slope here drops at roughly a 45 degree angle to a depth of 10-12 m. Common to both the north and south sides is that at the base of the slope the bottom continues to drop gradually towards the center of the cove but a greatly reduced angle. Maximum water depth in the middle of the cove is approximately 45 m.

The physical characteristics of the bottom of Great Mosquito Cove as determined from the marine habitat study are presented below. This information is considered significant to the present report as the various habitats are essentially a direct reflection of the bottom types existing in the cove. Understanding the nature and extent of the various types was an aid in predicting the potential for hidden and/or obscured cultural material. Also, this figure is presented to better illustrate to the reader the logic underlying survey strategies utilized in different locations throughout the study area (Figure 3.1).

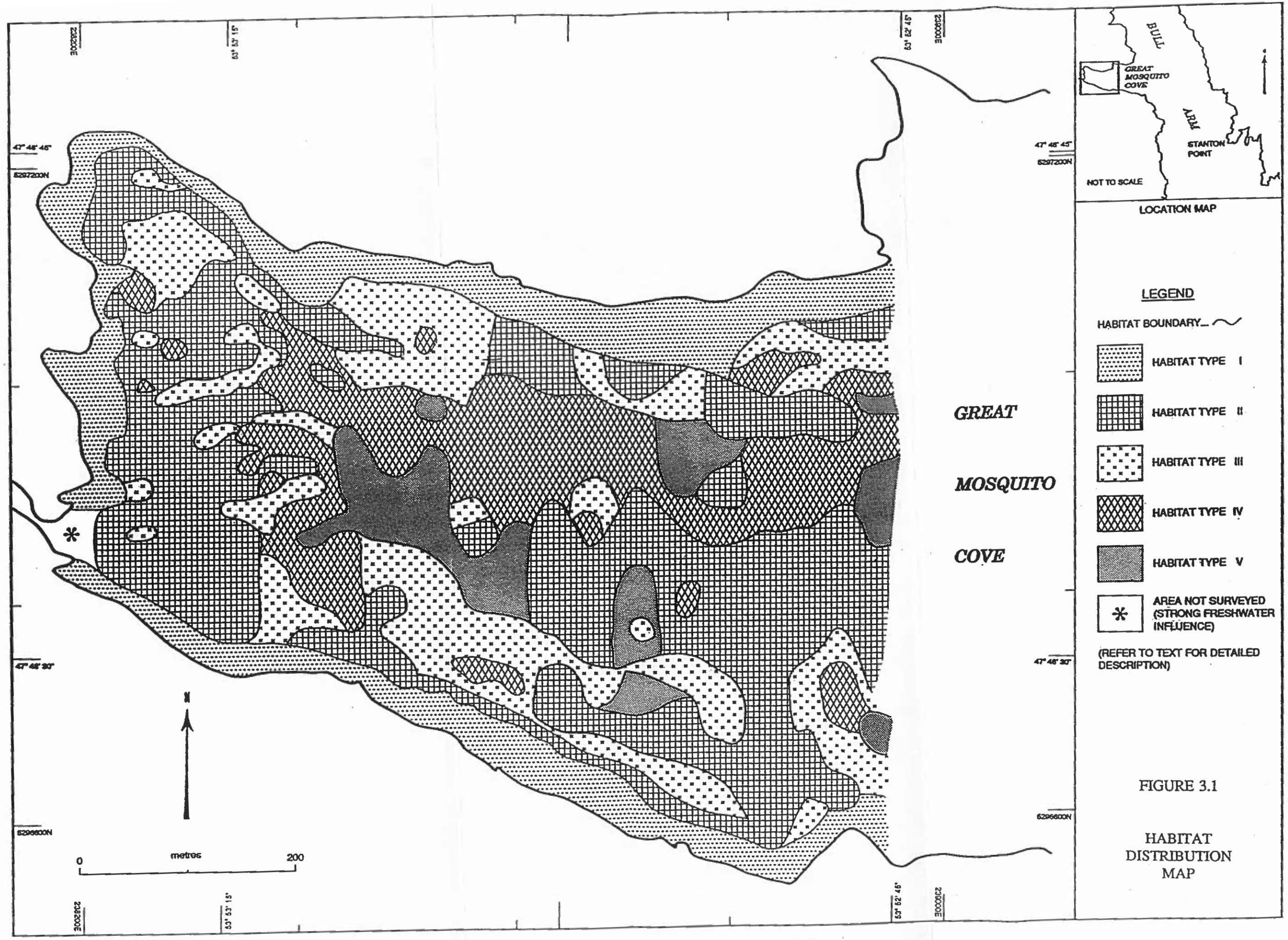


FIGURE 3.1

HABITAT DISTRIBUTION MAP

Table of Contents

I) Steep rocky slope comprised of varying proportions of bedrock, boulder and cobble, fringing shoreline; high availability of crevices and cover. Depth, 10m.

II) Level open bottom; barren with little cover-algae cover < 15%, some cobble and rock. Depth, 10-45 m.

III) Dense kelp beds or filamentous algae offering a high degree of cover (>50%). Depth typically ≥ 12 m.

IV) Bedrock outcroppings or boulder dominated area. Depth, 15 m.

V) Mixture of rock (boulder, cobble) and algae cover (<50%); not distinctly barren (Type II) or dense kelp (Type III). Depth typically > 12 m.

4.0 METHODOLOGY

The following tasks were implemented prior to commencement of the fieldwork;

- published and unpublished literature, archival, map and aerial photo review;
- search of the Historic Resources Division site files;
- informant interviews; and
- field program adjustments.

4.1 ROV SURVEY: SHALLOW AND DEEP WATER AREAS

The methodology for the ROV survey was modified from the original proposal to accommodate the limitations of both the survey vessel and wind conditions in the cove. Initially the methodology entailed towing the ROV submersible at

approximately one knot along a straight south-north course for each transect. However, under actual field conditions a number of factors affected the ability of the ROV to remain on the transect. Firstly, the survey boat was unable to maintain a low enough speed to avoid dragging the ROV resulting in a poor video representation of both the marine habitat and potential archaeological resources. Secondly, the level of wind conditions experienced during the field work were sufficiently strong to move the boat off course considerably, resulting in potential inaccurate transects. The method chosen to rectify this problem and the benefits resulting are discussed below.

An additional modification to the original proposal is the number of complete south-north transects undertaken. Initially it was proposed to run a transect across the cove every 20 m. It was later decided however that due to time constraints and the adequate degree and quality of coverage obtainable with the ROV that doing half the original number of transects proposed would be sufficient. Therefore, transects was undertaken at every 40 m interval (Figure 4.1)

The Phantom 500 ROV which is attached to a 150 m umbilical line was equipped with a colour CCD camera and two high intensity underwater lights Plate 4.1). This and all the additional equipment required to run the system, i.e. an electrical generator, two colour monitors and a VCR video recorder, were operated from the 13 m charter boat, the Barbara Ann II (Plate 4.2).

To undertake the ROV reconnaissance fixed datum points of 20 m apart (numbering 0-40) were established on land along both the north and south sides of the survey area. Following this a half inch nylon line was run out across the cove and attached as closely as possible to the survey points, thus physically establishing the transect that the survey boat would follow (Plate 4.3). In order to ensure that the rope approximate as closely as possible the true transect, it was extremely important to ensure that it be tight, as any play or slack in the line

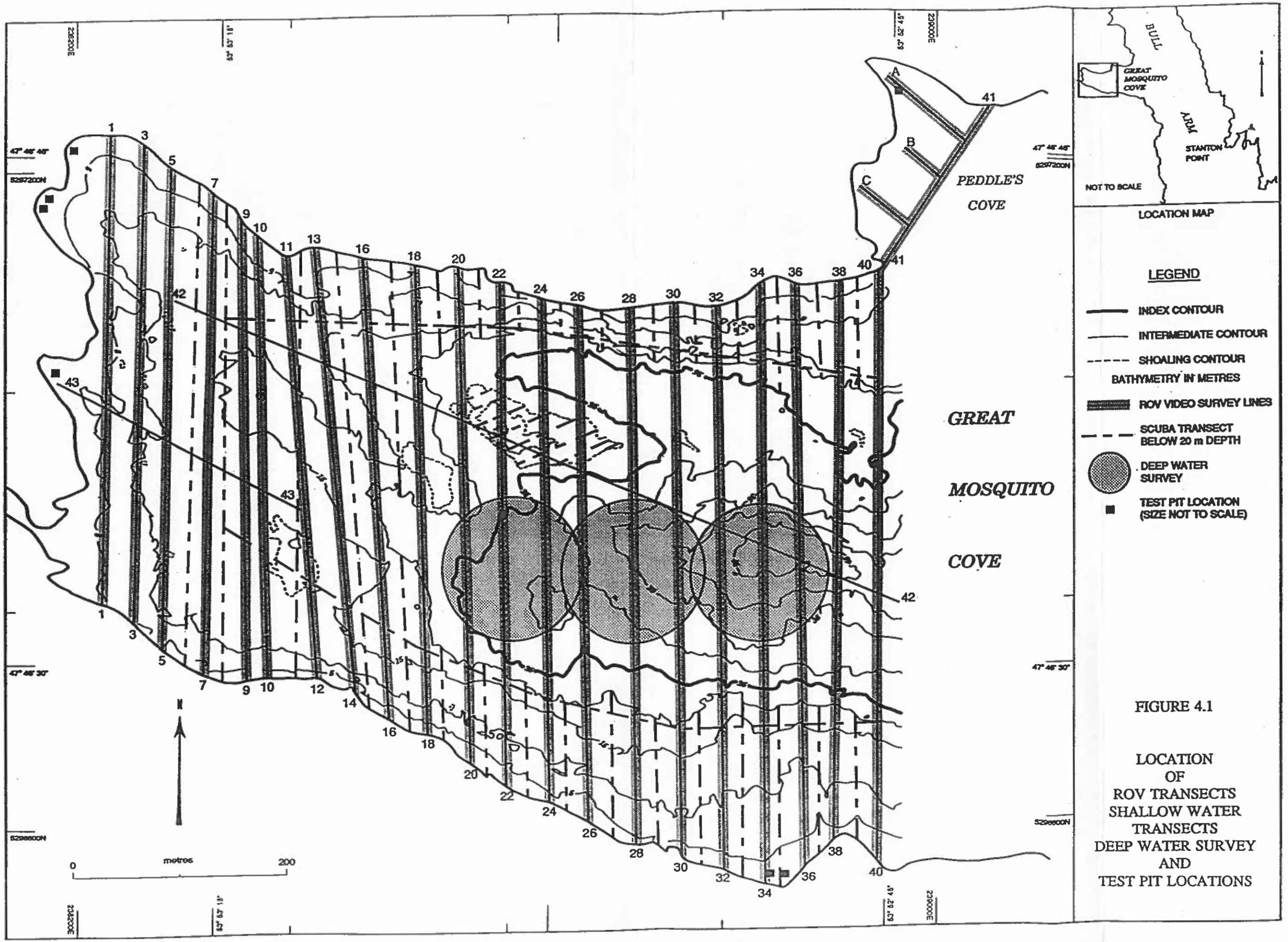


FIGURE 4.1

LOCATION
OF
ROV TRANSECTS
SHALLOW WATER
TRANSECTS
DEEP WATER SURVEY
AND
TEST PIT LOCATIONS

Plate 4.1 Phantom 500 ROV

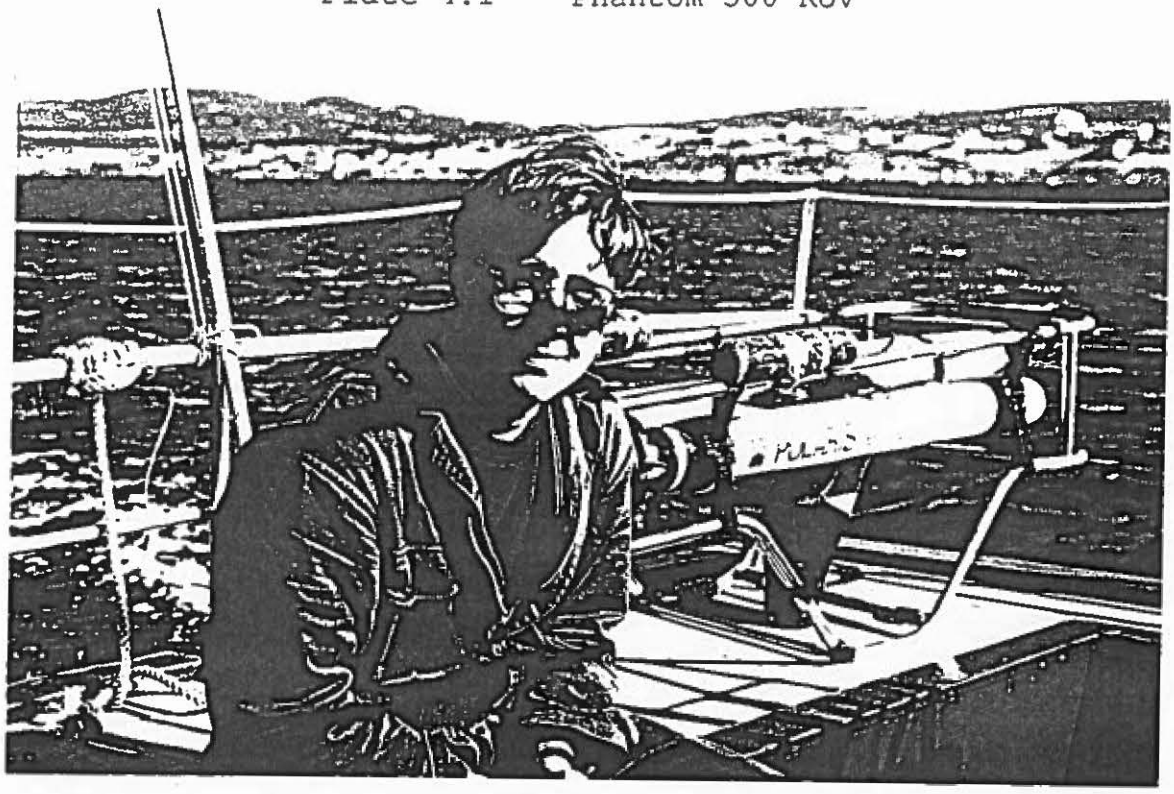
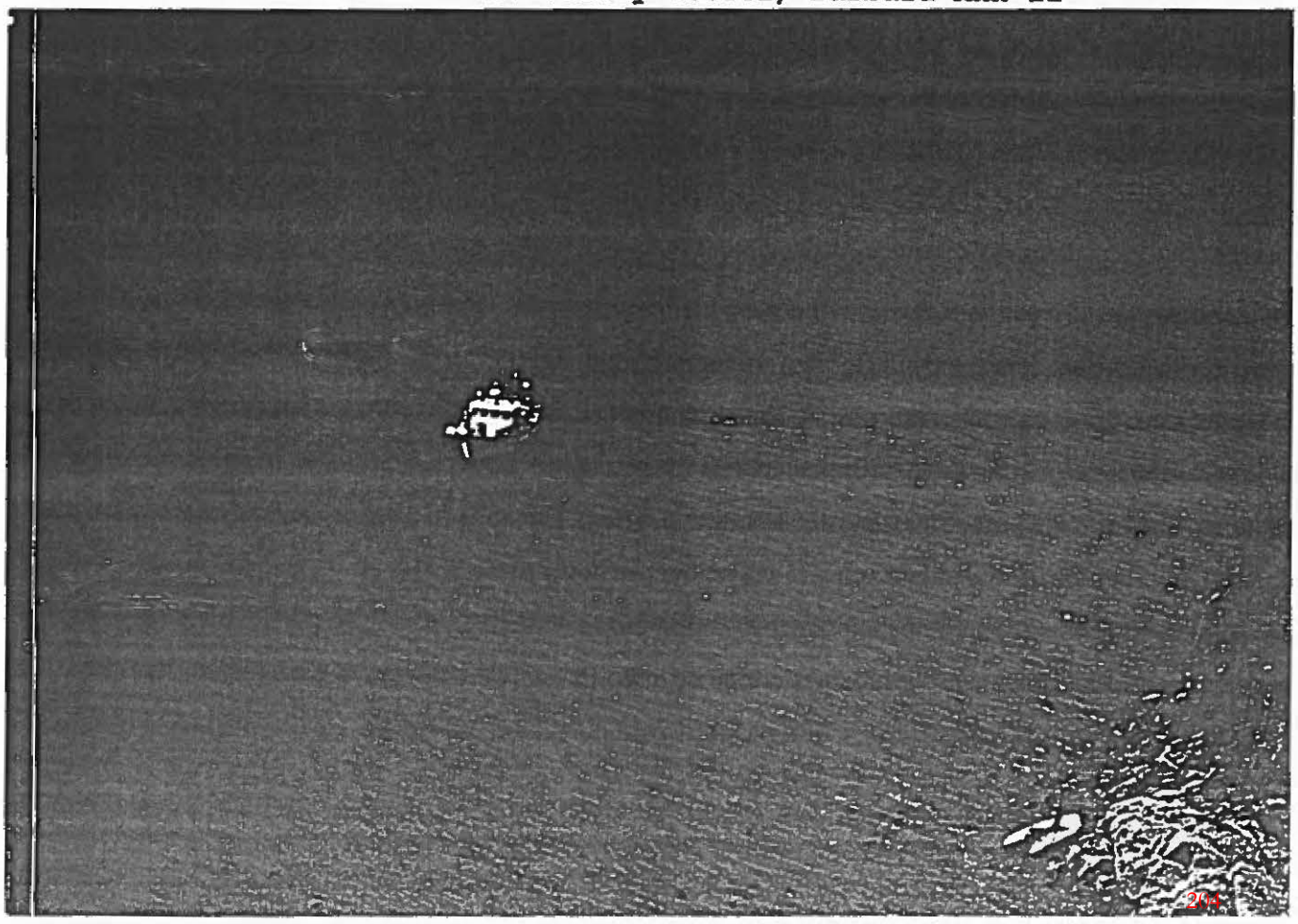


Plate 4.2 ROV Survey Vessel, Barbara Ann 11



would translate into substantial inaccuracies when running the boat across the cove. As the length of the transects were in some cases in excess of 500 m, it was necessary to use the boat to assist in tightening the nylon line. Establishing a tight, i.e. straight, transect didn't pose any major problems as wind conditions during the survey were relatively light.

Given the likelihood of finding historic or prehistoric archaeological material relatively close to shore, (the shoreline being an area intensively utilized by virtually all prehistoric and historic cultural groups that occupied the island of Newfoundland), the ROV survey began the visual inspection of the harbour bottom for each transect at this potentially significant area. The starting point therefore was a distance approximately 10 m from the high-water line; in short as close to the shoreline as safety or the boat would permit. By attaching the bow of the survey vessel to the transect line at the correct location and lowering the ROV into the water, it was possible to search the bottom for archaeological features and artifact concentrations within a 20 m radius (the ROV being operated on a 10 m tether) directly below the vessel. When the shoreline area had been thoroughly inspected, recorded on the VCR tape, and note taking completed, it was simply a matter of manually moving the boat forward along the transect line to the next survey station (Plate 4.4).

Subsequent search locations along the transect were selected not only at arbitrarily spaced intervals, i.e. 50 m, but were also influenced by the nature of the bottom topography and therefore the potential for obscured or hidden archaeological material. When a significant location was identified a circle search was instigated, the results assessed, and the boat advanced further along the line. All transects were given a separate number (0-43) and individual search areas assigned a letter designation. Normally, each transect was divided into 5 or 6 sub-areas (A-F) thus allowing material sighted to be referenced to its precise location along a specific line. A minimum of one hour was required to thoroughly inspect a S-N transect.

Plate 4.3 Positioning Fixed Transect Line

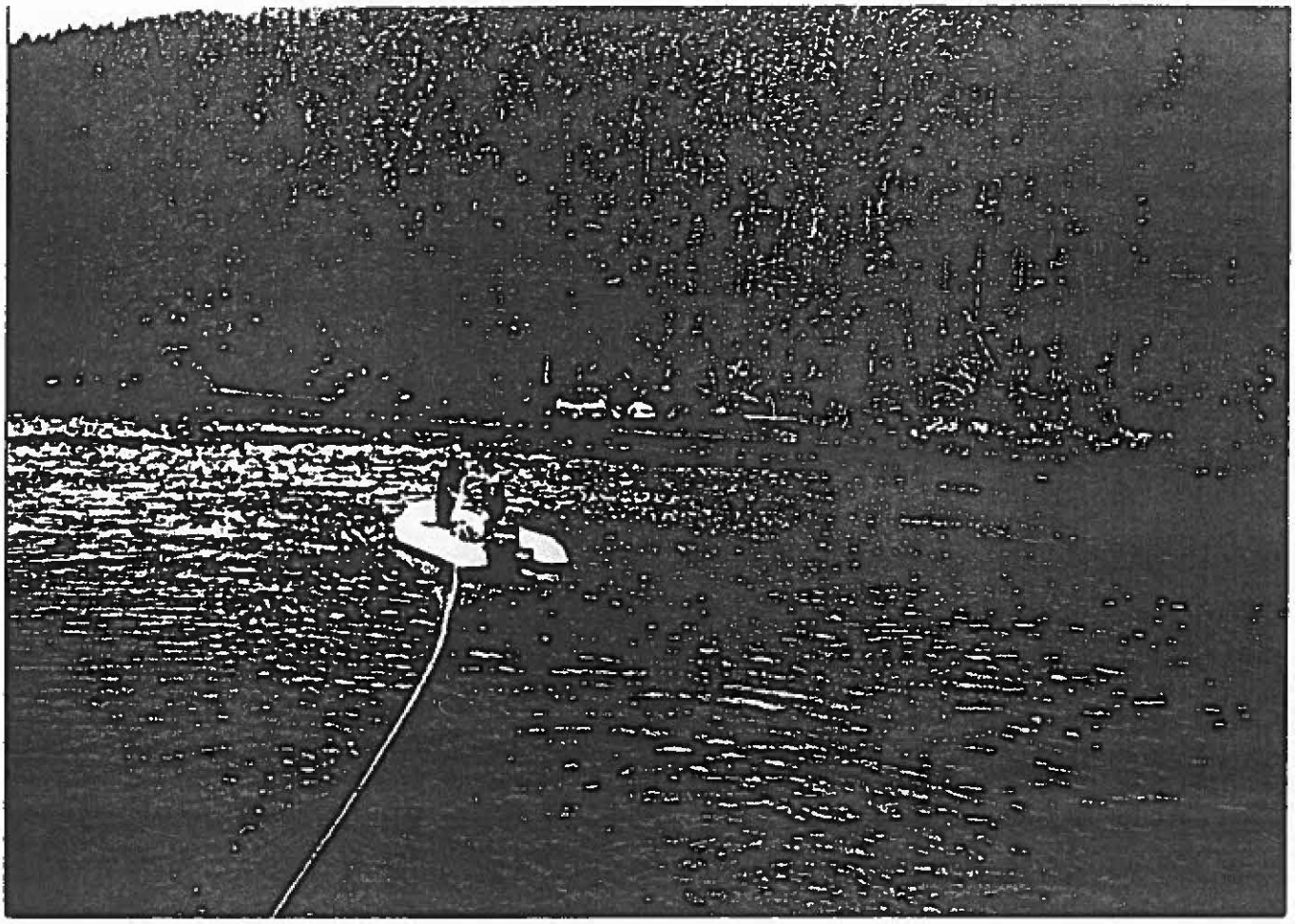
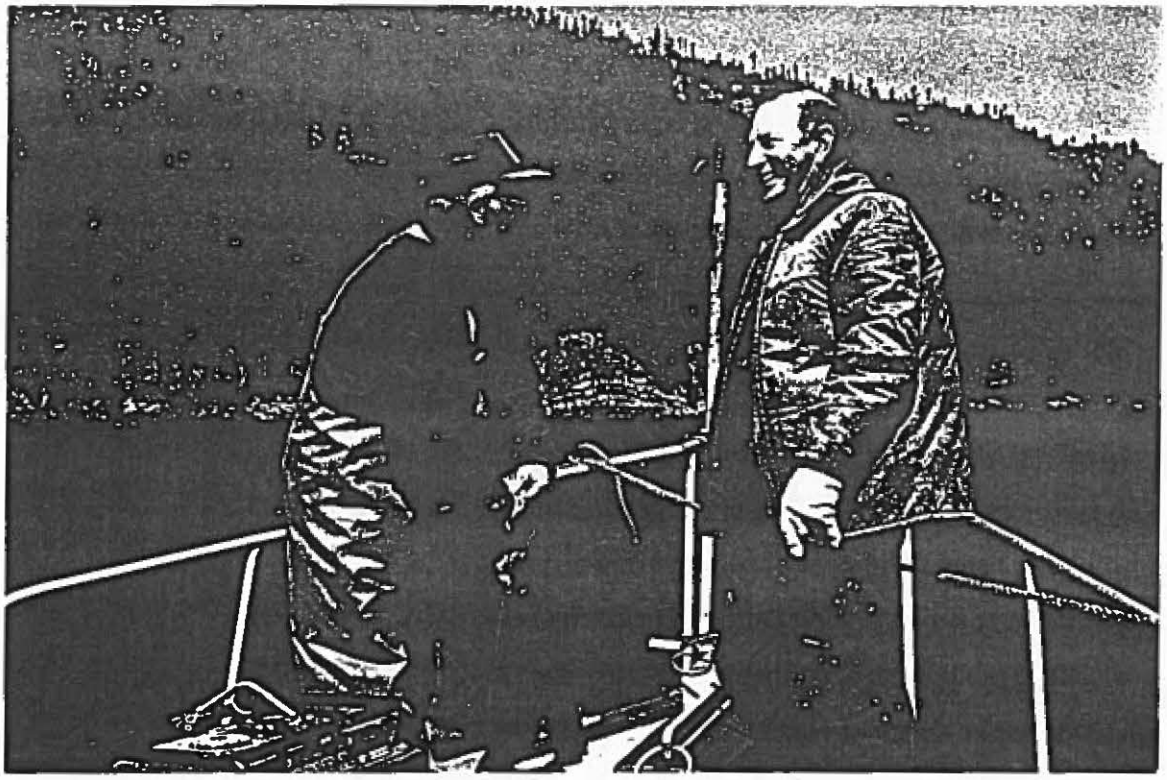


Plate 4.4 Advancing Survey Vessel Along Transect



In total 25 complete S-N and 2 E-W transects (numbers 42, 43) were undertaken in Great Mosquito Cove, plus an additional 5 individual circle searches in Peddle's Cove (Figure 4.1). Given that the tether allowed the ROV to move up to 10 m off the transect in any direction, and that the visibility in the water during the reconnaissance was not less than 10 m, it is estimated that the ROV survey established at least a 65-75% visual coverage of the harbour bottom in the study area.

Certainly the method employed for maintaining control of the ROV transects, i.e. the fixed line, proved superior to that originally proposed. Even though the wind conditions during the eight days of the survey were relatively light, they were of sufficient velocity to alter the course of the survey vessel as it proceeded along the transect. Without the nylon line fastened at both sides of the cove it would have been next to impossible for the captain to cruise on a true S-N axis; The vessel would very likely have drifted a substantial distance off course. Further to this, the problem of maintaining position would have been multiplied when undertaking an ROV circle search of a potential location. A final and major advantage to using the fixed transect line is that significant areas identified and recorded on film can now be relocated for additional inspection with relative ease, a task that would have otherwise been out of the question.

4.2 DIVING REGULATIONS

As the project is related to offshore oil production, the underwater archaeological survey was regulated for safety procedures by the Canada-Newfoundland Offshore Petroleum Board (C-NOPB) and the Canada Oil and Gas Lands Administrations (COGLA). Under these regulations, dive team members, for both the shallow and deep water diving programs, all have current Diving Medical Certificates, recognized Diving Certifications and Certified Dive Log Books. The entire diving program was overseen by an approved Diving Supervisor who ensured the use of

safety features such as maintaining a buddy system between divers, dive flags and floats, walkie-talkies for boat-to-shore communication, stand-by diver and dive boat and the use of appropriate diving equipment such as dry suit, depth and pressure gauges and buoyancy compensators. U.S. Navy Dive Tables were used and work load and water temperatures were taken into account when calculating allowable dive times.

On the advise of the Diving Supervisor dive depths using SCUBA were not to exceed 20 m, well within the COGLA Category 1 Diving depth limit of 50 m. Also, due to the diving depths required for the center of the study area, which in places is up to 45 m, a recompression chamber situated on a 12 m x 8 m support barge moored in the center of the cove was on hand throughout all diving programs (Plate 4.5). All team members for both the shallow and deep water programs (including the alternates) have valid medical certification, and Category 1 diving permits from C-NOPB. The Diving Supervisor, Mr. Peter Davies, accompanied the LFA team on two dive surveys prior to the present project in Great Mosquito Cove and is familiar with both the capabilities of three of the crew members and with the dive area itself.

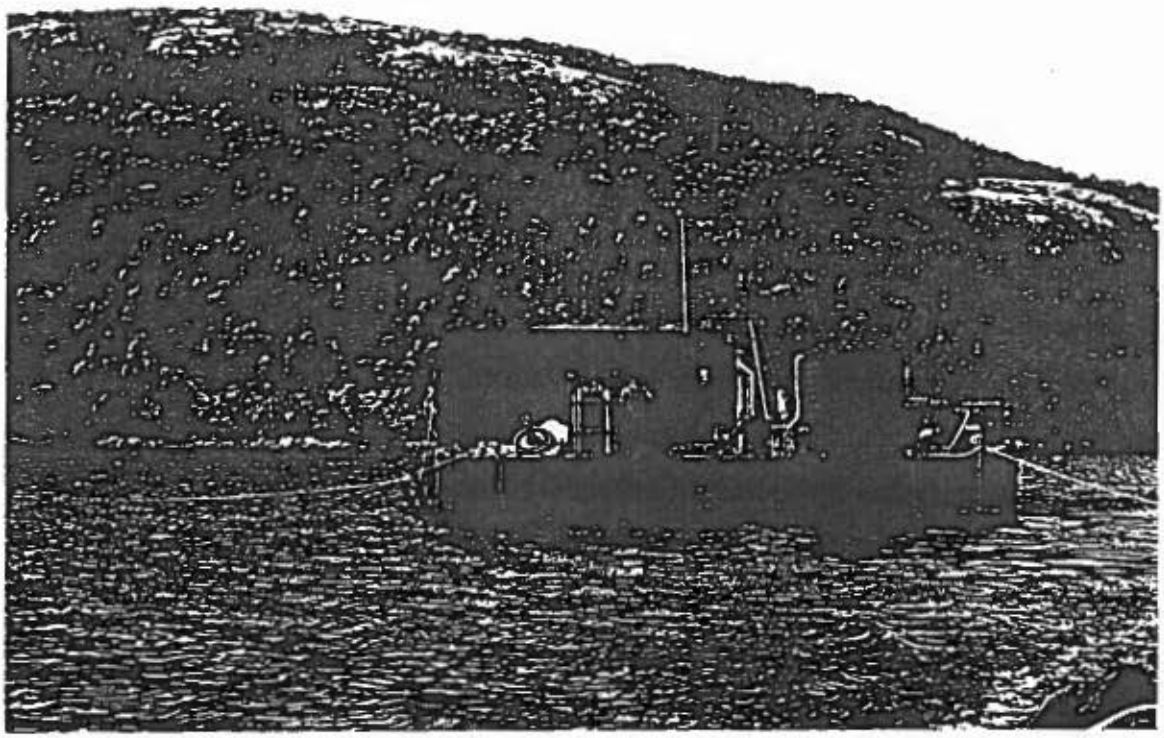
4.3 SHALLOW WATER DIVING PROGRAM

The shallow water diving investigations were conducted following completion of the terrestrial survey (Permit 90, 02) and the ROV video reconnaissance so that a more informed search strategy could be established for;

1) waters adjacent to any land sites found

2) in locations of high potential identified during the ROV reconnaissance and the 1989 NGL diving program; and

Plate 4.5 Support Barge



3) in locations identified in the scope of work as construction areas.

The marine archaeology team for shallow water areas consisted of four project divers, a professional diving supervisor, the archaeological supervisor (marine), and the dive boat operator. This latter person was also available for emergency transportation to shore if the need arose. Both diving programs (shallow and deep) were conducted from the 12 x 8 m support barge and an 8 m dive boat.

Shallow water SCUBA transects undertaken by a pair of divers swimming approximately 4-5 m apart, thus enabling coverage of a 10 m wide transect, were conducted along both the north and south sides of Great Mosquito Cove. These investigations were implemented in areas not covered during the ROV survey, i.e. between ROV transects, and were designed to afford visual inspection of the bottom between the shoreline and the 20 m depth contour. Two additional east-west shallow water swimming transects (one along each side of the cove) intersecting all ROV and north-south shallow water transects were undertaken to maximize coverage. Further to this, a shallow water area located on the north side of the cove and roughly mid-way east-west was visually inspected since due to its location in an otherwise deep water area it was not covered during the shallow water swimming transect program (Figure 4.1)

4.4 TEST PITTING PROGRAM

A water dredge deployed from the survey vessel was used to undertake sub-surface archaeological testing of four locations in Great Mosquito Cove and one in Peddle's Cove. Given the nature of the bottom topography (generally steep sided) and the fact that no areas of archaeological potential were located during either the ROV survey of shallow water areas or during the 0-20 m transect swimming, only regions affording relatively easy access to shore from water craft, and ones offering adjacent land conditions that are conducive to habitation, i.e.

level dry surface, access to fresh water, and a small beach on which to construct stages, slipways and wharfs, were considered to hold potential for the presence of submerged archaeological resources. Hence, all test sites were situated approximately 10 m from shore and directly adjacent to small beaches. It is hypothesised that if habitation sites (particularly historic) did in fact exist on land back from these beaches, the shoreline region may well reveal archaeological data relevant and significant to these occupations (Figure 4.1).

To maintain horizontal control of the excavations a datum line, 10 m in length, was positioned on the bottom in target areas and held in place with a lead weight attached at each end. A red buoy was then attached to the weight in order that the location of the line, and hence each 1 m x 1 m test unit along the line, could be surveyed to known land features and eventually placed on the site plan. During excavation the thickness and composition of each stratigraphic layer encountered was recorded. All the shallow water test pitting was conducted by the marine archaeological supervisor accompanied by a project diver (Plate 4.6).

4.5 DEEP WATER DIVING PROGRAM

As mentioned above, because of the water depth at the east end of the study area (40-45 m), a program of deep water transect swimming was undertaken by three professional divers who worked in direct communication with the project archaeologist positioned on the surface support barge. This work was designed to supplement data obtained from the ROV coverage of areas exceeding the 20 m water depth and where there was thought to be considerable potential for the presence of historic resources (Figure 4.1).

All bottom transects, six in total, were designed by the marine archaeologist in consultation with Mr. Peter Davies, the Diving Supervisor, to afford a thorough and comprehensive picture of the study area in water depths of up to 45 m. All

Plate 4.6 Archaeologist Excavating Test Pit

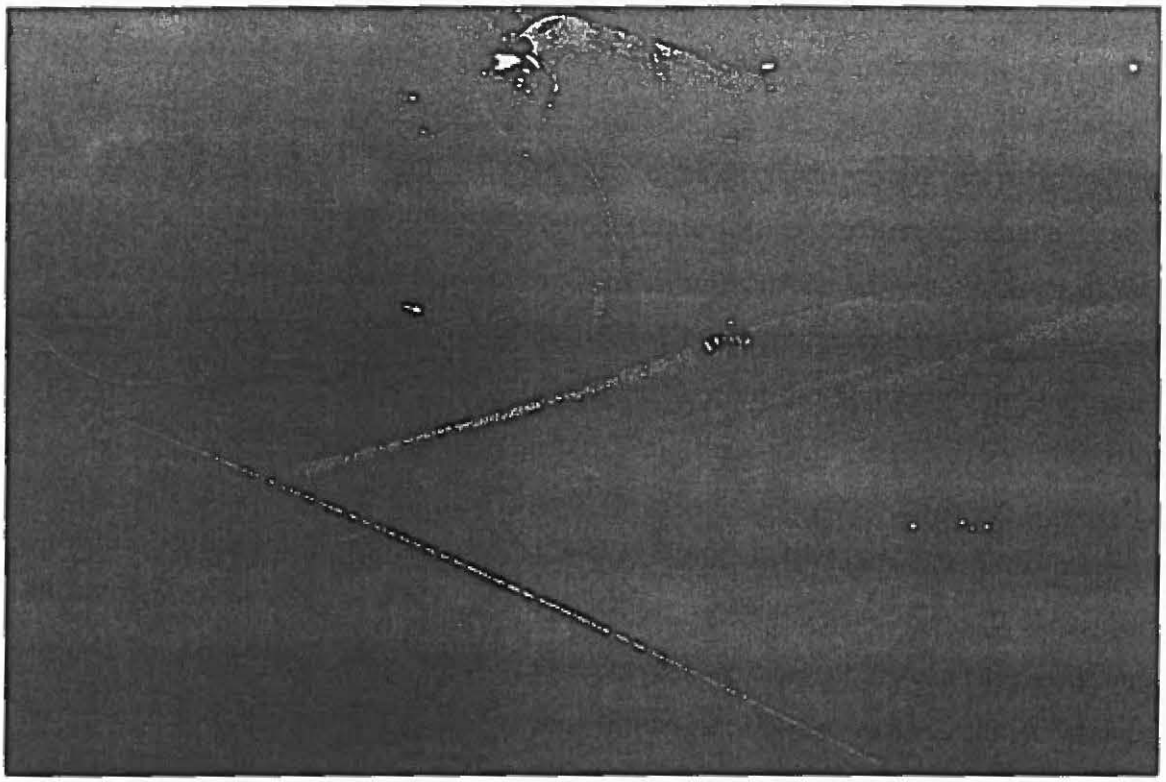
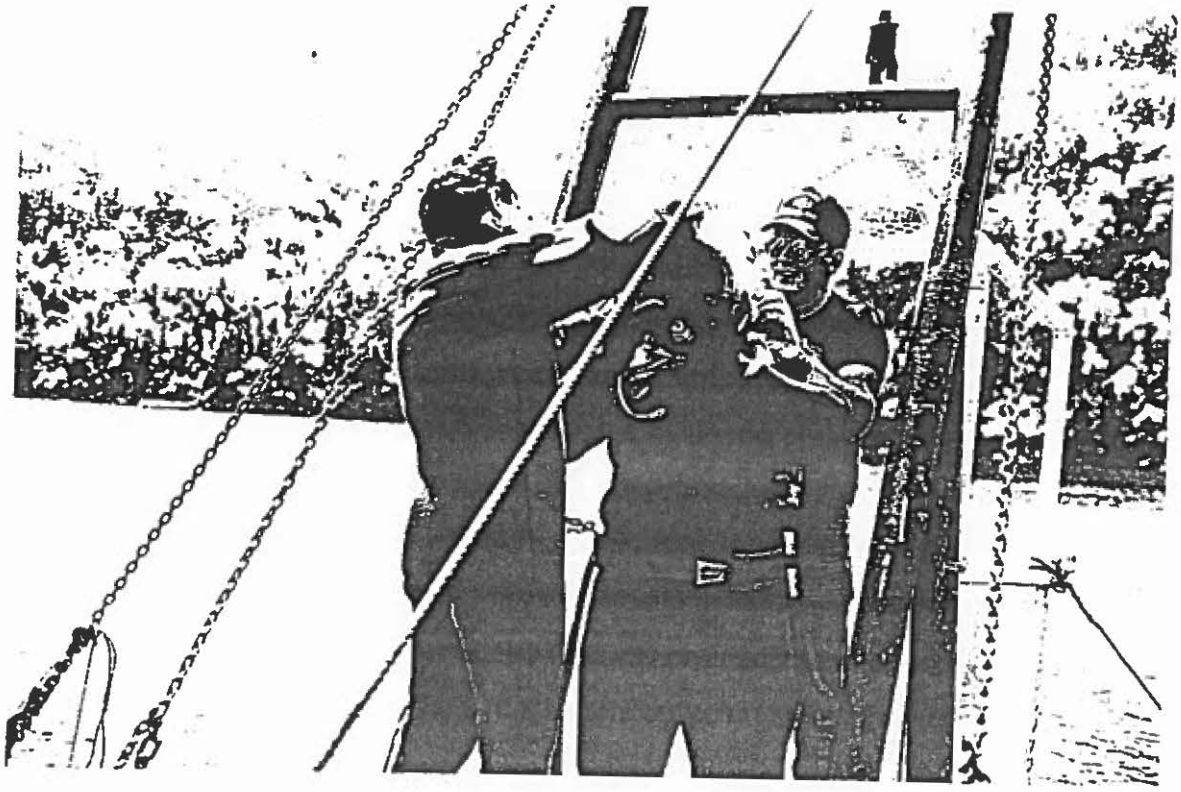


Plate 4.7 Diver Preparing to Descend



the cove bottom covered during the deep water diving program was recorded with a hand held VCR video recorder.

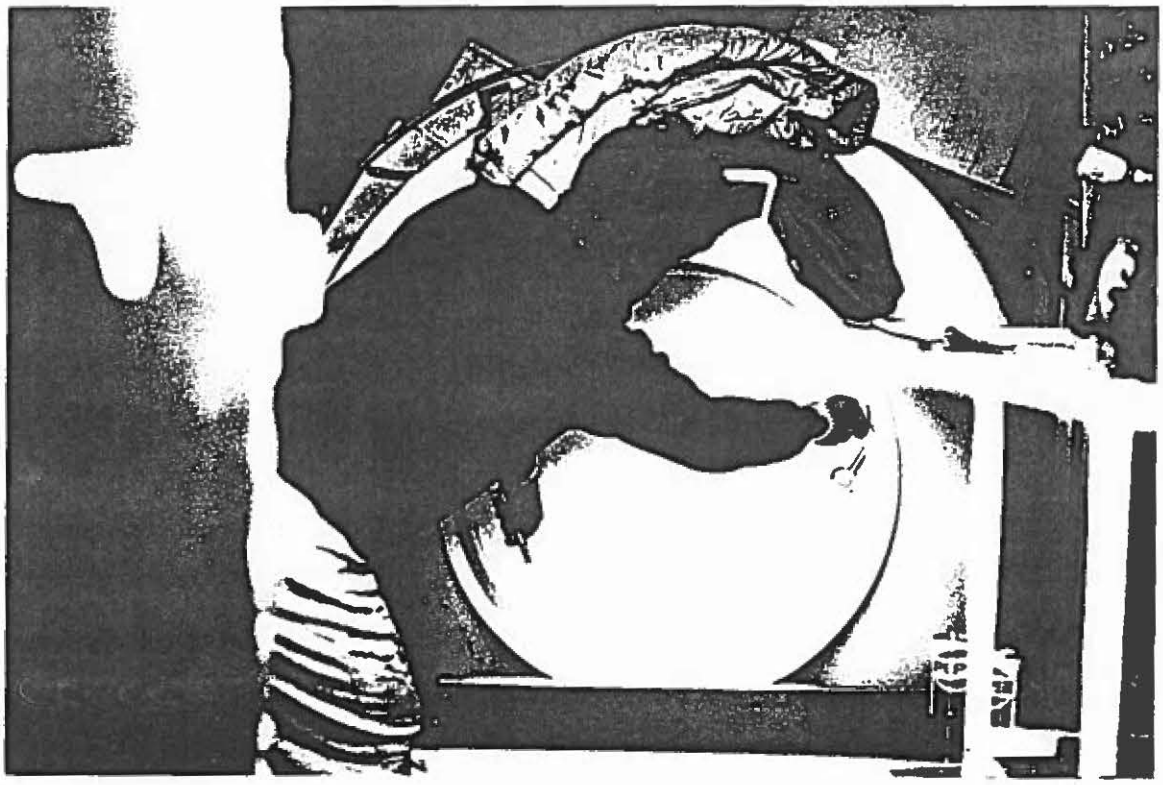
To carry out a circle search a diver, wearing a dry suit and a Superlite 17B Diving Helmet (Plate 4.7), was lowered from the barge to the bottom where he proceeded to swim away from the barge to a distance of 75 m, the maximum extension of his air hose and communication line. From there the diver proceeded to visually inspect and record the bottom within the circle, weaving in a roughly diagonal pattern from the end of his tether, back to the barge and out again.

Normally, each dive occupied approximately one hour and was of sufficient duration to completely cover one half of the 360 degree circular transect. Due to the excessive working depth, after the hour long dive the diver was required to spend at least half an hour in the recompression chamber to alleviate any possibility of decompression sickness (Plate 4.8). Further to this, he was then restricted from diving for 24 hours. Because of this scheduling, only two dives were undertaken per day, thus the limitation of covering only one complete 360 degree transect per 24 hour period.

At the end of the first day of deep diving, when the winds were relatively light, the support barge was moved further east in the cove to prepare for the second day of diving in the central transect. As for the previous day, two dives were again required to complete the second 360 degree circle search. A similar pattern of two dives and barge moving followed into the third day at which time a large percentage of the deep water areas in the cove were adequately completed.

With regards to test pitting in deep water areas, it should be noted that no locations demonstrating archaeological potential were identified during either the ROV survey or the deep water diving program. This, combined with the fact that the bottom cover in the majority of deep water areas is composed of a gravel and

Plate 4.8 Recompression Chamber



rock matrix with little silt overburden, indicated that test excavations were unwarranted.

5.0 MARINE ARCHAEOLOGICAL SURVEY RESULTS/CONCLUSIONS

Based on the combined results of the entire marine archaeological survey implemented at Great Mosquito Cove, Trinity Bay, it appears that neither the shallow nor the deep water portions of the cove were extensively utilized in the past by prehistoric or historic maritime peoples. Even though historic documentation (Cell 1982 and Quinn 1979) and archaeological data (NGL 1990) indicates that Europeans were using the cove at least on a limited basis from as early as the first quarter of the 17th century and through to the present day, no substantial deposits of cultural material were recorded during this project. In fact, all cultural debris noted during the ROV survey and both archaeological diving programs, with the exception of a single nodule of European ballast flint (Dr. Robert Stevens, personal communication) located approximately 15 m from shore in the central cove at the western end of Great Mosquito, categorically dates to the present century.

As for the flint, determining the time period of its deposition on the bottom without locating associated and datable archaeological material (i.e. glass, ceramic or a shipwreck of a known date) is virtually impossible. All that can be stated at this juncture is that the stone was likely lost or dumped from a vessel that visited the cove; possibly during the 17th or 18th century (Plate 5.1).

A single fragment of whale bone measuring approximately 1 m in length, located in the most eastern deep water transect, was brought to the surface for inspection as there existed the possibility that the material would reveal evidence of historic whaling activities in the cove. If this information was present it would likely be evident on the surface of the bone in that cut marks made by iron tools during

Plate 5.1 Ballast Flint

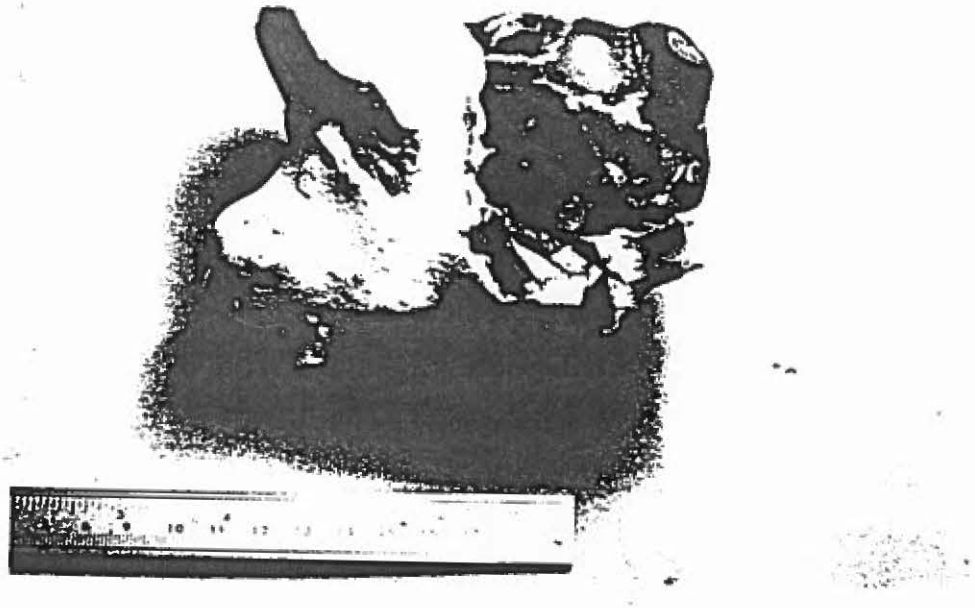
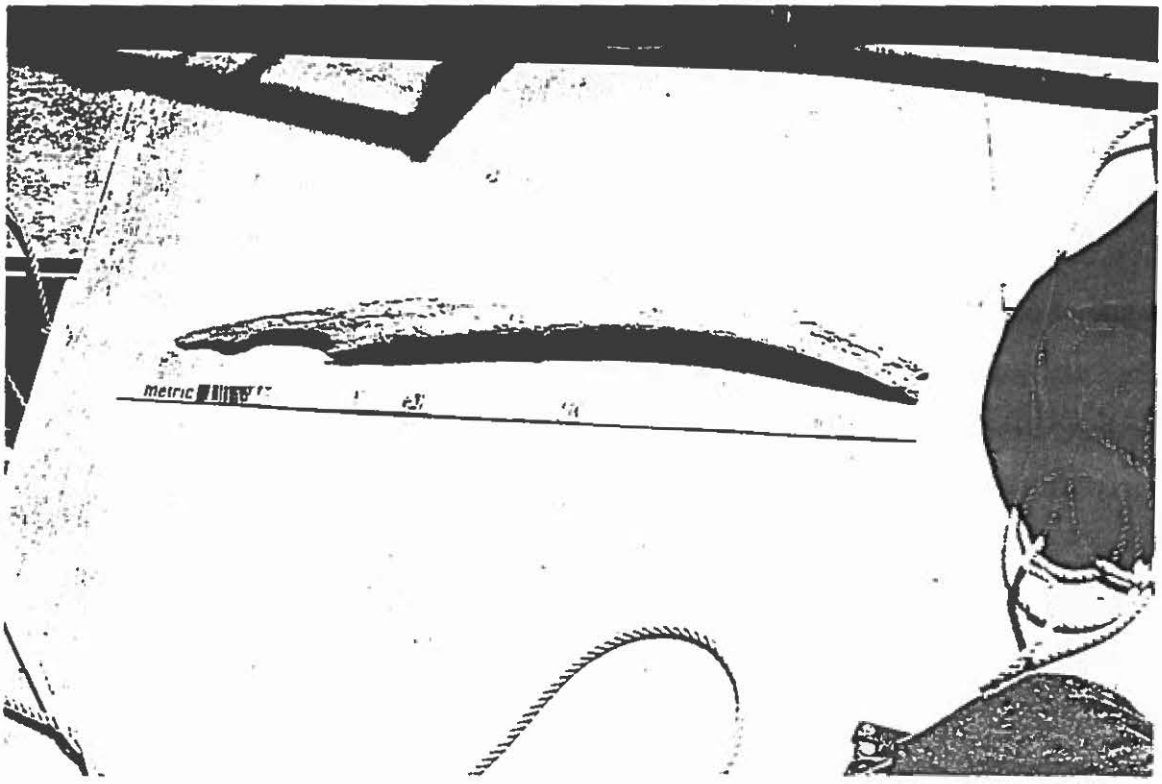


Plate 5.2 Whale Bone



butchering may still be visible. This proved not to be the case. After the bone had been thoroughly examined and photographed it was redeposited on the bottom. It is felt that the material is recent in origin (Plate 5.2).

5.1 PREHISTORIC MATERIAL

In reviewing data obtained from the present terrestrial reconnaissance and information gleaned from other land archaeological surveys and excavations conducted in Bull Arm (notably Thomson 1990), it is clear that a variety of Indian and Palaeo-Eskimo occupants were inhabiting Trinity Bay from as early as 3500 years ago. Nonetheless, no prehistoric or early historic native material was recorded anywhere under water in the study area.

5.2 TEST PITS

Similar to findings of the NGL survey of 1989, the present study demonstrated that by far the majority of artifactual material in Great Mosquito is located adjacent to and slightly offshore from the small gravel beaches that are located around the shores of the cove; principally Peddle's Cove and Bob Peddle's Cove. Even though no material of any great archaeological or historic significance was recorded on the silt surface offshore from either beach, there still existed the possibility that artifactual material deposited from a shore station or an anchored ship may have made its way down into the matrix of the bottom. Therefore, it was in these coves that the archaeological test pitting was conducted. In detail, the following is a summary of the test pitting results:

A series of seven test pits were excavated at five different locations in Great Mosquito Cove. All pits were situated slightly offshore (approximately 8 m) and directly adjacent to small gravel beaches (Figure 4.1). The water depth for all the test pits is approximately 4-5 m. Given that the stratigraphic sequence

encountered in all areas was similar, it is felt that a detailed description of each pit is unnecessary. Therefore, the following is presented to illustrate to the reader the bottom type that exists in the study and the information gained from excavating in it.

All pits measured 1 m x 50 cm in plan view. In areas where the excavation of two test pits was considered necessary the individual units were spaced 10 m apart.

Although there was slight variation in proportions of components included in the bottom matrix, the stratigraphic sequence described below is consistent for all test locations in Great Mosquito Cove (Figure 5.1);

Level 1; mixture of sand and gravel. Measures approximately 10-12 cm thick.

Level 2; directly below level 1. Composed of gavel, sand and large rock. The rock ranges in dimensions from fist sized up to 10-15 cm in diameter. The proportion of sand and gravel to rock decreased slightly the deeper the elevation. At 85 cm the composition is mainly rock.

Level 3; directly below level 2. 85-100 cm deep. large rock up to 25 cm in diameter. Appears to be the top of presumed bedrock.

On average, the excavation in each test pit was taken to a maximum depth of 1m below the silt surface. No artifactual material or any indication what so ever of culturally derived organic matter was encountered within the matrix in any test pit location. Based on this, it is felt that the deposition of silt, sand, gravel and rock

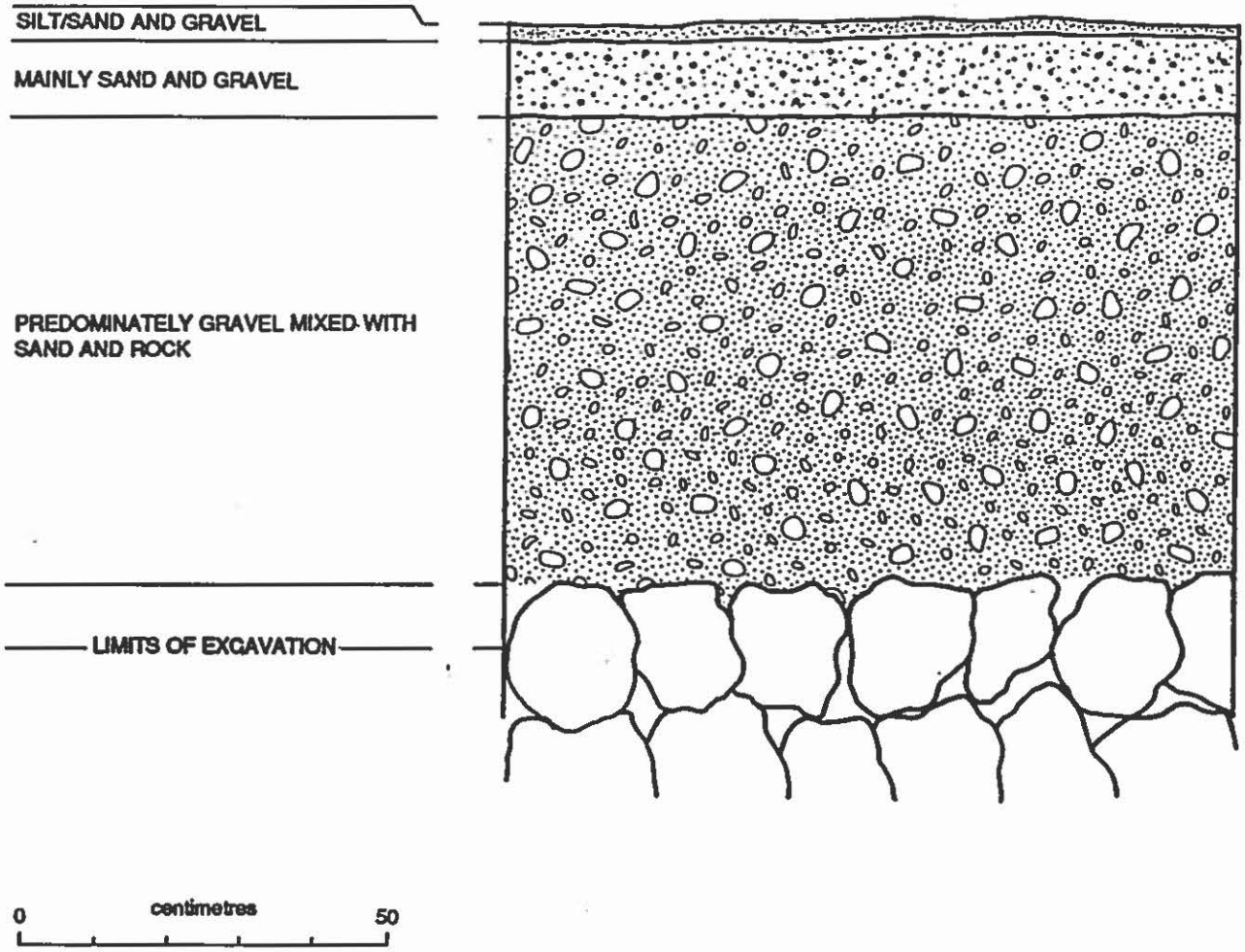


FIGURE 5.1

FIELD PROFILE
SOUTH WALL OF TEST PIT 1
BOB PEDDLE'S COVE

encountered in all test pits represents a large time scale (exact amount unknown) the bottom of which predates any historic use of the cove.

6.0 EVALUATION AND RECOMMENDATIONS

Although Great Mosquito Cove contains many of the features considered requisites for seasonal and permanent habitation by prehistoric and historic maritime peoples (source of fresh drinking water; flat, well-drained land close to shore; safe approach by boat to a clear beach; an accessible prominence to use as a lookout; south and east facing aspect; and sufficient building materials) it is our opinion that these resources and features do not exist to an adequate degree and in appropriate combination to have made the cove a sufficiently attractive place to live for extended periods of time.

Given that prospective European inhabitants would have been particularly interested in those conditions conducive to fishing, the small size of the beaches and the lack of level ground for structures would have limited Great Mosquito Cove's appeal. Certainly the lack of archaeological material recorded underwater in the cove supports this suggestion.

Normally in a well-used harbour one would expect to locate evidence of seafaring activity, such as ballast piles where fisherman involved in on-loading fish would have been required to off-load ballast stone in order to adjust the ships buoyancy prior to departing for the open Atlantic. Also, if people were using the cove on a seasonal basis one might expect to find other forms of material evidence on the bottom such as occupational implements and domestic refuse (glass and ceramic wares) that may have been lost or dumped from an anchored ship. While artifactual material was noted at various locations in the cove, the nature and extent of this collection is such as to suggest an extremely limited and short lived occupation. As a result, it is felt that mitigation measures are not indicated.

7.0 LITERATURE CITED

Cell, Gillian (Ed.). 1982. Newfoundland Discovered: English Attempts to Colonization, 1610-1630. The Hakluyt Society, Vol. 160 London

Crout, Henry. 1613a Journal written in Newfoundland, 1612-1613. Reprinted in D.B. Quinn (Ed.). 1979, Newfoundland From Fishery To Colony. North West Passage Searches. In New American World; A Documentary History of North America to 1612. Vol IV. Arno Press and Hector Bye, Inc. New York.

Crout, Henry. 1613b. Letters to Sir Henry Percival Willoughby written in Cuper's Cove, April 10. Reprinted in Gillian Cell (Ed.) pp. 79-89, Newfoundland Discovered: English attempts at Colonization, 1610-1630. The Hakluyt Society.

Evans, Clifford 1981. 1980 field report of Frenchmen's Island project. Archaeology in Newfoundland and Labrador 1980, Annual Report 1: 88-94. Historic Resources Division, Department of Municipal and Provincial Affairs, St. John's.

Guy, John. 1612. Journal of a Voyage to Trinity Bay reprinted in David B. Quinn (Ed.), New American World, Vol. IV: 152-157.

Howley, James P. 1915. The Beothucks or Red Indians. Cambridge University Press.

Thomson, Callum. 1990. Report of a Terrestrial Archaeological Survey and an Underwater Reconnaissance of Great Mosquito Cove, Bull Arm, Trinity Bay, Newfoundland.

Le Drew, Fudge
and Associates Limited
Environmental Consultants

607 Torbay Road
P.O. Box 9370, Station "B"
St. John's, Newfoundland
A1A 2Y3

Telephone: (709) 576-1458
Telecopier: (709) 576-2126

Impact Assessments - Protection Plans - Permits
Effects and Compliance Monitoring
Aquatic and Marine Surveys - Archaeology
Terrestrial Ecology, Forestry and Wildlife Studies
Biological, Chemical and Toxicological Assays
Environmental Audits - Contingency Plans
Management and Policy Analysis

Roy Skanes
90.11

REPORT OF A STAGE 1 TERRESTRIAL ARCHAEOLOGICAL SURVEY OF THE PROPOSED CORNER BROOK WATERFRONT ROAD

SUBMITTED TO

DEPARTMENT OF WORKS SERVICES AND TRANSPORTATION
POLICY AND PLANNING DIVISION

SUBMITTED BY

LEDREW, FUDGE AND ASSOCIATES LIMITED
ST. JOHN'S, NEWFOUNDLAND

L-354

B. LeDrew, President

SEPTEMBER 26, 1990

EXECUTIVE SUMMARY

The proposed development areas at Corner Brook, Newfoundland between the mouth of the Humber River and Petries Point were surveyed for their terrestrial archaeological potential. Historic resources within the study areas were assessed for their significance and impact management requirements. Although the natural environment of Bay of Islands was certainly in the past conducive to the occupation of pre-historic and historic native populations and European derived cultures, no archaeological sites of major significance were found within either development area. As a result, no mitigation measures are indicated.

TABLE OF CONTENTS

LIST OF FIGURES

1.0 INTRODUCTION

1.1 LOCATION AND DESCRIPTION OF PROPOSED CONSTRUCTION

The proposed Corner Brook Waterfront Road to be constructed by the Provincial Government's Department of Works Services and Transportation will be located between the mouth of the Humber River and Petries Point. The road will run parallel to the shoreline and be constructed in two separate sections: **Area A** will start slightly west of the Corner Brook Pulp and Paper Corporation Limited mill and extend to just east of Petries Point (Figure 1.1); **Area B** will start at the mouth of The Humber River and extend west to a point just east of the mill (Figure 1.2). The combined length of the two sections is approximately 8 km.

This development will include the following;

A) Construction of 0.4 km of climbing lane.

B) Construction of approximately 0.8 km of service roads and access roads.

C) Construction of 1 combined railway and street overpass.

D) Undertaking at least protective work to 3 oil piers, and possibly the abandonment or removal of one.

E) Removal or abandonment of 4, and possibly 6 fishing wharves.

F) Possibly the removal of 1 fishing shed.

G) Abandonment of 2 slipways.

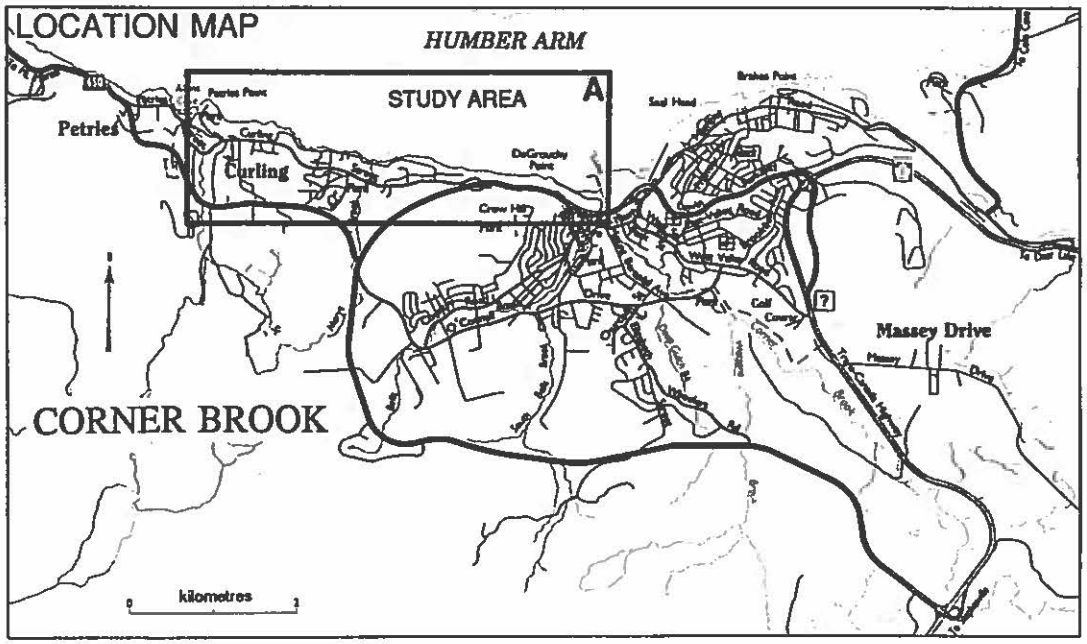
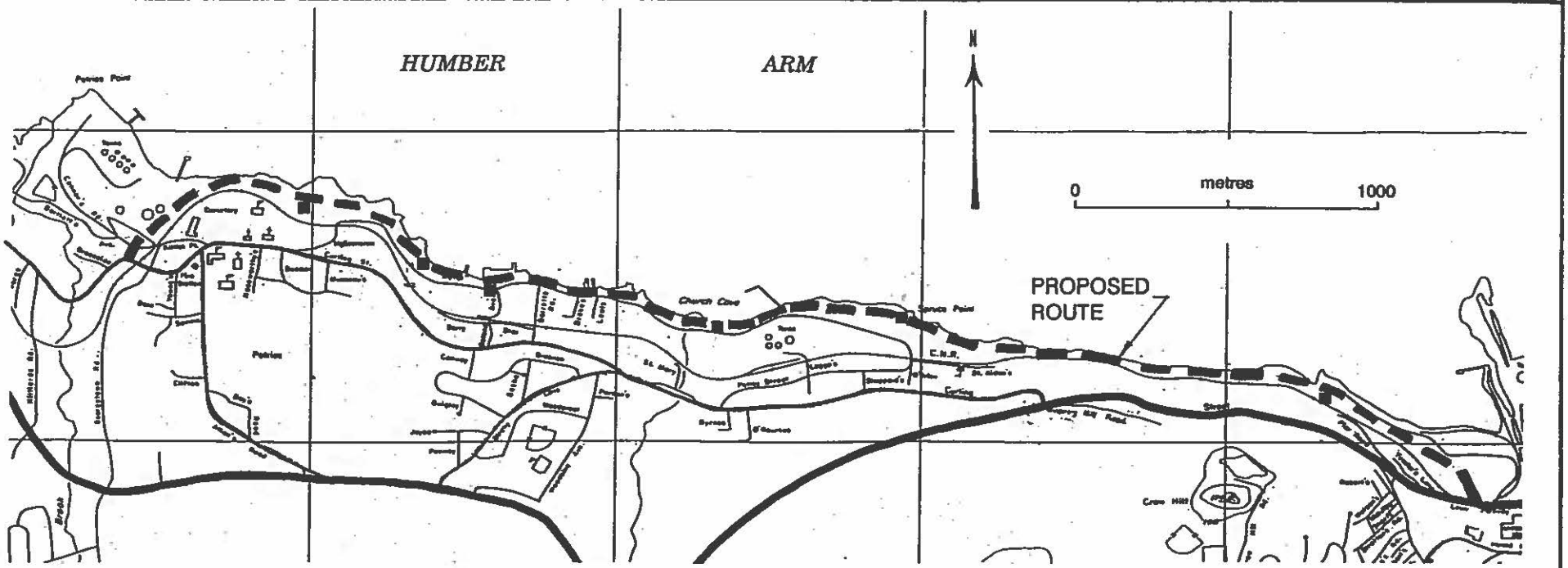


FIGURE 1.1

ARCHAEOLOGICAL ASSESSMENT
PROPOSED
WATERFRONT ROAD ROUTE
AREA A

LEGEND

■ AREAS TEST PITTED



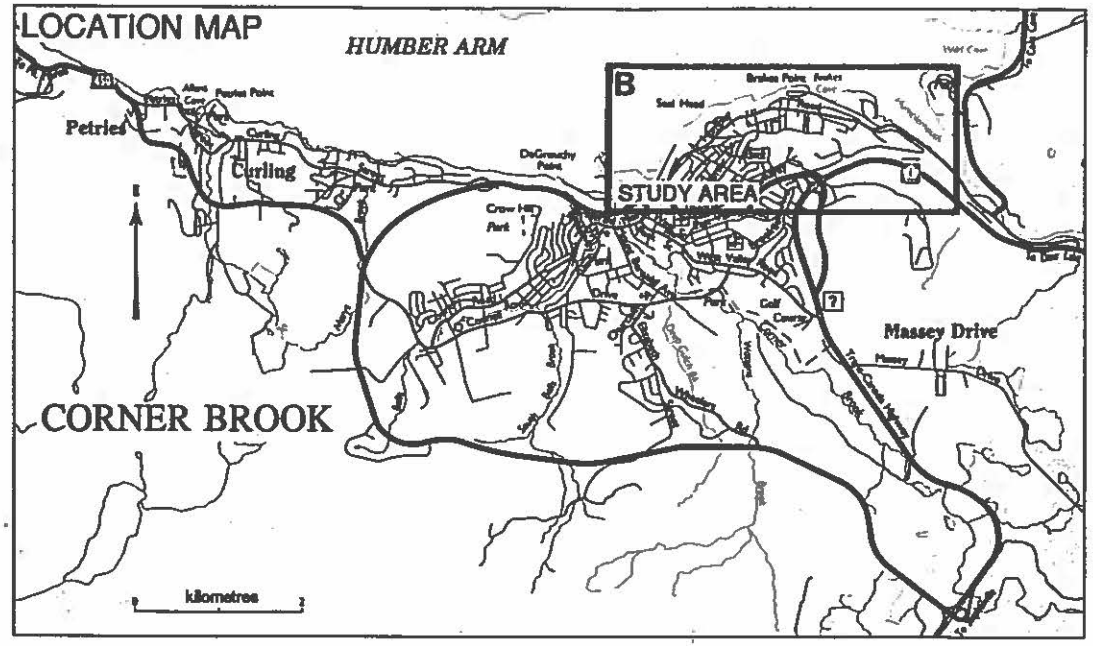


FIGURE 1.2

ARCHAEOLOGICAL ASSESSMENT
PROPOSED
WATERFRONT ROAD ROUTE
AREA B

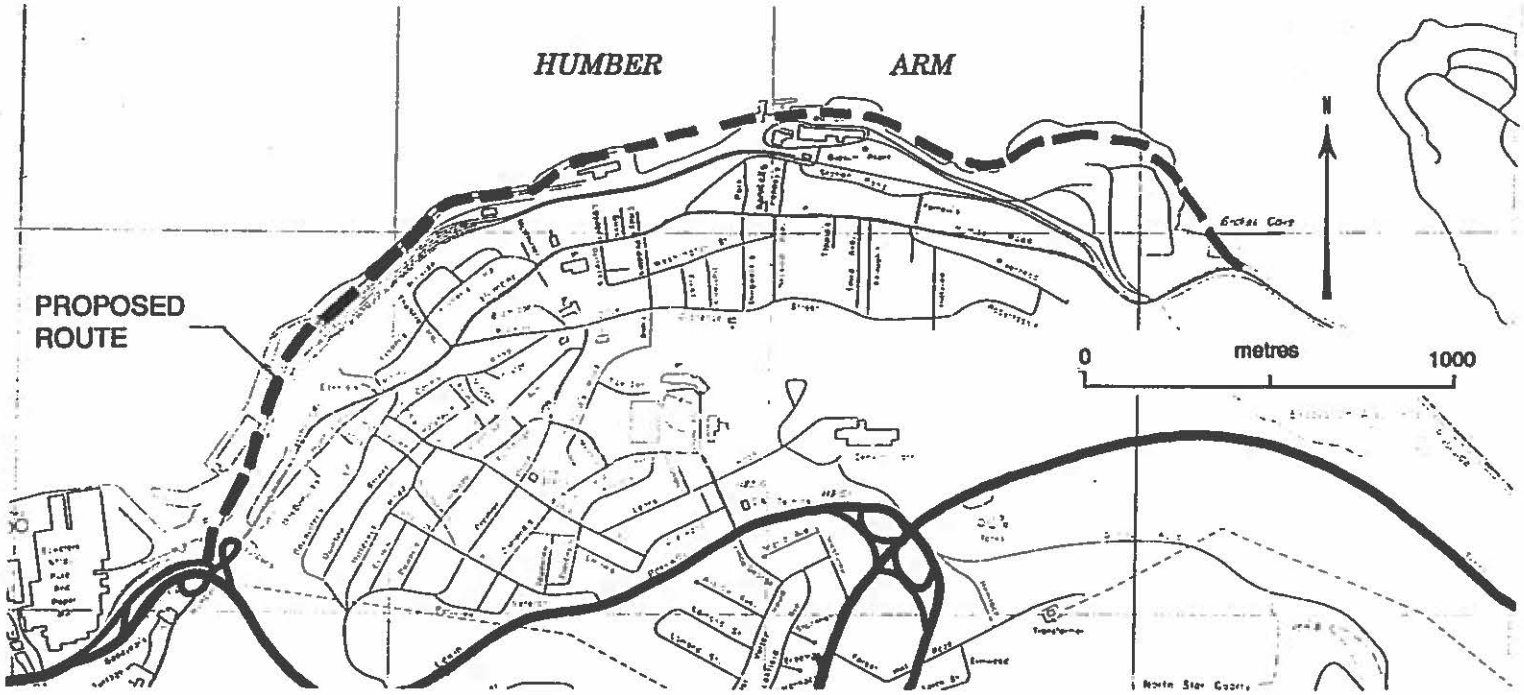


FIGURE 1.2

H) Removal or abandonment of 6 garages or out-buildings.

I) Removal or abandonment of 17, and possibly 21 houses.

The starting date for construction has not yet been set but it may begin as early as spring, 1991. The expected completion date for the project is presently unknown. All financing for the archaeological assessment was provided by the proponent, the Provincial Government's Department of Works Services and Transportation.

1.2 SIGNIFICANCE/OBJECTIVES

The study areas located on Newfoundland's west coast certainly have potential for the presence of archaeological material. Without doubt, the natural environment of the region was in the past rich in essential land and marine resources, thus possibly rendering them attractive for at least seasonal habitation by Eskimo and Indian groups prior to European contact, and then by Indians during the historic period. Given the lack of data relative to the native occupation of this part of the island, material evidence of any prehistoric or historic presence would be most instructive. Also, there was considerable potential for the presence of early and recent historic European archaeological material within the study areas.

All archaeological sites are unique and can not be duplicated or restored when destroyed or disturbed. Consequently, this Stage 1 Archaeological Assessment of the study area was required to determine the presence or absence of such resources and to assess the need for future mitigation measures.

1.3 RELATION TO PREVIOUS WORK

The study areas in Bay of Islands have not been previously surveyed for archaeological resources. Work undertaken by Mr. Paul Carignan in the Corner Brook/ Deer Lake area was concentrated at John's Point and Wild Cove, both of which are situated at the mouth of and north side of the Humber River. Cooks Cove, further along Humber Arm, was also surveyed by Carignan as he thought it held considerable potential for the presence of prehistoric remains. However, he was unable to locate any evidence of prehistoric or historic occupation from either of these locations (Carignan 1975).

As no terrestrial archaeological endeavour of any form have previously been conducted in the proposed construction areas, the present study was expected to shed some light on the cultural occupation of the Bay of Islands region.

1.4 PROJECT PERSONNEL

The Stage 1 archaeological assessment was conducted for the Department of Works Services and Transportation, Government of Newfoundland and Labrador by LeDrew, Fudge and Associates Limited. Background research, informant interviews, the terrestrial survey and the final report preparation were conducted by Roy Skanes. Figures for this report and the initial archaeological permit application were rendered by Graham Carmichael of Newfoundland Geosciences Limited.

1.5 REPORT ORGANIZATION

This report is structured according to the Historic Resources Division Stage 1 Guidelines (Government of Newfoundland and Labrador 1982) and will present a brief description of the proposed development project, study areas, the study

methodologies employed and the principal results obtained. This is presented to aid the proponent in the project planning process.

2.0 STUDY AREA

The study areas combined consist of an approximately 8 km stretch of shoreline between the mouth of the Humber River and Petries Point in Corner Brook, Bay of Islands (Figures 1.1 and 1.2). The alignment of Areas A and B is almost due east-west. The topography of both Areas A and B is for the most part characterized by generally steep rocky banks that slope from approximately 5-10 m above sea level to the water's edge.

Extant vegetation in Area A consists of mixed deciduous/coniferous forest and shrubs interspersed with grassy meadows. Area B is completely industrialized and as such has little or no vegetation.

In general the specified shoreline areas chosen for the proposed road construction have few of the features considered favourable by historic and prehistoric maritime oriented occupants of the Island: for example, flat well-drained land close to shore and a safe approach by boat to a clear beach. Even though there are relatively level sections of terrain up from the shoreline in Area A that are suitable for habitation and agriculture, they are slightly inland from the study area and therefore of no relevance to the present assessment. Area B on the other hand is essentially a recent development formed as a result of land filling for industrial construction.

3.0 METHODOLOGY

No underwater assessment for the present study was required in the Terms of Reference. So, though the proposed construction project will necessitate filling

some submerged areas directly adjacent to the shoreline to create a stable road bed, the present archaeological assessment addresses only the terrestrial component of the study area.

The project was undertaken in three phases. These components were: 1) research prior to field work, 2) field work and 3) final report preparation.

3.1 PRE-FIELD RESEARCH

The following essential tasks were implemented prior to commencement of field work;

- Review of published and unpublished literature, archival material and maps.
- Review of aerial photographs to help determine potential sites.
- Search of the Historic Resources Division site files to determine the nature, extent and location of known archaeological sites in the immediate area.
- Conduct informant interviews.
- Conduct a paleo-environmental review.

3.2 FIELD SURVEY

Standard field survey techniques were employed throughout the study areas to locate and assess archaeological sites. A walking survey of the entire area to be impacted upon by the construction (excluding the off-shore submerged areas) was

conducted to assure a thorough inspection of the region. The following are the field methods employed:

- Inspection of the beach along the proposed highway route.

- Inspection of eroded and cut banks, tree falls and other exposures where disturbance and/or erosion may have revealed soil profiles, and therefore evidence of prehistoric or historic occupation.

- Sub-surface shovel testing, both judgmental and systematic, of all potential areas. Locations considered of high potential included both the shoreline, the terrain directly adjacent to the shoreline and virtually any level dry area where human occupation may have occurred.

3.3 FINAL REPORT

This final report contains the integrated results of the literature searches, the informant interviews, a brief description of the study area, the methodologies employed and the results of the present field reconnaissance.

4.0 SURVEY RESULTS

Literature relevant to the study area was reviewed prior to commencement of the field reconnaissance. Also, a review of aerial photographs of Corner Brook and of the Historic Resources Division site files relevant to the study area was completed to determine the positive or likely existence of archaeological sites. No such sites were identified by these means.

Mr. Charles Williams (aged 74) a longstanding Bowaters employee and resident of Corner Brook, was a valuable informant regarding the history of the industrial development of the city in general and the study area in particular. He was able to describe the original topography of the area and the degree and nature of alteration effected by development. His information supported the opinion that sites existing in the study area prior to development would have been completely destroyed by it.

4.1 AREA A

Despite the anticipated potential for the discovery of archaeological sites in the study area no such sites were in fact found. The steep topography of the shoreline in this area would have mitigated against its choice for pre-historic and historic occupation by native peoples. Further to consider is the fact that industrial occupation and use of the area in recent years has been intensive. This use has necessitated extensive excavation and land filling operations which undoubtly would have disturbed and destroyed any archaeological remains which were extant at the time.

The terrain in question, while not conducive to fishing related occupation, due to the absence of adequate beaches and distance from fishing grounds, could easily have attracted Europeans for the pursuit of non-maritime endeavours such as farming, logging and trapping. Despite test pitting throughout the area (Figure 1.1), no evidence of such usage dating previous to this century was found. In fact such remains as were encountered can be ascribed a date no earlier than mid 20th century.

4.2 AREA B

As described above, Area B is a recent industrial development on landfill and as such was unlikely to have been occupied by historic or prehistoric peoples previous to its construction. Any evidence of such occupation that may have existed prior to this development would almost certainly have been completely destroyed by it. As a result, test pitting was not considered necessary in this area.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The proposed Waterfront Road route at Corner Brook, Bay of Islands was assessed for its archaeological potential. Although the Bay of Islands area in general possesses many environmental features attractive to past inhabitants of the Island, the specified study areas are less attractive due to their steep topography and paucity of beaches. Area B, furthermore, is an almost entirely artificial geographic feature in that it consists of landfill upon which extensive industrial complexes have been erected. For these reasons the potential for the presence of archaeological resources is reduced.

The walking survey conducted throughout both study areas revealed no substantial or significant cultural material. As a result no mitigation measures are required. Further, while the submerged areas of the proposed route were not surveyed as part of this assessment, they are unlikely to contain historic resources if the contiguous shoreline areas do not. For this reason an underwater assessment of these areas is not considered necessary.

6.0 REFERENCES

Carignan, P.

1975 Archaeological Survey; 1975. Report prepared for the Newfoundland Museum. Unpublished manuscript on file at the Newfoundland Museum.

Horwood, H.

1986 Corner Brook; A Social History of a Paper Town. Breakwater Books, Newfoundland History Series #3. St. John's, Newfoundland.

Government of Newfoundland and Labrador, 1982. Historic Resources Impact Assessment Guidelines. Historic Resources Division, Department of Culture, Recreation and Youth. St John's.

LeDrew, Fudge and Associates Limited
Environmental Consultants

607 Torbay Road
P. O. Box 9370, Station "B"
St. John's, Newfoundland
A1A 2Y3

Telephone (709) 576-1458
Telecopier (709) 576-2126

Impact Assessments - Protection Plans - Permits
Effects and Compliance Monitoring
Aquatic and Marine Surveys - Archaeology
Terrestrial Ecology, Forest and Wildlife Studies
Biological, Chemical and Toxicological Assays
Environmental Audits - Contingency Plans
Management and Policy Analysis

FINAL REPORT ON 1990 ARCHAEOLOGICAL ASSESSMENT, MITIGATION AND MONITORING PROGRAMS AT LAB-1, LAB-3, LAB-4 AND LAB-5 SHORT RANGE RADAR SITES ON THE COAST OF LABRADOR

1991

PREPARED FOR:

CAPTAIN BARRON MEYERHOFFER
NORTH AMERICAN AIR DEFENCE MODERNIZATION
DEPARTMENT OF NATIONAL DEFENCE
OTTAWA, ONTARIO

PREPARED BY:

LEDREW, FUDGE AND ASSOCIATES LIMITED
607 TORBAY ROAD
P.O. BOX 9370, STN B
ST. JOHN'S, NF
A1A 2Y3

ARCHAEOLOGICAL RESEARCH PERMIT NOs:
90.01, 90.06, 90.12 (extended)

Bevin R. LeDrew, President

J. Callum Thomson, Project Manager

27 February 1991

EXECUTIVE SUMMARY

At the request of the Department of National Defence (DND) five visits were made by archaeologists from LeDrew, Fudge and Associates Limited during the late spring, summer and early fall, 1990, to the four Short Range Radar stations under construction in Labrador. The objectives were to find and assess the significance of archaeological sites within the project areas and to recommend mitigation and monitoring needs, if necessary. Six archaeological sites were found at LAB-1 and LAB-3, an unconfirmed site was found at LAB-4 and seven sites were found within a few kilometres of LAB-5 and LAB-1. Other sites have previously been recorded in the near vicinity of all four stations, in part because of the environmental requirements held in common by all groups who attempt to settle on the Labrador coast: suitable, sheltered landing beach, level near-shore terrace and proximity to food, fresh water and other resources. Some mitigation measures were instituted at LAB-1 and discussed at LAB-3; a monitoring program was undertaken during the landing of equipment and preliminary construction activities at LAB-1.

Recommendations were discussed in the field with representatives from DND and Les Constructions du Saint Laurent Ltee (CSL) regarding changing the road route and other areas of disturbance at LAB-3 in view of the presence of significant archaeological sites at both the proposed and alternate landing beaches. Continued monitoring will be required at LAB-1 and LAB-3 to maintain the integrity of sites at both stations. Additional field studies are recommended for all four stations following the discovery of a probable caribou-hunting fence at a high elevation near the LAB-4 access road and the failure, because of limited logistical support and poor weather/ground conditions, to complete necessary surveys at LAB-1 and LAB-3 to find and record sites which might be at risk from vandalism by project personnel.

The following report presents the results of the surveys, informant interviews and archival research conducted and discusses mitigation measures and monitoring instituted to date. The principal recommendations for additional work to ensure that disturbance to heritage resources is minimized or at least controlled include:

1. An Historic Resources Protection Plan should be prepared for each site and an education program led by an archaeologist familiar with sites and raw materials in the four areas should be conducted for the Environmental Monitor or Site Supervisor.

2. Final plans for construction of camps, use of borrow areas, road construction and other disturbance activities at LAB-1 and LAB-3 should be reviewed by an archaeologist prior to the arrival of CSL personnel on site. Known archaeological site locations and areas of high potential should be plotted on these plans and clearance for construction plans obtained from the Historic Resources Division (HRD).

   Following submission by DND of the final report on 1990 activities to HRD a new permit application for 1991 activities must be prepared and submitted to HRD by the archaeologist.

3. When construction starts at LAB-1 and LAB-3 an archaeologist should be present to show the Site Engineer and Environmental Monitor the precise location of known sites and to ensure that they will remain intact. This should preferably be done following completion of other activities outlined in Recommendations 4 and 5. If this is not feasible because, for example, of an early spring start to site construction activities prior to loss of snow cover, a second site tour will probably be necessary. This second tour can be carried out in conjunction with other activities.

4. If removal of one of the Tanner site loci at LAB-1 is approved as a suitable mitigation measure to facilitate access to local aggregate sources this feature should be avoided until it can be completely documented and its removal monitored by an archaeological team. This should not take place until after the snow cover has gone.

5. It is recommended that, in view of the high visibility of surface artifacts at both the Dorset and Maritime Archaic sites at LAB-3, all surface features should be accurately mapped and the artifacts collected. In the event that CSL determines that the

recommended detour around the Maritime Archaic site at LAB-3 can not be accomplished or that any archaeological component must be removed, following approval by the Historic Resources Division, it will be necessary to completely record and at least partially excavate those site loci which will be impacted.

6. Before road construction starts at LAB-1 and LAB-3 and following marking of the proposed route a foot survey should be conducted of at least the lower, level sections of the access road above the lay-down areas and other sections where caribou fences and similar features may be present. Sites will be shown to the Environmental Monitor/Site Supervisor.

7. When weather and ground conditions are suitable a helicopter and foot survey should be conducted of the area around LAB-1 in order to record all sites within walking distance of the construction site (i.e. 10 km radius). Sites of major significance will be shown to the Environmental Monitor or Site Supervisor. Because of the frequency of polar bear observations in this area, two archaeologists, preferably armed, should undertake this survey.

8. When weather and ground conditions are suitable a helicopter and foot survey should be conducted of the coastline north and south of the LAB-3 site to record all sites within walking distance of the construction site. Sites of major significance will be shown to the Environmental Monitor or Site Supervisor.

9. A foot survey should be conducted of the road corridor at LAB-4 and LAB-5 and coastal areas north and east of the LAB-4 summit. The newly-reported site at LAB-4 and any others discovered within 10 km of the development area should be documented.

10. Archival and informant research should be conducted into the 1952 hydrographic survey of the Cape Kakkiviak area, the 1940s military occupancy of Tukialik Bay, and the effects these activities had on local populations.

11. A preliminary and a final report on 1991 activities will be prepared.

In anticipation of the acceptance by NAADM of this report and a quick review by the Historic Resources Division, the anticipated schedule for completion of the work described above is as follows:

1. Historic Resources Protection Plan: **March 15, 1991.**
2. Site plan review and Permit application: **March 31, 1991.**
3. Site tour of LAB-1 and LAB-3 with Engineer and Monitor: **Phase 1 prior to start of construction; Phase 2 following additional archaeological surveys.**
4. Documentation and Removal of Locus 2, if necessary: **July, 1991** (following loss of snow cover).
5. Documentation and, if necessary, excavation at LAB-3: **July-August, 1991** (following loss of snow cover).
6. Road surveys at LAB-1 and LAB-3: **July or August, 1991** (following loss of snow cover on whole route).
7. Additional surveys at LAB-1: **July or August, 1991** (following loss of snow cover).
8. Additional surveys at LAB-3: **July or August, 1991** (following loss of snow cover).
9. Road surveys at LAB-4 and LAB-5 and additional helicopter and foot surveys at LAB-4: **July or August, 1991** (following loss of snow cover on whole routes).
10. Archival Research of LAB-1 and LAB-5 occupations: **April-September, 1991.**
11. Preliminary Report on 1991 activities: **October 15, 1991** (following completion of all phases above).
    Final Report on 1991 activities: **November 30, 1991.**

This tentative schedule provides provisional milestones for completion of the components described above. Dates are approximate and dependent upon construction schedules, archaeological investigation requirements and other variables.

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont'd)

LIST OF FIGURES

LIST OF PLATES

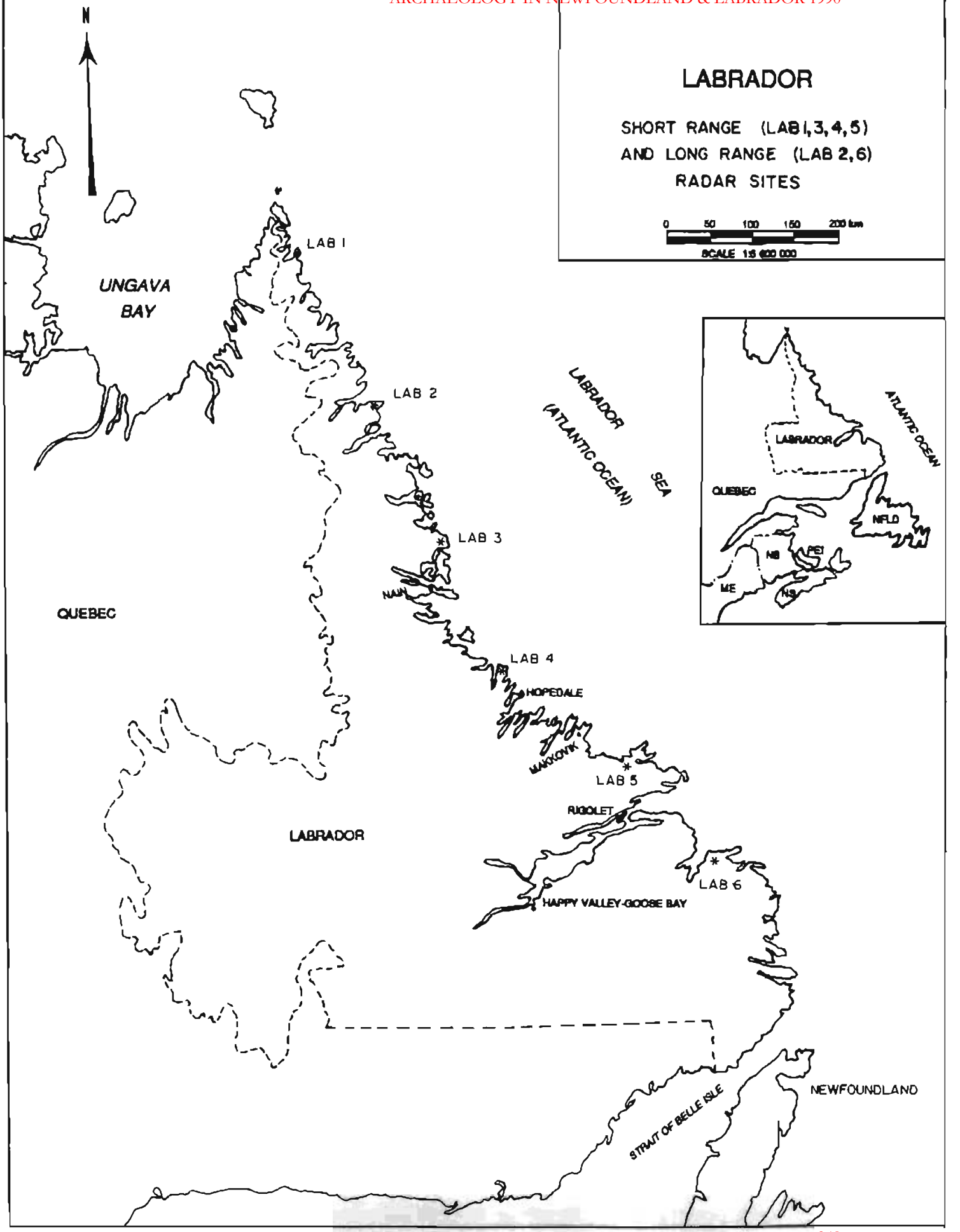
1.0 INTRODUCTION

1.1 Proposed Development

The Department of National Defence is developing and operating four Short Range Radar stations on the coast of Labrador to augment the capabilities of the North American Air Defence Modernization (NAADM) system of Long Range Radar stations, two of which are situated in Labrador at Saglek and Cartwright (Figure 1.1). The Short Range Radar stations are LAB-1 at Cape Kakkiviak in the Home Island area just south of Cape Chidley; LAB-3 at Cape Kiglapait, between Nain and Nutak; LAB-4 at Big Bay, west of Hopedale; and LAB-5 at Tukialik Bay, north of the Benedict Mountains, west of Cape Harrison. Development will entail the landing of materials on a beach, construction of a temporary camp, lay-down area, fuel storage area, helipad and other facilities on a level terrace above the landing beach, construction of an access road to the summit radar site, subsequent movement of the temporary camp to a second location near the summit, and construction of the radar facilities on the summit. Sites were selected for a range of attributes, including the presence of a suitable landing beach and an unimpeded "view" around the site's sector. Thus, all of the sites are located on a cape or headland on the outer edge of the Labrador coast.

1.2 Rationale and Objectives

Archaeological investigations in the past 60 years have indicated that there are many known archaeological sites within the near vicinity of each of the four stations. The location of these stations in proximity to a suitable landing beach associated with a level building terrace and close to a source of fresh water suggested that there was considerable potential for the presence of evidence that previous residents of Labrador had utilized the same resources and left remains which now constitute archaeological sites. Any sites present would be at risk from the proposed development. Consequently, a Stage 1 investigation was planned to identify any archaeological sites within the four study areas which might be negatively impacted by construction activities during the course of the building of the LAB-1, LAB-3, LAB-4 and LAB-5 Short Range Radar


N
LABRADOR
SHORT RANGE (LAB 1,3,4,5)
AND LONG RANGE (LAB 2,6)
RADAR SITES
0 50 100 150 200 km
SCALE 1:6 000 000
LAB 1
UNGAVA BAY
LAB 2
LABRADOR (ATLANTIC OCEAN) SEA
LAB 3
NAIN
QUEBEC
LAB 4
HOPEDALE
MAKKOVIK
LAB 5
RIGOLET
LABRADOR
LAB 6
HAPPY VALLEY-GOOSE BAY
NEWFOUNDLAND
STRAIT OF BELLE ISLE
ATLANTIC OCEAN
LABRADOR
QUEBEC
NFLD
NB
PEI
ME
NS

stations. Any sites found would be required to undergo a Stage 2 detailed impact assessment and, if necessary, development of impact management procedures (Stages 3 and 4).

1.3 Project Personnel

The field and archival research and informant interviews were conducted by Callum Thomson, archaeologist with LeDrew, Fudge and Associates (LFA) Limited, a member of the Jacques, Whitford Group of Companies (JWG). Frank Andersen, Makkovik, was an observer supplied by the Labrador Inuit Association (L.I.A.) in May, and Ruth Flowers and Martha Winters-Abel provided the names of informants and information in Makkovik and Hopedale, respectively. Judy Rowell and Gary Baikie, L.I.A., Nain, were also contacted. The June field party, including Captain Barron Meyerhoffer, Pam Northcott and Stu Luttich, was accompanied by L.I.A. observers William Barbour, Nain, for LAB-1 and LAB-3, Andrew Piercy, Hopedale, LAB-4, and Daphne Fudge, Postville, LAB-5. Reports on land use at LAB-1 and LAB-3 were requested from the Nain L.I.A. office but have not yet been received. Mary Scott, archaeologist with LFA, monitored preliminary site activities at LAB-1 in September. John Innis, Universal Helicopters, was pilot and local informant during each survey. Helen Sheldon, archaeologist, assisted with preparation of the final report.

1.4 Project Timing

Previous work in the vicinity of the four stations (see Section 2) had established that there was considerable potential for the presence of heritage resources within the four study areas. Three archaeological research permit applications were submitted to the Historic Resources Division throughout the spring and summer resulting in the following permits:

- Permit 90.01, May 29-30, initial reconnaissance of LAB-4 and LAB-5, curtailed because of ground conditions;

- Permit 90.06, June 18-21, preliminary survey of LAB-1, LAB-3, LAB-4, LAB-5;

- Permit 90.12, August 20-22, supplementary survey of LAB-1 and LAB-3 and development of mitigation measures;

- Permit 90.12 (extended), August 29-30, mitigation planning with site engineer;

- Permit 90.12 (extended), September 9-20, monitoring at LAB-1.

During the course of these investigations archaeological sites were found at two of the stations (LAB-1 and LAB-3) and in the near vicinity of LAB-1 and LAB-5. Return visits were made to further delimit the sites and to develop mitigation measures which would result in the protection of the sites. A monitoring program was carried out at LAB-1 during the landing of construction materials in September in the vicinity of several known sites. Another site was found in October during the course of engineering studies at LAB-4.

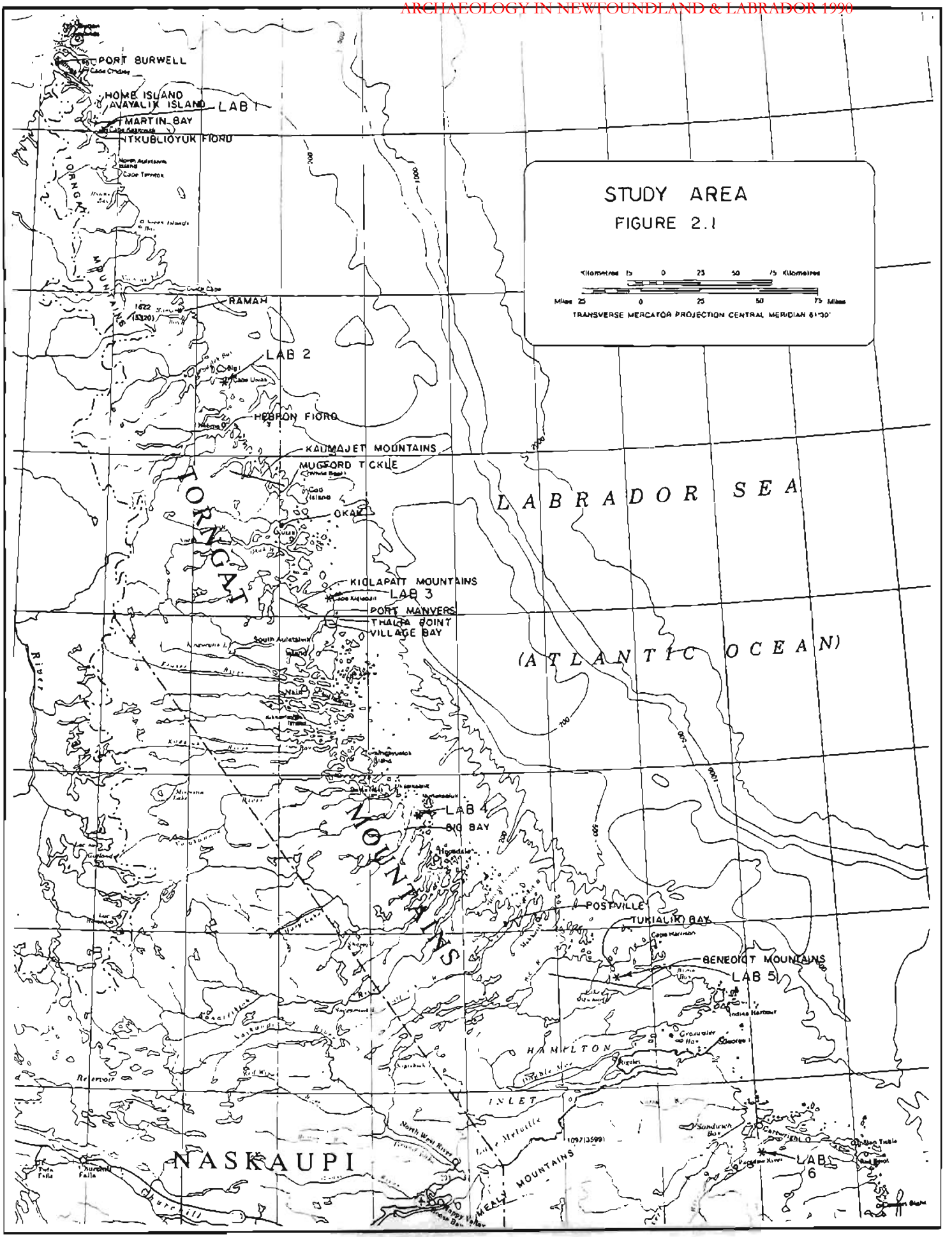
1.5 Report Organization

This report continues with a brief description of the study area, the methodologies utilized to obtain results, the results of the investigations, mitigation and monitoring, conclusions and recommendations for management of heritage resources in the study areas.

2.0 STUDY AREA

Although at the same latitude as southern Norway and the British Isles the 1100 km long coast of Labrador has a truly Arctic environment more comparable to islands in the eastern High Arctic. From the northern tip of the peninsula to Okak, fiords cut deeply into the interior from a barren, exposed coast. Mountain ranges such as the Torngats, Kaumajets and Kiglapaits rise 800-1800 m sheer from the sea (Figure 2.1). From Okak southward to the Strait of Belle Isle the fiord mouths are sheltered by offshore islands, allowing for safer, inside passages by sea and ice. The influence of late Pleistocene glacial activity is seen everywhere in Labrador, in the trend of long, narrow lakes left by the receding Laurentide Ice Sheet, deep, narrow river valleys draining east to the coast, moraine terraces at the mouths of fiords and rivers, series of ancient beach terraces rising from the present shore or, conversely, beaches that are now actively eroding as the land north of Saglek continues be submerged, cirques and hanging valleys in the mountains, the absence or paucity of soils and many other signs. These actions and results were noted by prehistoric and early historic residents such that sites dating to thousands of years ago are commonly found on old beach terraces, which can be roughly dated by the rate of rebound (Fitzhugh 1972; Fitzhugh and Lamb 1985; Clark and Fitzhugh 1990) and may now be many hundreds of metres distant from the present shore.

The Labrador Current sweeps a mass of cold water, pack ice and icebergs south out of the Arctic Basin and acts to cool the land, producing a band of arctic tundra which borders the coast from Killinek Island to the Strait of Belle Isle. From Okak south, boreal forest approaches the coast, becoming denser and less stunted to the south and at the bottom of deep bays. The Labrador Sea is rich in nutrients and provides for a large biomass of seasonal and permanent fish, mammals and birds; these are complemented on land by the seasonally abundant species of the forest, tundra, river and lake. This Arctic/Subarctic ecotone has produced a situation where, for more than 8000 years, Indian people have lived seasonally on the coast, exploiting resources as far north as Ramah Bay by 6500 years ago and, for the last 4000 years, people of Palaeo-Eskimo and Inuit origin moved south from the Eastern Arctic. Each group has either overlapped with or has had to reach some form of accommodation with people of other ethnic origins; each group


STUDY AREA
FIGURE 2.1
TRANSVERSE MERCATOR PROJECTION CENTRAL MERIDIAN 61°30'
PORT BURWELL
HOME ISLAND
AVAYALIK ISLAND
LAB 1
MARTIN BAY
ITKUBLIOYUK FIORD
RAMAH
LAB 2
HEBRON FIORD
KAUMAJET MOUNTAINS
MUGFORD TICKLE
OKAK
LABRADOR SEA
(ATLANTIC OCEAN)
KIGLAPAIT MOUNTAINS
LAB 3
PORT MANVERS
THALIA POINT
VILLAGE BAY
LAB 4
BIG BAY
POSTVILLE
TUNIALIK BAY
BENEDICT MOUNTAINS
LAB 5
HAMILTON INLET
NASKAUPI
MEALY MOUNTAINS
LAB 6

has successfully adapted in different ways to the arctic-like coastal environment (Fitzhugh 1977; Thomson 1988a, b).

Cape Kakkiviak (see Glossary, Section 11.0, for interpretation of Inuktitut place names and technical terms) is situated near the northern tip of the Labrador-Quebec Peninsula, at the southeastern edge of the Home Island archipelago. The summit site looks north to Killinek Island and south over the northern peaks of the Torngat Mountain range. The beach landing site is near the southeast corner of Telliaosilik Arm, a branch of Ekortiarsuk Fiord. The terrace above the beach is low, subject to frontal erosion because of continuing post-Pleistocene rise of sea level relative to land level at this latitude and slopes gradually into the Arm. The planned access road route crosses a river which drains several small ponds then zig-zags up a steep incline to the 525 m high peak of Cape Kakkiviak. Vegetation is sparse, consisting mostly of moss and lichens with sedges and grasses in the wetter areas.

Female caribou and their young and Canada geese were observed to be abundant in the area in summer. Other species available for food and other subsistence needs include polar bear, walrus, beluga, harbour seal, harp seal, ringed seal, eider and gulls (Brice-Bennett 1977). In each region other resources such as berries and other vegetation, molluscs and other marine animals and fortuitous finds such as beached whales would be exploited.

Cape Kiglapait is the 400 m high eastern edge of the Kiglapait range, which rises to over 800 m on the south side of Okak Bay. The proposed and alternate beach landing areas are immediately north of the Cape. The gravel beach initially proposed as the landing area is sheltered by a southward pointing finger of land and provides a clean boat approach. The area above the beach is mostly barren gravel and soft, eroding bedrock. The beach is divided by a stream bed which has caused considerable erosion; to the west of the stream the beach is boulder strewn and littered with large masses of bedrock which have fallen from the adjacent hill side. South of this area the alternate beach is completely exposed to the Labrador Sea and difficult to approach because of offshore boulder barriers. A narrow boulder and sand terrace slopes gradually to the beach and is cut by several streams and covered with short grasses. This terrace

is backed by a steep bank which climbs to about 20 m a.s.l. The terrace behind is a deep deposit of sand most likely of glacial moraine origin enclosed by hills rising steeply to several hundred metres. The terrace is covered with lichens, moss, berries and shrubs; in sheltered gullies the shrubs rise to more than 2 m. Along the eroding front of the terrace vegetation has been blown off in several areas.

Resources available in the Cape Kiglapait area include walrus, polar bear, dolphin, harp seal, caribou, small fur-bearers, salmon, harlequin duck, eider, gulls and common loon (Brice-Bennett 1977).

Big Bay cuts southward for 30 km from the south edge of the deep, island-dotted bay which stretches north to Cape Kiglapait. The summit site is less than 100 m a.s.l., 7 km east of Big Bay. The access road to the summit climbs from a sandy beach over a narrow, dry, sandy terrace covered with stunted spruce and ground-hugging berry plants across a marshy strip to the foothills. The road then climbs gradually above the tree line over exposed bedrock ridges and deep deposits of peat to the summit. The summit is barren of trees and vegetated with tundra plants exposed to the winds coming off the Labrador Sea, a few kilometres to the north and east.

Although there are many species available in the region as food resources, the distance of the landing beach from the mouth of the bay or any of the rivers which flow into the bay reduces its value as an area of potential human habitation. According to Brice-Bennett (1977) the following species are found seasonally or permanently in the bay, on the peninsula or in the adjacent Labrador Sea: beluga, dolphin, polar bear, harbour seal, harp seal, walrus, porcupine, rabbit, hare, other small fur-bearers, caribou, salmon, char, cod, capelin, Canada goose, black duck, eider, gulls, merganser, scoter and ptarmigan.

Tukialik Bay is the furthest south of the four short range radar bases, situated on the front edge of the Benedict Mountains between Cape Harrison and Makkovik. The gravel landing beach is backed by an eroding bank which climbs a few metres to a dense stand of tamarack. This growth thins out to stunted spruce with elevation and the access road eventually climbs beyond the tree

line to the barren summit site at about 800 m a.s.l. To the east and west of Tukialik Bay the shores are paralleled by gravel beach terraces which rise in series providing evidence of a land mass still rising in relation to the sea level. No such clear features are seen in Tukialik Bay, which is heavily wooded all around its margin.

Resources found in the region include minke whale, harbour seal, harp seal, caribou, black bear, fox, mink and other small fur-bearers, salmon, char, harlequin duck, Canada goose, black duck, goldeneye, merganser, teal, eider, scoter, spruce grouse and ptarmigan (Schwartz 1977).

2.1 Past Land Use

Information on land use over the past century or two was obtained from local informants and several literature sources. Additional information requested from the Labrador Inuit Association on Inuit use and occupancy in the vicinity of LAB-1 and LAB-3 has not yet been received.

2.1.1 Cape Kakkiviak

The Cape Kakkiviak area lies between the short-lived Moravian Mission stations at Port Burwell on Killinek (1904-1924), 30 km north, and Ramah (1871-1908), 85 km south (Hiller 1977; Taylor 1977). Port Burwell was subsequently occupied by the Hudson's Bay Company and later by the Department of Transportation. The small village has been abandoned, except for a regularly-serviced automatic weather station, for several years. Telliaosilik Arm is unlikely to have been used as a travel route between the two centres of population except, perhaps, as a means of circumventing the Cape. Brice-Bennett (1977), in her study of twentieth century Inuit land use and occupancy in northern Labrador, does not show any recent settlements in the area. Archaeological research (see Section 2.2.1), however, indicates that the plentiful resources of the region were exploited from small seasonal camps for several thousand years prior to the advent on the Labrador coast of the Moravians (1771) and the Hudson's Bay Company (mid-1800s) and the subsequent tendency of most Labrador Inuit to locate in more permanent settlements around the Missions or trading posts.

2.1.2 Cape Kiglapait

Cape Kiglapait is situated midway between the formerly-substantial settlements at Okak/Nutak, where a Moravian Mission station existed from 1776-1919 and a Mission-run store thereafter until 1956, and Nain, where the first Mission station was opened in 1771. The town of Nain is now the furthest north permanent settlement in Labrador, although many Inuit families return north in summer to Okak, Hebron and other former settlement areas to fish and hunt. Brice-Bennett (1977) illustrates several 20th century seasonal camps a few kilometres west of the Cape at Perrys Gulch, Kiglapait Harbour, the un-named bay west of Kiglapait Harbour, Snyder Bay, the northern tip of Tigigaksuk Peninsula and 10 km to the south in Village Bay on Port Manvers. Taylor and Taylor (1977) indicate that these camps have been in use since at least the late 18th/early 19th centuries. William Ritchie's (1991: personal communication) use of the landing beach at Cape Kiglapait when unable to round the Cape by kayak suggests that the study area beaches may have seen use for shelter for many centuries or millennia.

2.1.3 Big Bay

The Hopedale Moravian Mission station was founded in 1782 and continues in use today at the centre of the mixed Inuit and Settler community. Martha Winters-Abel (1990: personal communication), an informant in the Hopedale L.I.A. office, provided information on land use in the Big Bay area which she collected from local residents. The area between and adjacent to the landing beach and summit is used by residents of Hopedale for various pursuits, chiefly caribou hunting, trapping, birding and fishing. Several fishing camps are situated on the west side of Big Bay and on the Hunt River.

2.1.4 Tukialik Bay

Informants Ruth Flowers, George Voisey, Bill Andersen, Sarah Jacques and Frank Andersen (1990: personal communication) indicated that there had been about 100 years of historic Settler occupation in Tukialik Bay but it was unlikely that the bay had been used prehistorically as most

older sites in the region are situated on points of land and on islands, not deep in the bottom of bays like the radar site. The remains of several cabins were noted at the mouth of a stream several hundred metres east of the landing beach and the remains of a former World War II U.S./Canadian communications camp was seen on the tip of the peninsula which forms the west side of the bay.

Bill Andersen recalled that his father remembered the first Settler people going to Tukialik Bay, in the 1890s. Several families, by the name of Lucy, of mostly Inuit extraction, Edmunds, Cove, who was English, and Tooktoshina, one of whom married a Lucy, were the first Settlers to occupy the Bay. The military communications site on the point was established in 1944 to guide planes into and out of Goose Bay. A ship called the Iris went aground in the Bay in 1944 on its way to resupply the base for the winter. The ship was abandoned and people came for many months from as far north as Nutak to salvage the cargo and usable parts of the ship. An aircraft, a PBY 5, had been anchored in the bay at about the same time. When a storm came up, the pilot attempted to take off but was swamped by a heavy wave which removed one of the engines. The pilot was able to get the plane in close to shore on the east side of the Bay, where its remains are still visible. Two other, smaller, planes, Norsemen, also crashed in the Bay (B. Andersen 1990: personal communication).

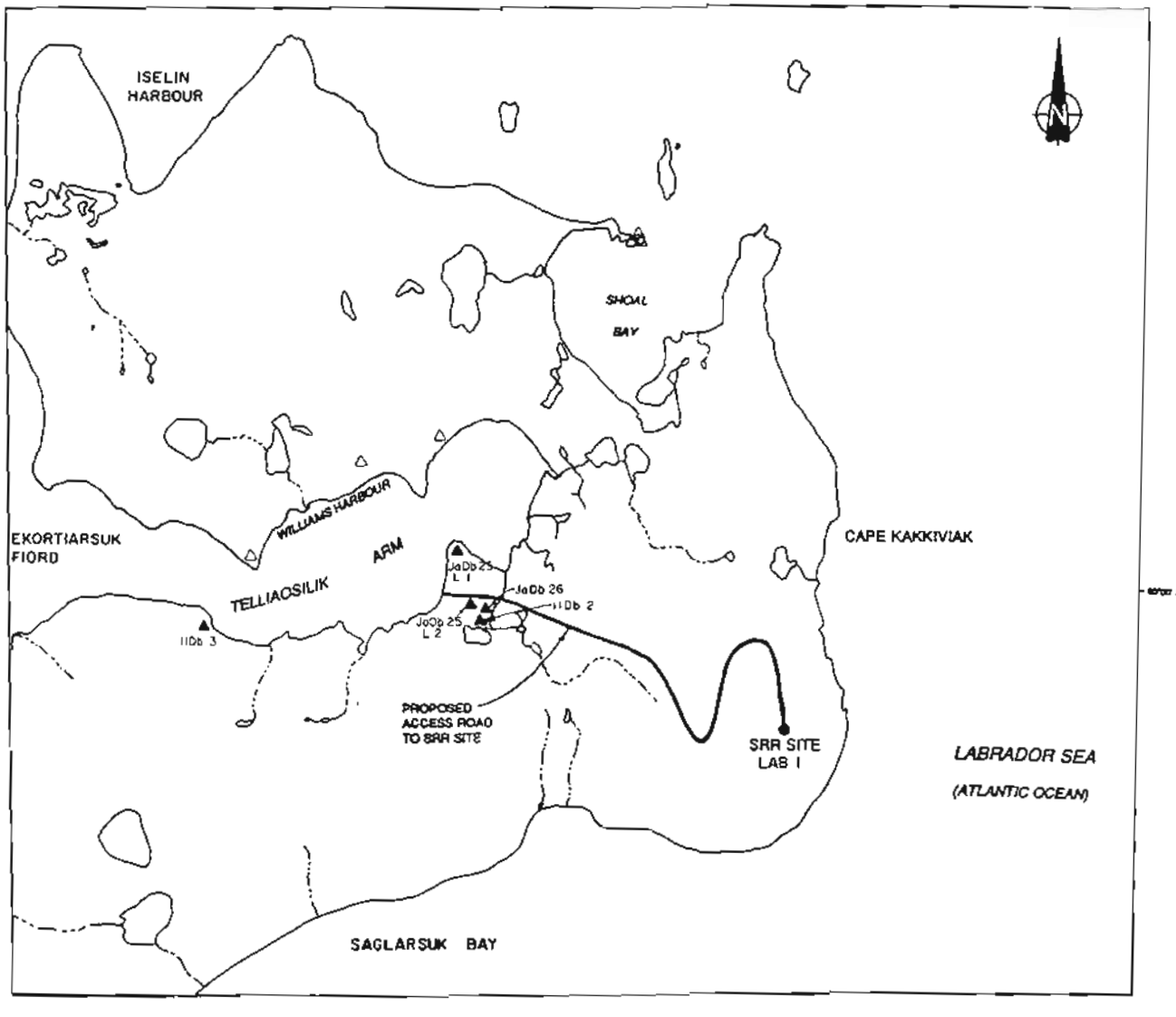
2.2 Previous Investigations

The coast of Labrador has been the subject of archaeological research projects for over 60 years. W. Duncan Strong (1930), Douglas Leechman (1943) and Junius Bird (1945) made the earliest contributions to knowledge. A hiatus occurred for more than twenty years thereafter, but the pace of research has increased considerably since Peter Schledermann's (1971), William Fitzhugh's (1972, 1977) and James Tuck's (1975) more recent pioneering efforts starting in the late 1960s. Major research projects have been undertaken in the study area by Fitzhugh (1980a) on Palaeo-Eskimo occupations from Nain north to Killinek and Maritime Archaic Indian occupations from Hebron to Hamilton Inlet, Jordan (1980) on Dorset sites in the Home Island area, Kaplan (1983) into the Neo-Eskimo occupation of the coast from Nain to Killinek, Thomson (1988a) on Dorset

and other occupations in the Saglek area, Cox (1977) on 7000 years of occupation of Okak Bay, Lazenby (1980) and Nagle (1984) on lithic procurement and use in central and northern Labrador and Loring (1985) on the recent prehistoric/historic Indian occupations of central Labrador.

2.2.1 Cape Kakkiviak

The LAB-1 SRR site, situated on Cape Kakkiviak, is over 100 km further north than any known Indian occupation area in Labrador but on the route followed south by each successive Palaeo-Eskimo and Neo-Eskimo group from 4000 B.P. onwards. Cape Kakkiviak and the beachhead in Telliaosilik Arm are located in an area (Figure 2.2) which has received a considerable amount of attention from archaeologists over the past 20 or so years. Fitzhugh (1980a,b) discovered a Dorset Palaeo-Eskimo caribou fence and an Inuit habitation site in Williams Harbour on the north side of Telliaosilik Arm, and several Dorset and Inuit sites on Shoal Bay; Jordan (1979/80, 1980) excavated Middle and Late Dorset Eskimo sites on Avayalik Island and a Thule/Late Dorset site on Staffe Island, a few kilometres north; and Early, Middle and Late Dorset and Neo-Eskimo sites and a single Pre-Dorset site were found throughout the Home Island area during the 1977-78 Torngat Archaeological Project (Fitzhugh 1980a). Patrick Plumet surveyed the area in the late 1970s (Historic Resources Division 1990) and Douglas Leechman (1950) conducted a short survey in the Killinek Island region. A small collection of Late Dorset material in the Newfoundland Museum from Hutton Peninsula resulted from a visit to the area in the late 1960s by James Tuck (Historic Resources Division 1990) and a World War II German automatic weather station in Martin Bay was found in 1981 (Douglas 1981/82). Numerous Inuit sites from the past century are also located in the region. The project area is situated at the intersection of potential overland travel routes between several coves, headlands and other areas of resource exploitation and settlement. As a result, it was considered likely that additional archaeological sites may be present in the development area and therefore liable to disturbance from project-related activities.



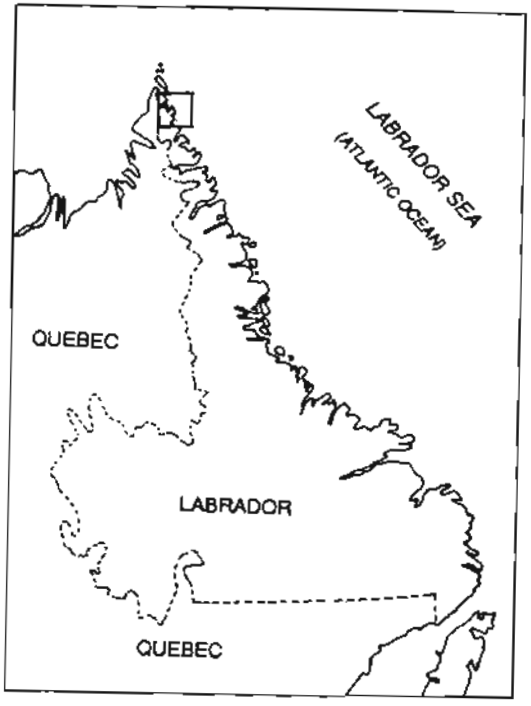


FIGURE 2.2

CAPE KAKKIVIAK (LAB-1)
SHORT RANGE RADAR SITE

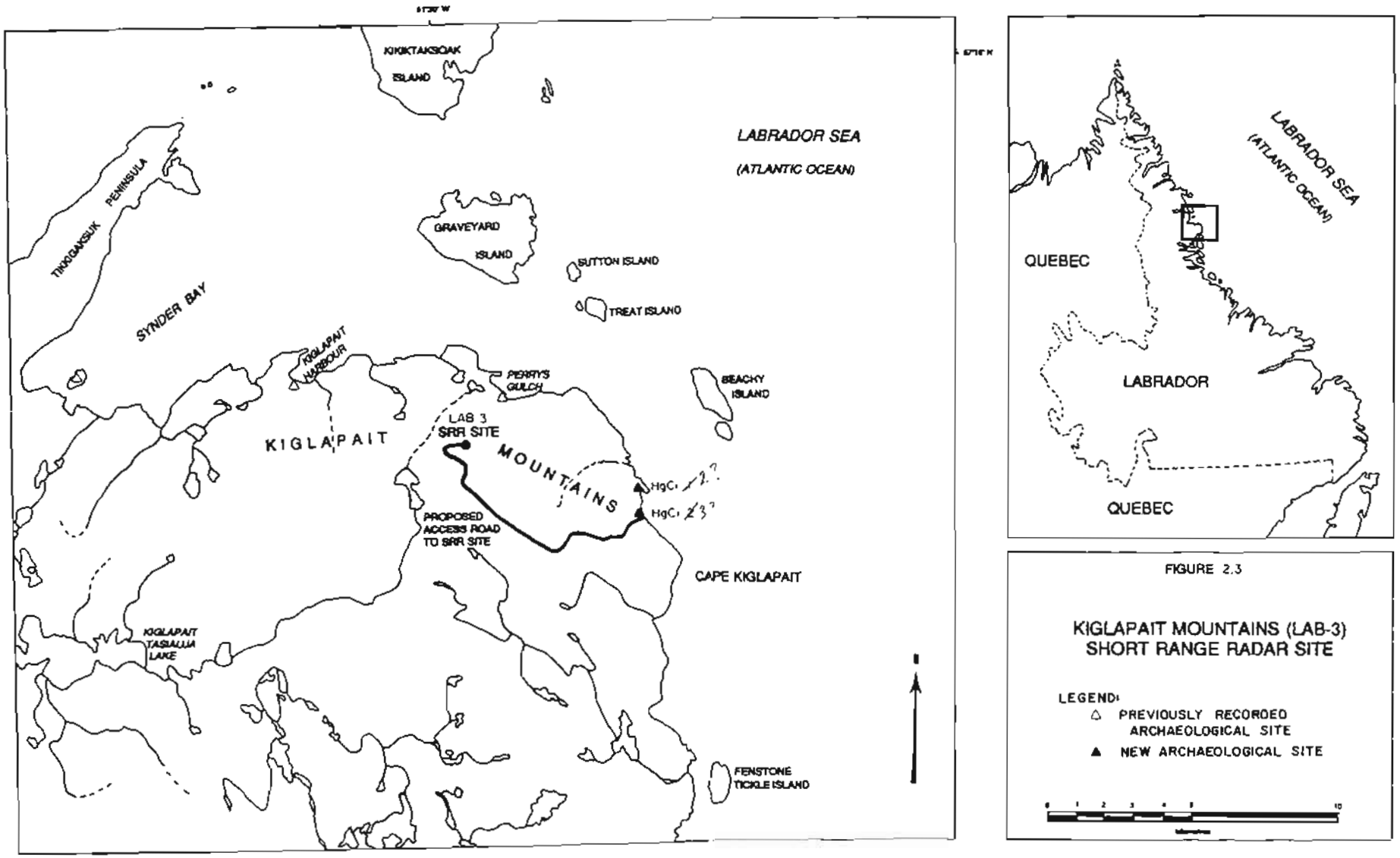
LEGEND:
△ PREVIOUSLY RECORDED ARCHAEOLOGICAL SITE
▲ NEW ARCHAEOLOGICAL SITE

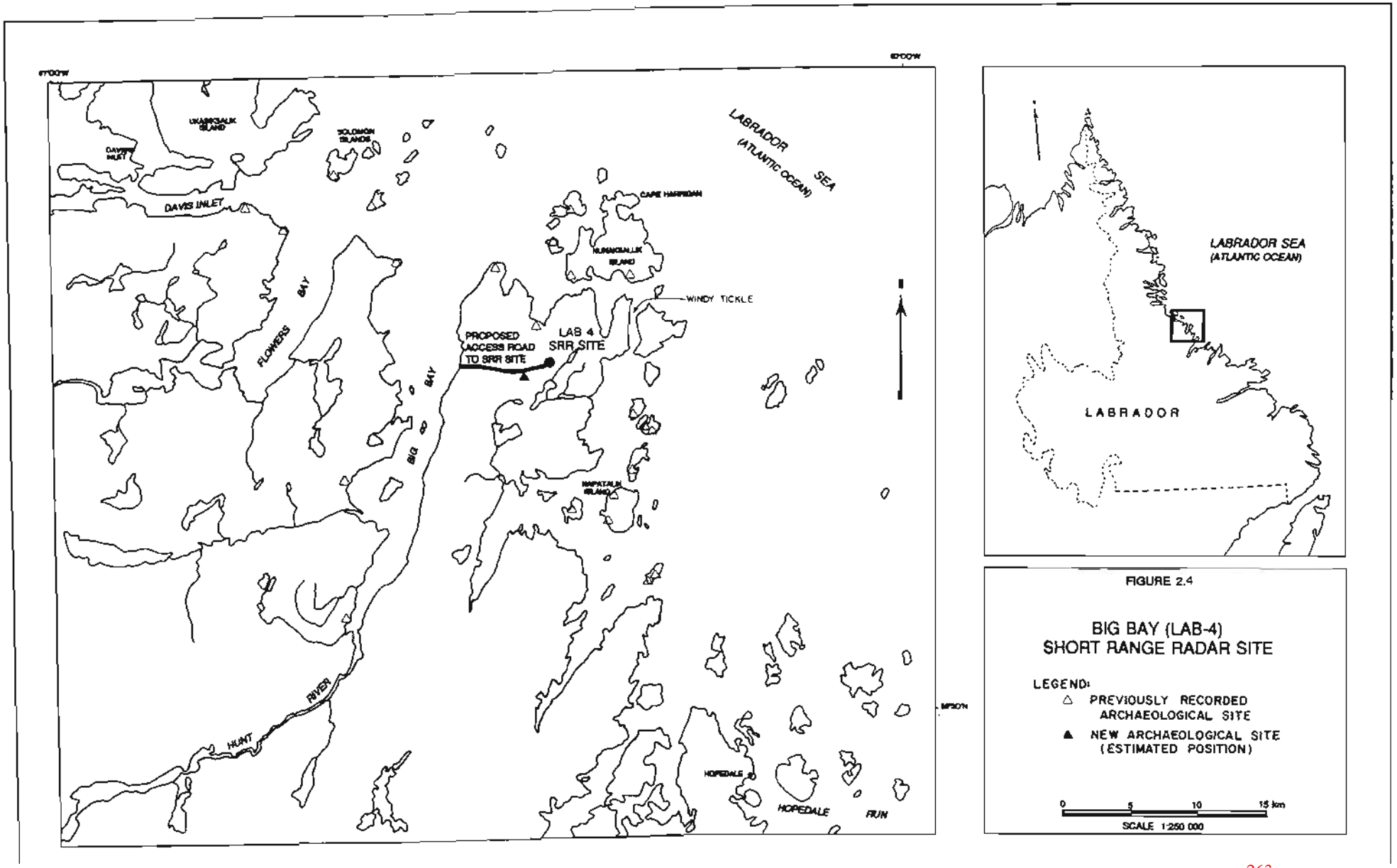
2.2.2 Cape Kiglapait

Due largely to the sheer nature of the topography, the paucity of suitable habitation locations, the exposed nature of Cape Kiglapait, the resultant difficulty of landing a boat on a rocky shore in the usually heavy swell, and the urge of most archaeologists passing the area by boat to get around the Cape into less hazardous waters, little survey work had been done in the vicinity of this proposed radar site (Figure 2.3). A few kilometres south, the Port Manvers and Thalia Point area is very rich in Palaeo-Eskimo, Neo-Eskimo and Intermediate Indian sites (Fitzhugh 1977a). Two small sites are known on the north side of the Kiglapaits: one in Perry's Gulch, recorded by Fitzhugh (1977b) as a Maritime Archaic site and in the Historic Resources Division site records as Dorset, and the other in Kiglapait Harbour (Fitzhugh 1977b). Kiglapait Harbour has also been used by Inuit hunting families over the past two centuries or more (Taylor and Taylor 1977). Okak Bay, a few kilometres further north, contains sites from almost all of the cultural groups which have inhabited coastal Labrador for the past 7000 years (Cox 1977). It is therefore possible that the landing beach area was used by some or all of the wide range of cultural groups known to have passed by or exploited resources in this region, ranging from northern branch Maritime Archaic, through Early and Late Palaeo-Eskimos, Intermediate and Point Revenge Indians to Neo-Eskimos.

2.2.3 Big Bay

Big Bay is situated in an area which has received sporadic archaeological attention over the last 60 years (Figure 2.4). Duncan Strong (1930) identified several sites of significance at Windy Tickle and in Big Bay, and William Fitzhugh (1973, 1977a, 1978a, b; Nagle 1978) has re-visited these sites and recorded several others of significance in the Windy Tickle, Big Bay and Davis Inlet area. Prehistoric groups represented include several phases of Maritime Archaic Indian, Intermediate Indian, Palaeo-Eskimo, Neo-Eskimo and Point Revenge Indian. Prehistoric sites are distributed between 6-30 m a.s.l. and include a wide variety of materials such as quartz, quartz crystal, Mugford and other fine grained reddish cherts, slate, and traces of Ramah chert. All recent investigators note that these sites are quite visible as, for the most part, they occur in


KIKIKTAKSOAK ISLAND
LABRADOR SEA
(ATLANTIC OCEAN)
TIKKIGAKSUK PENINSULA
GRAVEYARD ISLAND
SUTTON ISLAND
TREAT ISLAND
SYNDER BAY
KIGLAPAIT HARBOUR
PERRY'S GULCH
BEACHY ISLAND
LAB 3
SRR SITE
KIGLAPAIT MOUNTAINS
HgCr-1
HgCr-2
PROPOSED ACCESS ROAD TO SRR SITE
CAPE KIGLAPAIT
KIGLAPAIT TASIALUJA LAKE
FENSTONE TICKLE ISLAND
LABRADOR SEA
(ATLANTIC OCEAN)
QUEBEC
LABRADOR
QUEBEC
FIGURE 2.3
KIGLAPAIT MOUNTAINS (LAB-3)
SHORT RANGE RADAR SITE
LEGEND:
PREVIOUSLY RECORDED ARCHAEOLOGICAL SITE
NEW ARCHAEOLOGICAL SITE


LABRADOR SEA (ATLANTIC OCEAN)
DAVIS INLET
FLOWERS BAY
BIG BAY
HUNT RIVER
CAPE HARRIGAN
WINDY TICKLE
PROPOSED ACCESS ROAD TO SRR SITE
LAB 4 SRR SITE
HOPEDALE
HOPEDALE RUN
LABRADOR SEA (ATLANTIC OCEAN)
LABRADOR
FIGURE 2.4
BIG BAY (LAB-4) SHORT RANGE RADAR SITE
LEGEND:
PREVIOUSLY RECORDED ARCHAEOLOGICAL SITE
NEW ARCHAEOLOGICAL SITE (ESTIMATED POSITION)
0 5 10 15 km
SCALE 1:250 000

sandy blowouts on exposed beach terraces. As a consequence, they are well known in the region and have been heavily surface-collected. Most known sites occur near the mouths of bays and on adjacent islands near areas known for good open water sea mammal hunting. The Sharp Hill and Broomfield sites seem to be anomalous in this regard, being situated well inside Big Bay near the mouths of rivers which provide both a summer salmon fishery and interior travel routes. Junius Bird (1945) conducted a season of research into Thule and Inuit occupations around Hopedale; many other sites subsequently have been found on the islands and mainland around Hopedale (Historic Resources Division 1990).

2.2.4 Tukialik Bay

The LAB-5 area has not been subjected to any intensive surveys. Visits were made to the area in 1974 (Fitzhugh 1976, 1978a) and 1981 (Fitzhugh 1982) when a small Point Revenge Indian site and an early European trading or fishing establishment were found at nearby Grave Bay in Webeck Harbour (Figure 2.5). A subsequent visit (Loring 1985) also revealed a Groswater component. Boulder features were noted on Cape Deus in 1974 (Fitzhugh 1982). Their cultural designation has changed from Inuit to Maritime Archaic and, after a 1984 re-visit, back to Inuit again (Fitzhugh 1985). No work has been done in the interior in the study area and it is unlikely that any archaeologists (and probably few others) have ever been on the summit of the Benedict Mountains.

It was therefore apparent, from background research, that all four Short Range Radar locations had some potential for the presence of historic or prehistoric archaeological sites dating back over as much as several thousand years.

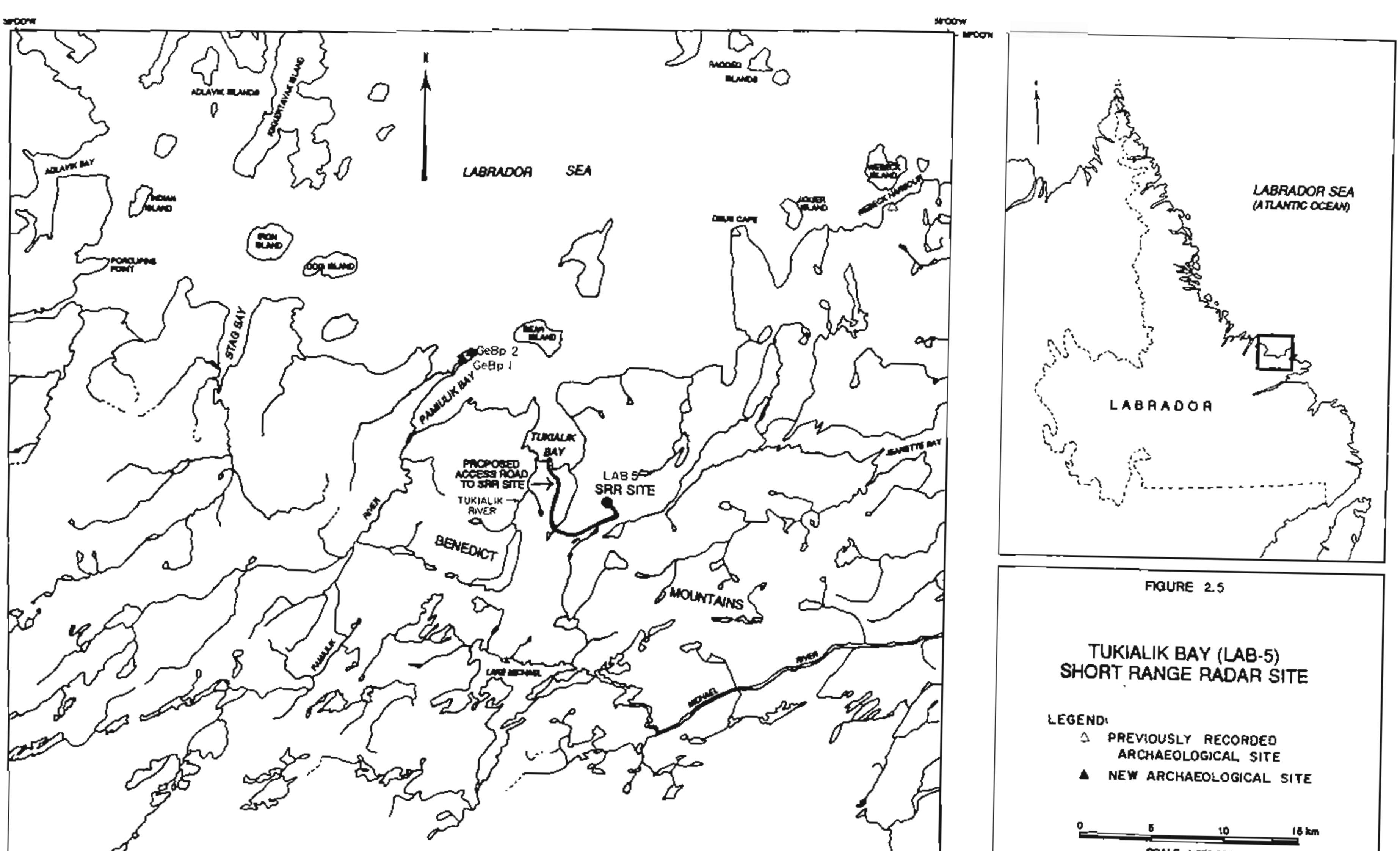


FIGURE 2.5

TUKIALIK BAY (LAB-5)
SHORT RANGE RADAR SITE

LEGEND:
△ PREVIOUSLY RECORDED ARCHAEOLOGICAL SITE
▲ NEW ARCHAEOLOGICAL SITE

0 5 10 15 km
SCALE 1:250 000

3.0 METHODOLOGY

3.1 Assessment Requirements

The following research components were required under the terms of reference written by Linda Jefferson, Resource Archaeologist, Historic Resources Division (May 25, 1990):

- a review of palaeo-environmental/ecological data to assess past environmental conditions which may have influenced human occupation and/or utilization of the study area;

- a review and summary of past archaeological research within the study area and in immediately adjacent areas;

- a review and summary of historic land use within the study area and in immediately adjacent areas;

- examination and interpretation of aerial photographs and geomorphological and pedological information to aid in assessing the potential for past human occupation/utilization of the study area;

- informant interviewing/direct consultation with individuals and organizations having knowledge of the study area;

- preliminary field reconnaissance including archaeological surveying and test pitting of all short range radar sites. Areas to be investigated must include all areas where construction activities may be undertaken (i.e. proposed airstrips, helicopter pads, access roads, buildings and beach landing areas).

It was further noted in the Terms of Reference that the purpose of these assessments was to identify and assess the historic resources potential within the study area and that, based on the Stage 1 findings, further Historic Resources Impact Assessment may be required.

3.1.1 Literature Search and Consultation

Site records, site maps and survey/excavation reports at the Historic Resources Division, Memorial University and LeDrew, Fudge and Associates Limited offices in St. John's were consulted. Maps, aerial photographs and engineering reports from the four areas were studied in an attempt to assess the most likely locations for archaeological sites to be present. Based on past experience on the coast of Labrador and the above sources (see also Sections 2 and 4), it seemed likely that sites would be present near the active beach and on former beach terraces, particularly where blowouts have occurred, as high as 30 m a.s.l. in at least the two southern SRR project areas.

Informants in the general vicinity of the site areas who may know of archaeological sites and who would know of recent land use were contacted individually and through the appropriate Labrador Inuit Association offices. A visit was made to the Them Days office in Happy Valley to consult records.

3.1.2 Helicopter Overflights

Where weather and time permitted, the field research plan involved an initial helicopter overflight of each area, tracing the path of the access road and planned facility locations from the landing beach/helipad/refuelling area to the temporary camp area, borrow pit areas, and the permanent camp area near the summit. This task was made difficult by the lack of any markers delineating roads or activity areas. Locations thought to be of potential were inspected on foot from the helicopter. On some occasions, usually en route to and from the study areas, sites and areas of high potential outside but adjacent to the study area were noted from the helicopter.

3.1.3 Ground Survey

The permit applications submitted in May (Permit 90.01), June (Permit 90.06) and August (Permit 90.12) sought permission to conduct archaeological surveys of the LAB-1, LAB-3, LAB-4 and LAB-5 SRR sites, wherever project-related disturbance is planned. Following the helicopter overflight, selected areas such as the landing beach and the lower terrace systems at least as high as 30 m and any other accessible higher elevation areas thought to have potential were walked and tested according to standard survey procedures. In addition, and as time permitted, other areas within easy walking distance, particularly near the landing beach and temporary camp, were surveyed both from the helicopter and on foot to observe any other sites which are visible on the surface and which may be impacted by project-related vandalism. The May survey was aborted because of heavy snow cover. The survey in late June was conducted over a period of four days in company with Pam Northcott and Stu Luttich, Wildlife Division, Department of Environment and Lands, who were making observations on raptors, caribou and other wildlife. Due to the lengthy periods of flying time required to travel between SRR sites and to conduct wildlife surveys, only 3-4 hours were spent on the ground at each SRR site conducting archaeological surveys. A return was made to LAB-1 and LAB-3 in mid-August to conduct additional evaluations of the mitigation needs of archaeological sites found in June, and again in late August in company with a site engineer from CSL, the project construction firm, to plan avoidance strategies. In September, monitoring was conducted of the LAB-1 sites while equipment was landed and the lower part of the access road was built. Several new archaeological sites or site loci were recorded during these late summer visits.

All sites found were recorded and given a preliminary assessment with regard to their significance and potential need for further study and mitigation. Site record forms were completed and submitted to the Historic Resources Division for incorporation in the provincial and national site inventory and so that Borden site record numbers could be assigned.

3.1.4 Mitigation

Following the discovery of archaeological sites within the study area at LAB-1 and LAB-3, mitigation measures were developed to provide for the elimination, reduction or controlling of impact upon heritage resources.

3.1.5 Monitoring

While equipment was landed at the LAB-1 site, an archaeologist was on hand to monitor any ground disturbance in order to identify previously-unrecorded sites and to ensure that known sites were not disturbed by construction-related activities.

4.0 ASSESSMENT RESULTS

4.1 Literature Research and Consultation

Literature research and consultation with people knowledgeable about local resources and past land use provided confirmation that there was considerable potential for the presence of archaeological sites at LAB-1 and LAB-3. The location of the proposed areas of disturbance at LAB-4 and LAB-5, while in regions where resources were plentiful and archaeological sites had been recorded, did not offer optimum sets of attributes which would have guaranteed past human settlement or exploitation. Archaeological site records at the Historic Resources Division, Division and other archaeologists and informants supplied by the Labrador Inuit Association proved to be the most useful sources of information and assistance.

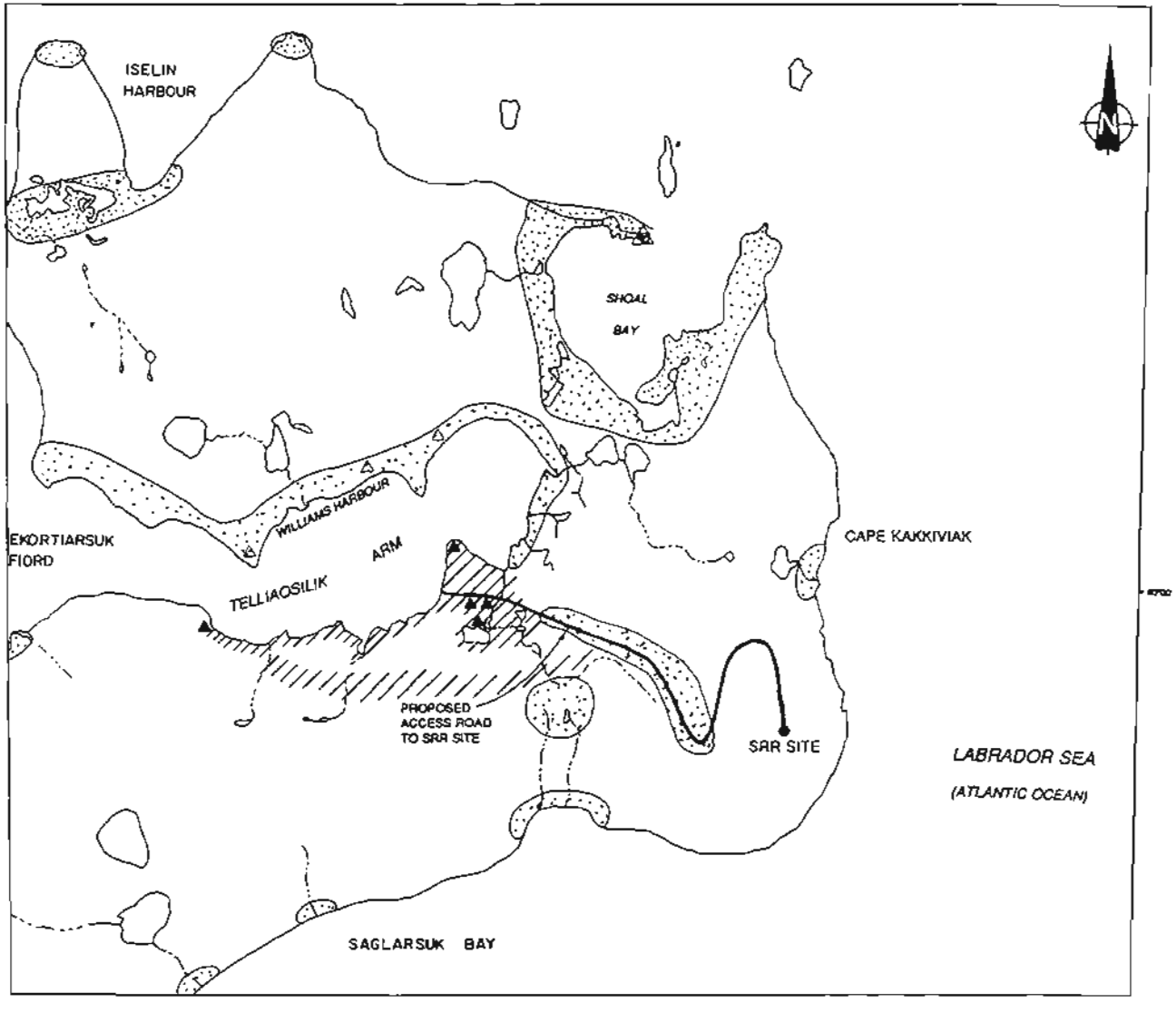
4.2 Helicopter Survey

Areas considered to be of high potential from the background research were generally confirmed as sites of former habitation during helicopter surveys. A good overview of the study area was sometimes achieved by an overflight but other demands on flight time by other passengers usually restricted this potentially helpful activity. Some sites observed during flights outside the study area were given preliminary site status; these and all other sites found are described below in Section 4.3. Site record forms are presented in Appendix A.

4.3 Ground Survey

4.3.1 LAB-1: Cape Kakkiviak

Four new sites were found near the proposed access road on the south side of Tellíaosílik Arm (Figure 4.1); additional sites were recorded on Home Island and Ikkudliayuk Fiord (Appendix A).



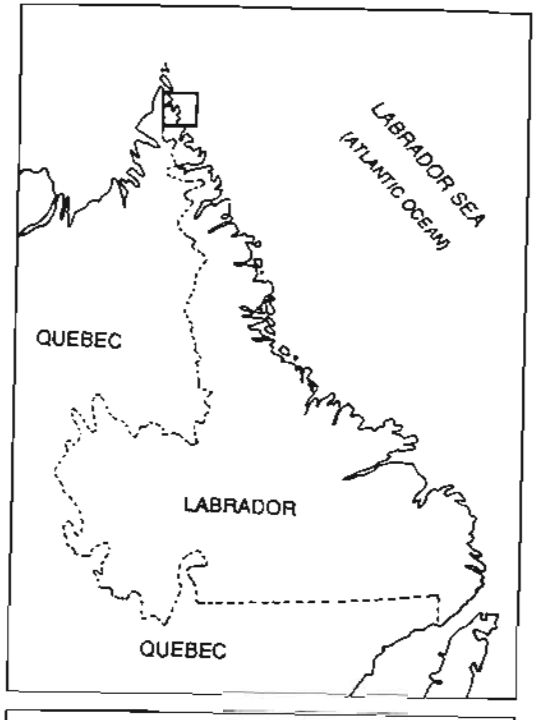


FIGURE 4.1

CAPE KAKKIVIAK (LAB-1)
SHORT RANGE RADAR SITE

LEGEND:

/// AREA SURVEYED 1990

AREA OF HERITAGE RESOURCES POTENTIAL

25

Telliaosilik Arm 1 (JaDb-1)

Evidence was found on the south shore of Telliaosilik Arm that the USS Tanner had visited the Arm in August, 1952, and set up what was probably a communications post on shore. Two artificial mounds of boulders were situated several hundred metres apart, aligned north-south. One mound is at the tip of the conical peninsula near the east end of the Arm (Plate 1, 2; see Appendix A for sketch of site features); a 1 m tall pipe had been set in a concrete slab beside the southernmost mound. An inscription in the concrete reads "East Base. USS Tanner August 52". Several piles of boulders are situated around the base of the mounds; each has the rusted remnants of wire attached, probably former guy wires for aerials. During the September visit, a length of copper pipe was found between the two loci (Scott 1990) and was assumed to have been part of a third communications-related locus from the Tanner visit. This site has been given the name Telliaosilik Arm 1; the Borden number by which its location and nature will be recorded in the Historic Resources Division site files is JaDb-1. 25

Preliminary research indicates that the USS Tanner was a US Navy hydrographic ship which was surveying the area in preparation for the establishment of early warning radar sites in the Canadian north (Canadian Hydrographic Service 1979; Douglas 1981/82). Some survey markers on the summit of Cape Kakkiviak may also have resulted from the visit of the USS Tanner.

Three additional sites were found on the south side of Telliaosilik Arm, two within a few hundred metres of the access road and landing beach. Each appears to be of Inuit origin; two seem fairly recent, the third may be several centuries old. No artifacts or other cultural material other than structural remains were found.

26

Telliaosilik Arm 2 (JaDb-2)

This site is situated at the base of the peninsula which almost bisects the east end of the Arm. Two small tent rings are located on the west side of the mouth of a stream at about

PLATE 1 CAPE KAKKIVIAK. ARCHAEOLOGICAL SITES ON POINT TO LEFT AND AT POND TO RIGHT. VIEW EAST.

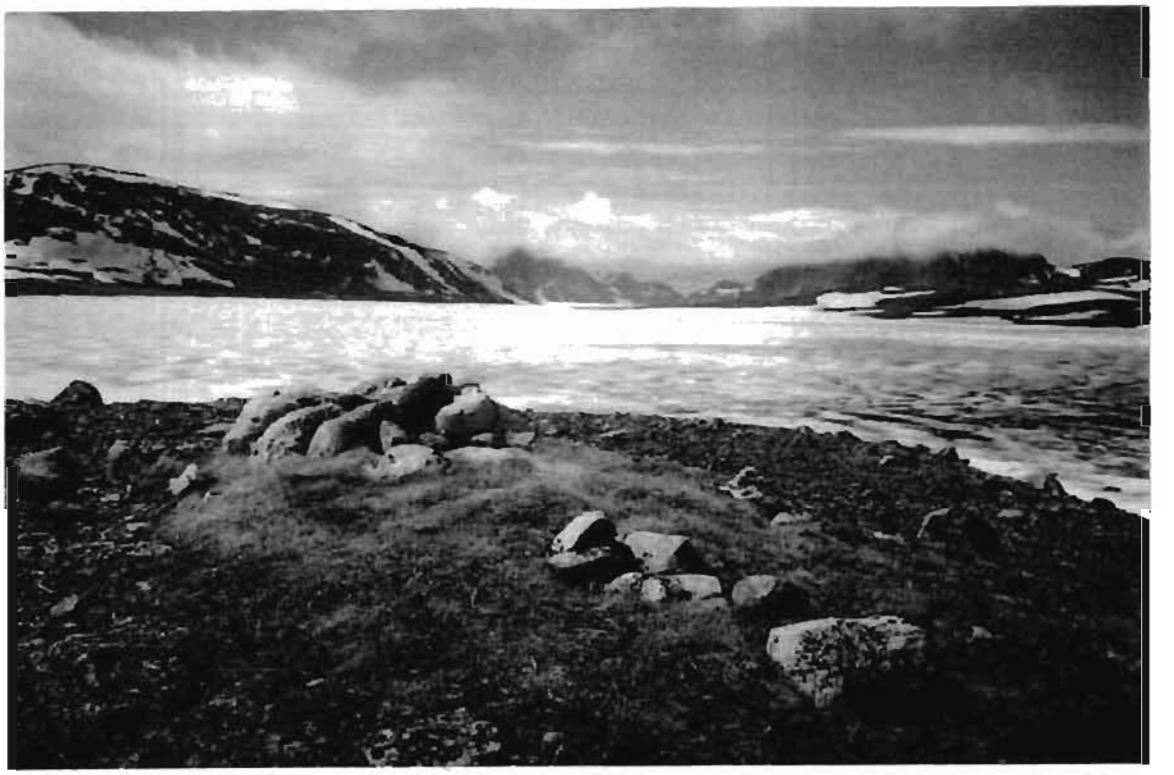


PLATE 2 TELLIAOSILIK ARM 1. PART OF USN HYDROGRAPHIC SURVEY COMMUNICATIONS BASE. VIEW WEST.

3 m elevation. Both are paved inside and both are lightly covered with lichen and low-growing vegetation, giving the appearance of some antiquity. No lithic materials were found on the surface or in test excavations through the few centimetres of thin topsoil and gravel. This negative evidence suggests that the site dates to the late prehistoric Thule period. A small scatter of boulders, possibly a meat cache, is situated near the tent rings, adjoining a large boulder (Appendix A).

Telliaosilik Arm 3 (IlDb-2)

Telliaosilik Arm 3 is a 6 x 3.5 m rectangular structure comprised of a single, discontinuous outline of tent hold-down rocks around a slightly depressed, partially paved interior (Appendix A). The structure is divided across the long axis, forming two rooms or activity areas. The feature is situated on a flat terrace 3 m above a pond, about 500 m from the Arm. An entrance faces over the pond. No other features were noted in the vicinity. This site is probably of early Inuit origin, i.e. c. 200 or so years old. No artifacts were found; structural rocks are lichen-covered.

Telliaosilik Arm 4 (IlDb-3)

This site is a small, rectangular tent ring measuring 2 x 3 m, with an entrance on the south side and no internal features (Appendix A). The tent ring is situated in a depression, protected from the Arm by a 1 m high gravel beach and from the north by a scree slope coming off the hill to the west. The site, on the south side of the Arm near the western narrows, seems recent and was probably a temporary shelter occupied within the last century.

Ikkudliayuk Fiord 1 (JaDe-1)

A small site was found on the south side of Ikkudliayuk Fiord near the mouth of a river flowing in from the southeast. Two, possibly three, tent rings were found partially overgrown with grass. No artifacts were noted on the surface except for some empty soda

cans which are not likely related to the features. Preliminary conclusions indicate that this site is of fairly recent Inuit origin, probably related to char or caribou exploitation. The site was recently reported to the Historic Resources Division (Appendix A); no Borden number has been received.

Peregrine Site (JaDb-24)

A small site was found at the bottom of the southernmost cove on the south side of Home Island, east of a cliff where a pair of peregrine falcons nest. The site consists of a single rectangular tent structure with a raised sleeping platform at the rear and an entrance facing the cove (Appendix A). The site is well-covered with sod and probably dates to the late prehistoric Thule period.

The access road route from the originally-planned landing beach on Telliaosilik Arm to the summit of Cape Kakkiviak was foot surveyed for the first 2-3 kilometres, near the Arm. The upper stretch of the access road was not examined on foot except for the summit, which contains some survey markers from the Tanner visit and from more recent topographic surveys. There is low potential for the presence of archaeological sites away from the coastal plain with the probable exception of sites related to caribou exploitation.

During a quick flyover of the coastal areas in the vicinity of the LAB-1 site other evidence of previous occupations was found around Shoal Bay, on the north side of Telliaosilik Arm and on the north side of Saglarsuk Bay. It is likely that additional sites are located on nearby shores of Telliaosilik Arm, Shoal Bay, Iselin Harbour, Saglarsuk Bay and on interior terraces where caribou fences and blinds would be effective. These areas were not surveyed on foot due to time constraints.

4.3.2 Cape Kiglapait

No evidence was found in background research or field visits to indicate that the Cape Kiglapait study area had been occupied or visited during the historic period by anyone other than Inuit.

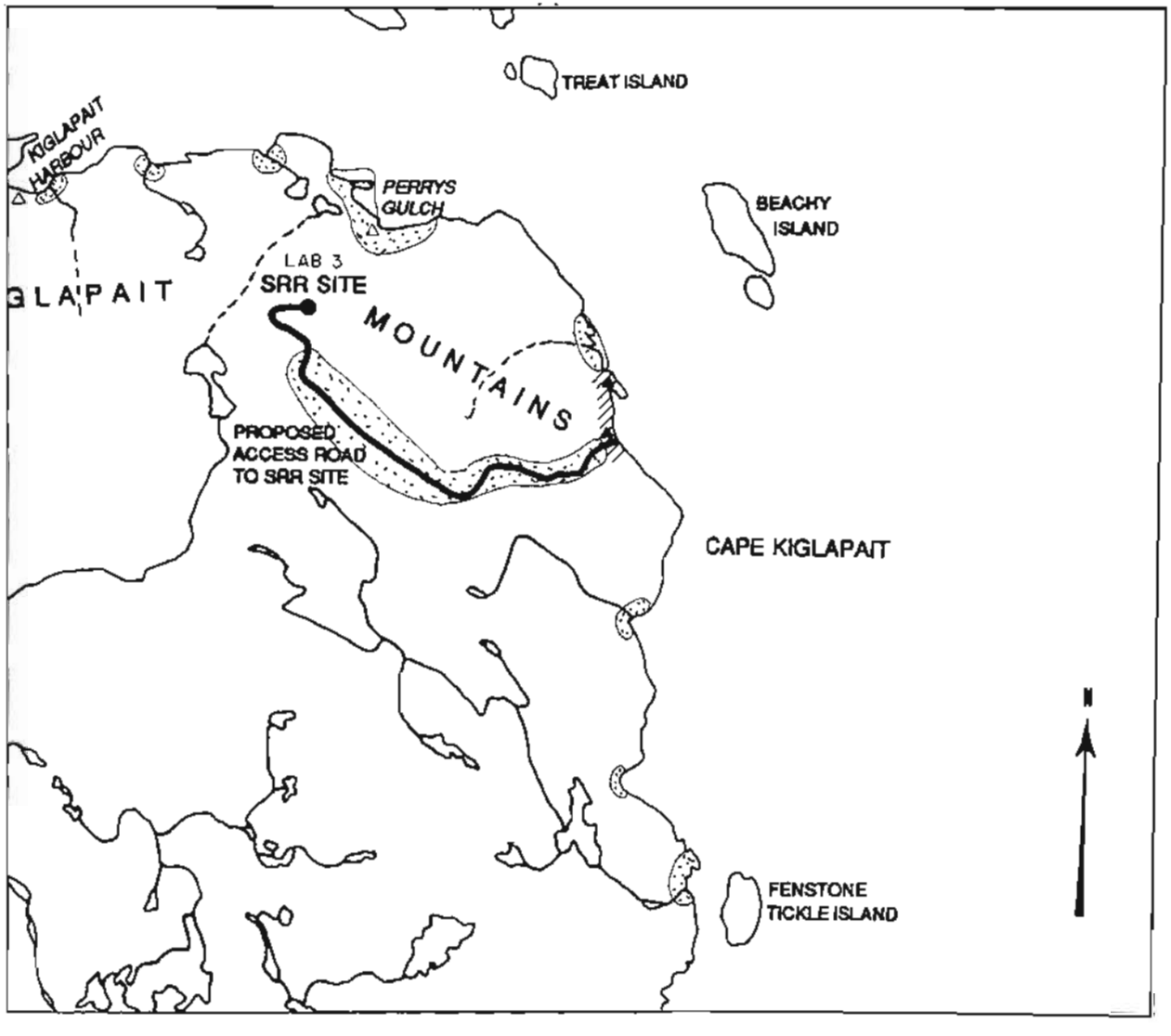
Other than the two alternate landing beaches, the first kilometre or two of access road, and the lowest terraces, none of the Cape Kiglapait project area was overflown or inspected on foot during any of the three visits due to a shortage of time and other demands on the helicopter, high winds and the fact that much of the upper part of the route was still under deep snow or in cloud. Two large prehistoric sites were found on or near the proposed landing beaches and on the proposed access road (Figure 4.2; Appendix A).

Cape Kiglapait 1 (HgCi-2)

Cape Kiglapait 1 is a Middle Dorset habitation site with a minor Inuit component, situated in a south-facing cove which is under consideration as a landing beach (Plate 3, 4). The cove is sheltered from the north, west and east and provides a good landing area for anyone who has rounded the Cape, 3 km to the south, or finds progress from the north past the Cape impossible (cf. William Ritchie 1991: personal communication). The beach slopes gradually over a barren, unvegetated terrace to a bare, bedrock outcrop. The slope is cut through its centre by a stream which has created a washout area about 30 m wide. On the east side of this area Middle Dorset material is scattered about on the surface, sometimes associated with areas of paving and a possible Dorset tent ring.

Lithic material includes Ramah chert, which is only available in beds between Nachvak Fiord and Saglek Bay, green, translucent chert from the Cod Island area at Mugford Tickle (Lazenby 1980), grey and black fine grained cherts, probably also from the Mugford area, quartz crystal, nephrite and soapstone. Among the diagnostic artifacts recovered from the surface are a tip-fluted triangular point, fragments of a rectangular soapstone pot, tip-fluting spalls and a tabular, beaked, side-notched burin-like tool, all good indicators of a Middle Dorset (Cox 1978) occupation (Figure 4.3). The presence of fine-grained cherts and a fragment of a black chert biface suggest that there may also be a Pre-Dorset component.

A single 3 x 3 m rectangular tent ring on the east side of the stream and two circular tent rings, a rectangular tent ring and two caches on the west side, between a large outcrop



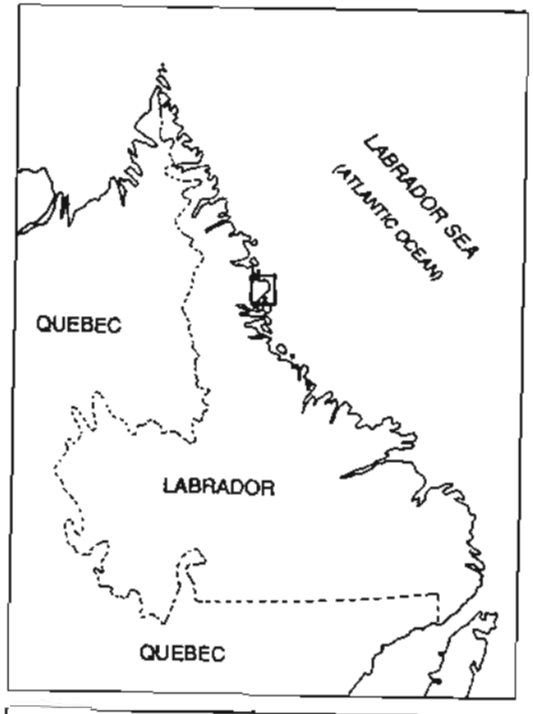


FIGURE 4.2

KIGLAPAIT MOUNTAINS (LAB-3)
SHORT RANGE RADAR SITE

LEGEND:

/// AREA SURVEYED 1990

AREA OF HERITAGE RESOURCES POTENTIAL

PLATE 3 CAPE KIGLAPAIT 1. MIDDLE DORSET SITE ABOVE BEACH AT HEAD OF COVE. VIEW NORTH.

PLATE 4 CAPE KIGLAPAIT 1. MAIN AREA OF DORSET MATERIAL. B. MEYERHOFFER AND WILLIAM BARBOUR. VIEW NORTH.

Figure 4.3 Artifacts from Cape Kiglapait 1
(actual size)

Top Row, Left to Right

Nephrite burin-like tool
Slate blade
Ramah chert knife
Ramah chert endscraper

2nd Row, Left to Right

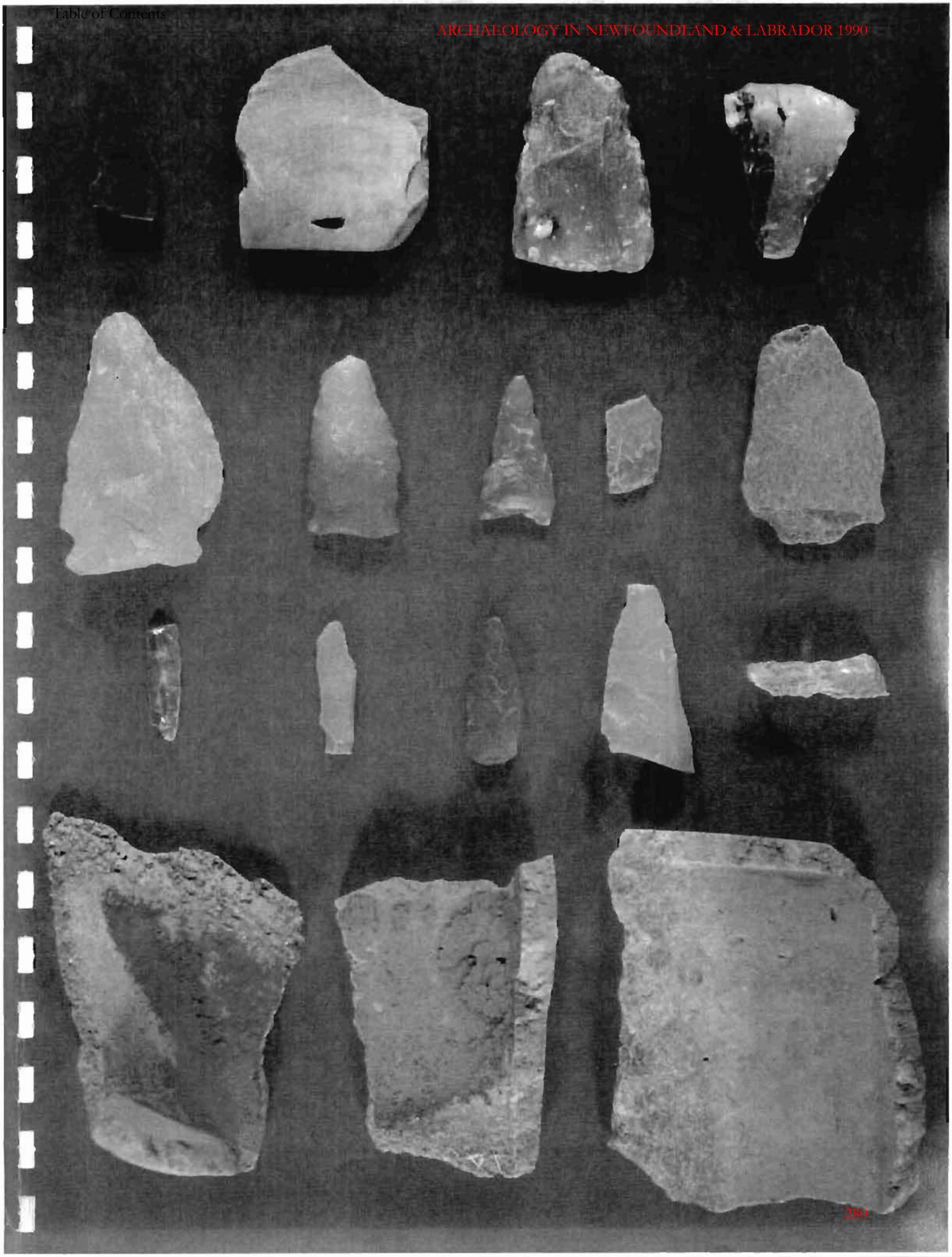
Ramah chert side notched biface
Ramah chert tip-fluted point
Ramah chert tip-fluted point
Green chert tip-fluting spall
Schist grinding pallet

3rd Row, Left to Right

Quartz crystal microblade
Grey chert microblade
Black chert point
Grey chert preform
Soapstone pot fragment

Bottom Row

Three soapstone pot fragments



and the hill side, are evidence of Inuit or recent recreational traveller use of this site. Additional features and artifact clusters may lie hidden beneath the occasional patches of vegetation and in the boulder fields on the west side of the terrace.

Cape Kiglapait 2 (HgCi-3)

Six separate loci were discovered on the southern of the two proposed landing beaches and the 15 m a.s.l. terrace above the beach (Plate 5, 6). The lower two loci comprise three Inuit or recreational traveller tent rings situated within a few metres of streams draining off the terrace. The two structures at Locus 5 are circular, and measure 4 m in diameter; the single tent ring at Locus 4 is rectangular and measures 4 x 4 m. None seems to date older than the past century.

Locus 1 is situated almost directly above Locus 4, on the edge of the first flat terrace, at about 15 m a.s.l. Most of the terrace is covered in thick, ground-hugging vegetation. Occasional blowouts exist where the wind has created and/or maintained a clear area of sand, gravel and boulders. Locus 1 is one such area. An amorphous scatter of boulders in a sandy clearing may mark the remains of a habitation structure. Several different lithic materials were found in the blowout including white quartz, white quartzite, red and green slate, banded grey chert and grey chert. Two artifacts were collected: a fragment of a green slate ulu and a grey chert stemmed biface preform (Figure 4.4). Another ulu fragment, with a gouged oval hole for hafting and made of grey slate, was found in the same area on a subsequent visit. A few metres to the east, on the edge of the terrace, is situated a low mound of boulders which is most likely a burial. The materials and artifacts are consistent with Maritime Archaic Indian assemblages from the Naksak complex of the central coast which is dated as early as 6000 B.P. (Fitzhugh 1978a).

Locus 2 is a second mound of boulders on the edge of the same terrace, at the same elevation, about 100 m further north. A complete but broken nipple-based Ramah chert biface, the distal end of a large nipple-based Ramah chert biface, also in two parts, a grey, ground slate ulu half with a gouged, oval hole for hafting, and a flake each of grey

PLATE 5 CAPE KIGLAPAIT 2. MARITIME ARCHAIC LOCI ON FRONT OF TERRACE ABOVE SNOW AT CENTRE. VIEW NORTH.

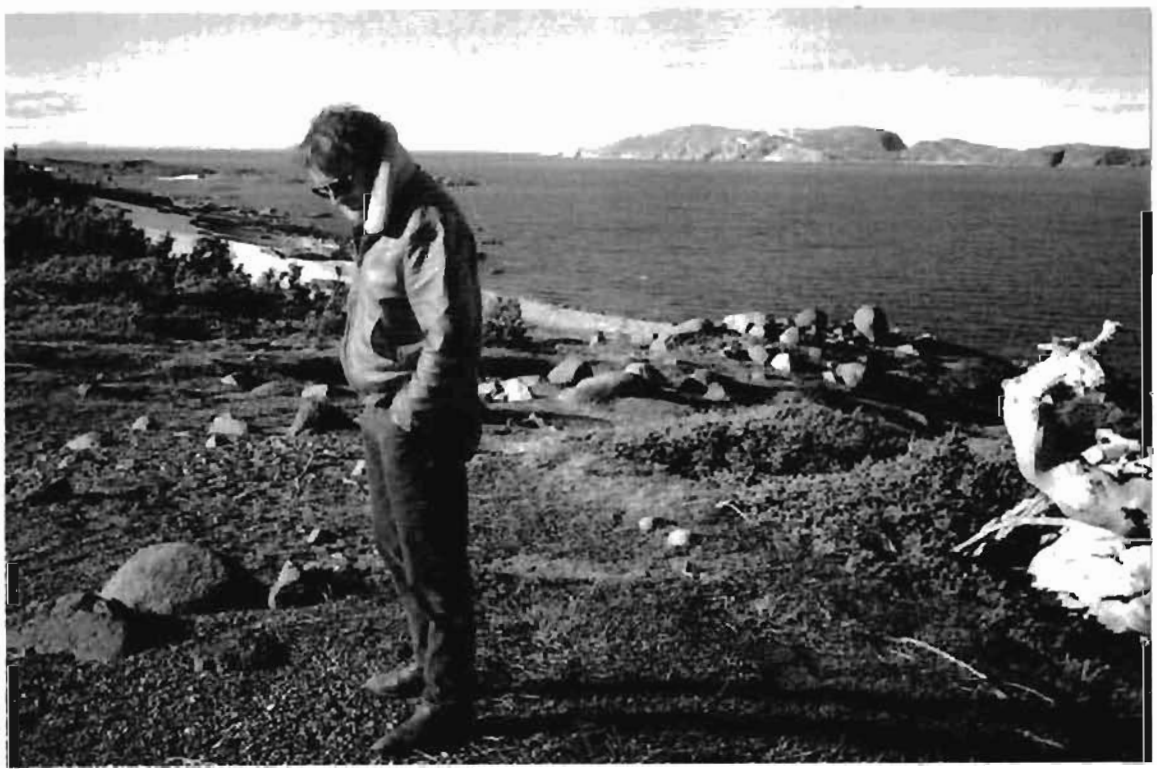


PLATE 6 CAPE KIGLAPAIT 2. STU LUTTICH IN MARITIME ARCHAIC HABITATION STRUCTURE IN FOREGROUND; PROBABLE BURIAL MOUND IN BACKGROUND. VIEW EAST TO BEACHY ISLAND.

Figure 4.4 Artifacts from Cape Kiglapait 2
(actual size)

Top Row, Left to Right

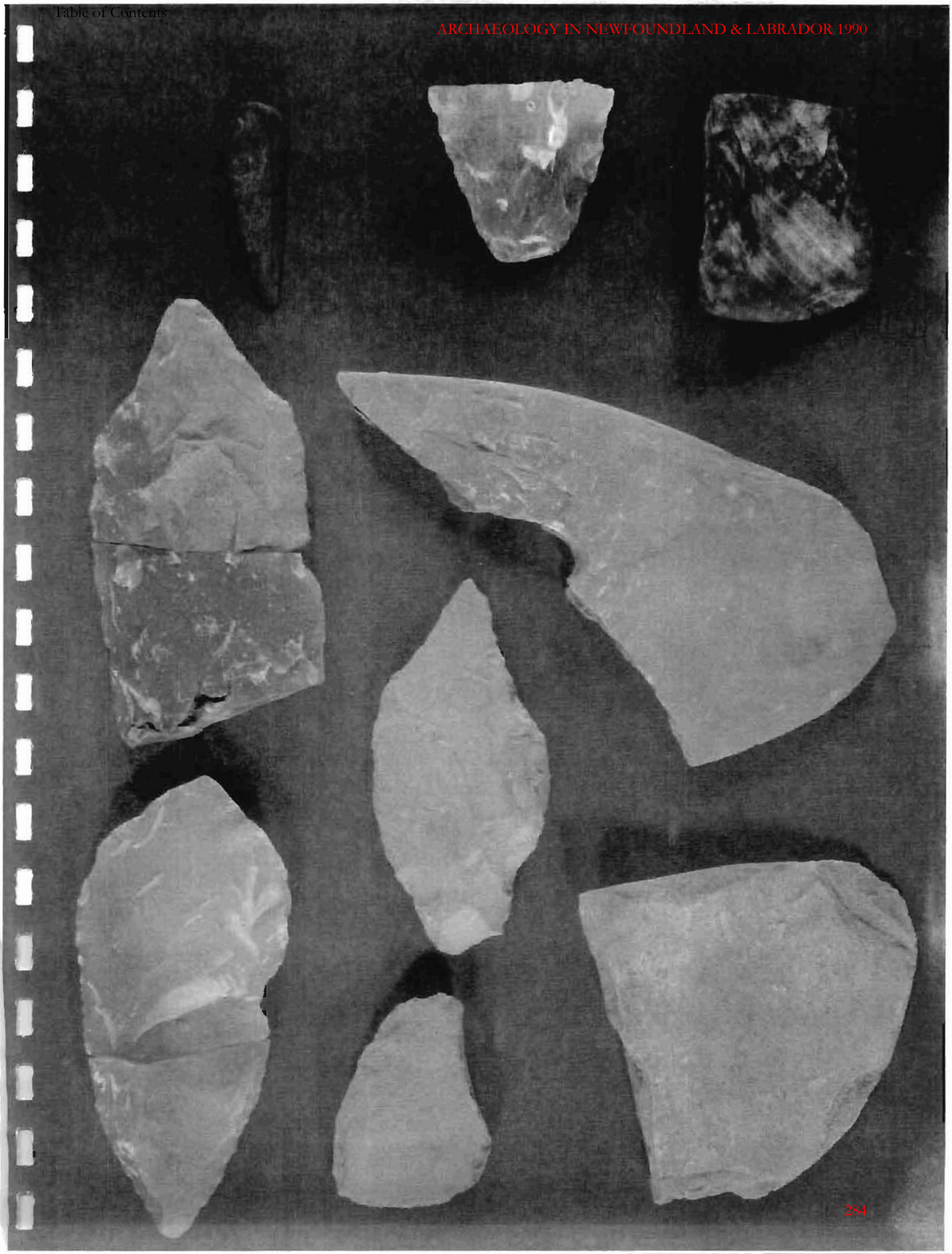
Grey slate ulu fragment
Ground slate celt fragment
Ramah chert nipple-based biface

Middle Row, Left to Right

Green slate ulu fragment
Grey chert biface preform
Ramah chert nipple-based biface proximal end

Bottom Row, Left to Right

Banded slate adze bit
Ramah chert biface distal end
Ground slate fragment



chert and green slate were located among the boulders, which may form the cap of a burial. The artifacts clearly resemble Naksak complex assemblages and probably date to c. 6000 B.P.

Locus 3 is another blowout with a scatter of boulders in no apparent pattern. A possible fragment of a black chert awl, the bit of a banded grey slate adze and the rounded tip or base of a Ramah chert biface were found near the edge of the terrace. Another boulder mound was located several metres further north. The artifacts from this locality also resemble Naksak complex material.

Locus 6 was found on a subsequent visit to the site, at the north edge of the terrace on the front of a high sand bank cut by several stream beds. Flakes of Ramah chert, pink quartzite and quartz were found eroding down the face of the bank. A thin cap of organic soil and vegetation on top of the bank may conceal additional cultural remains but it is evident that considerable erosion has already taken place.

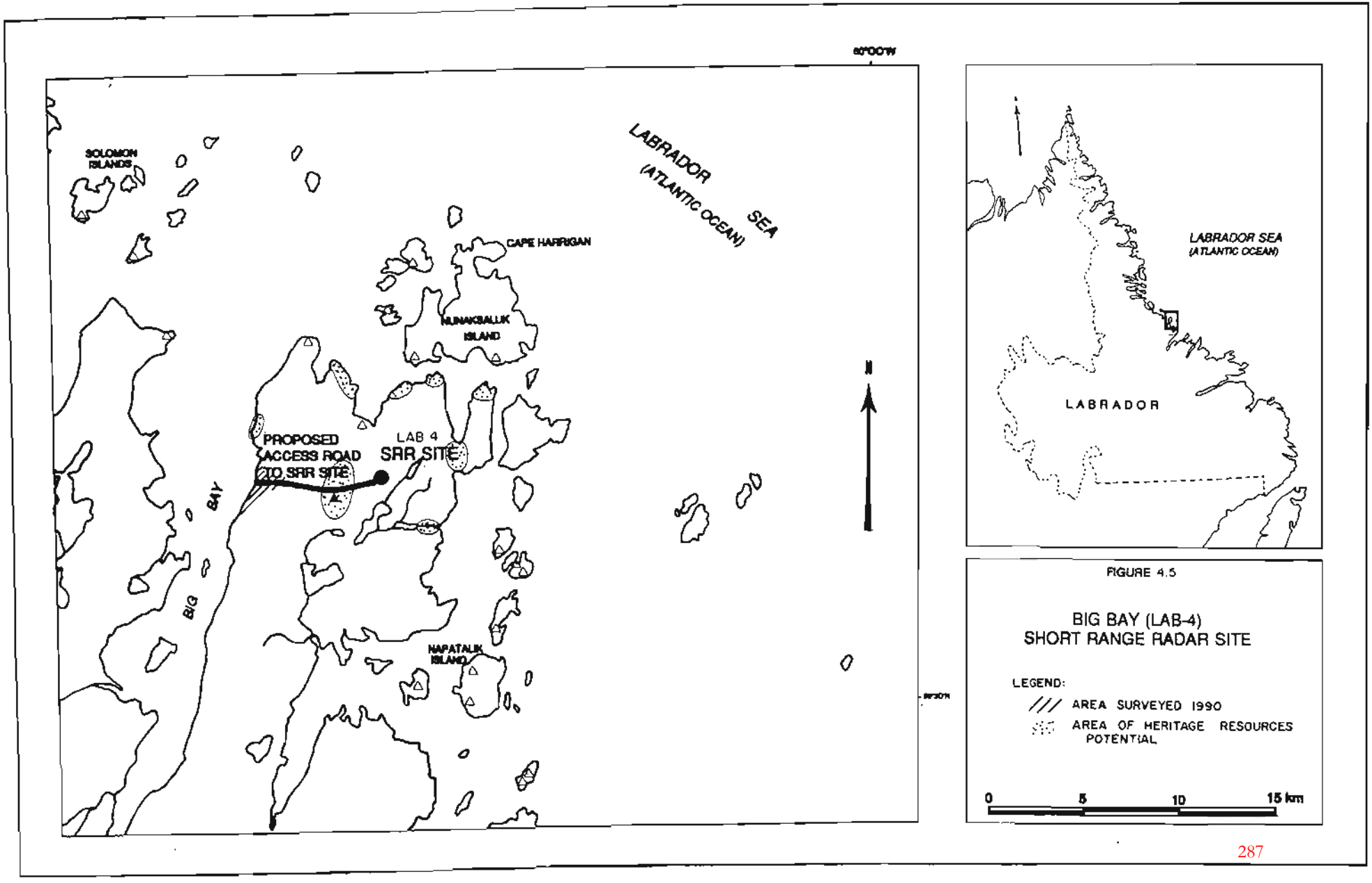
It is possible that the vegetation elsewhere along the front of this terrace and, perhaps, away from the terrace edge conceals additional features and artifact scatters. This high, eroding beach terrace is typical of the habitation and burial locations favoured by people of the Naksak phase but is atypical in that there is no shelter from the sea and, at present elevations, no suitable beach for boat landing (cf. Fitzhugh 1978a). When the site was occupied it is likely that the lower terrace was submerged and that a smooth, sand beach was present at the north end, below the cultural loci described above. The upper terrace would have been less deeply cut and eroded by the several streams; today's discrete loci may be the surviving elements of a larger site more intensively ocupied 6000 years ago. The presence of Ramah chert in the assemblage indicates that this group must have had knowledge of the lithic resources of the Labrador coast at least as far north as Ramah Bay, where the chert is most readily available. The site may contribute significantly to the incomplete knowledge available about this early Maritime Archaic Indian phase.

In addition to the two sites described above, which require additional work to more clearly define their extent and significance, there remain several areas in the vicinity of the project area which should be closely examined prior to the start of construction of the access road and the establishment of a construction camp. These areas include the coast north of the northern landing beach towards Perrys Gulch, south towards Fenstone Island Tickle and west up the valley from the southern landing beach, where caribou exploitation sites might be located.

4.3.3 LAB-4: Big Bay

Following a helicopter overflight of the Big Bay site proposed access road route several hours were spent test-pitting the terrace above the landing beach. This area seemed to have potential, as it is dry and the sandy soil is overlain by a thin layer of vegetation and sparse, stunted black spruce. However, no cultural material was found in about 50 test pits dug 20-30 cm through caribou moss, crowberry and dark sand to sterile gravel or bedrock. It can be concluded that other areas in Big Bay have more to offer in terms of resources or easy access to resources. A second survey was conducted following clearing of the surface vegetation for the laydown area, camp and other facilities near the landing beach. No evidence was found in any of the cleared areas or cut banks of a prehistoric occupation of the area.

The access road route was walked for 1 km east through boggy ground dotted with small ponds. No potential exists in this area for camp sites. The coastline was walked 1.5 km south of the landing beach and periodically test-pitted (Figure 4.5). Several areas where streams empty into the sea or where points protrude into the Bay were judged to have potential for the presence of historic resources, but none were found. Andrew Piercy, an L.I.A. observer who accompanied the field party, thought it unlikely that any prehistoric sites would be present here due to the lack of immediately available resources and the shoal water, which makes boat landing particularly difficult in an on-shore wind or in poor visibility. According to Mr. Piercy, there used to be a few caribou in the area in spring, partridge are scarce in the vicinity, though plentiful further south, and fish are more abundant off the large island several kilometres south.


60°00'W
SOLOMON ISLANDS
LABRADOR SEA (ATLANTIC OCEAN)
CAPE HARRIGAN
NUNAKSALUK ISLAND
PROPOSED ACCESS ROAD TO SRR SITE
LAB 4 SRR SITE
BIG BAY
NAPATALIK ISLAND
LABRADOR SEA (ATLANTIC OCEAN)
LABRADOR
FIGURE 4.5
BIG BAY (LAB-4) SHORT RANGE RADAR SITE
LEGEND:
AREA SURVEYED 1990
AREA OF HERITAGE RESOURCES POTENTIAL
0
5
10
15 km

Nancarrow 1 Site (GkCc-8)

Possible confirmation of the area's potential for caribou hunting was supplied by Richard Nancarrow (1990: personal communication). He found several inuksuit on the west side of a long north-south trending ridge above the tree line, near the summit. These features were described as stone cairns covered with lichen on the edge of a bald stone outcrop 50-100 m south of the access road. Their situation suggests that they were built as part of a caribou hunting system, probably by Inuit. This site location has not been confirmed. A preliminary site record form (Appendix A) was recently sent to the Historic Resources Division; no Borden number has been assigned. -- GkCc-8

4.3.4 LAB-5: Tukialik Bay

During our approach to Tukialik Bay from the west it seemed evident that there was considerable potential for the presence of archaeological sites on a succession of exposed points and on several systems of beach ridges. However, most of the shoreline of Tukialik Bay itself was found to be heavily overgrown with stunted spruce, open to marine erosion, and not well endowed with former beach ridges. The remains of several cabins were noted at the mouth of a stream several hundred metres east of the landing beach and the remains of a former World War II U.S./Canadian communications camp was seen on the tip of the peninsula which forms the west side of the bay. Although the elevation of this peninsula is quite low, it is possible that a Native habitation site once existed on this location; extensive disturbance of the area would have destroyed any such evidence.

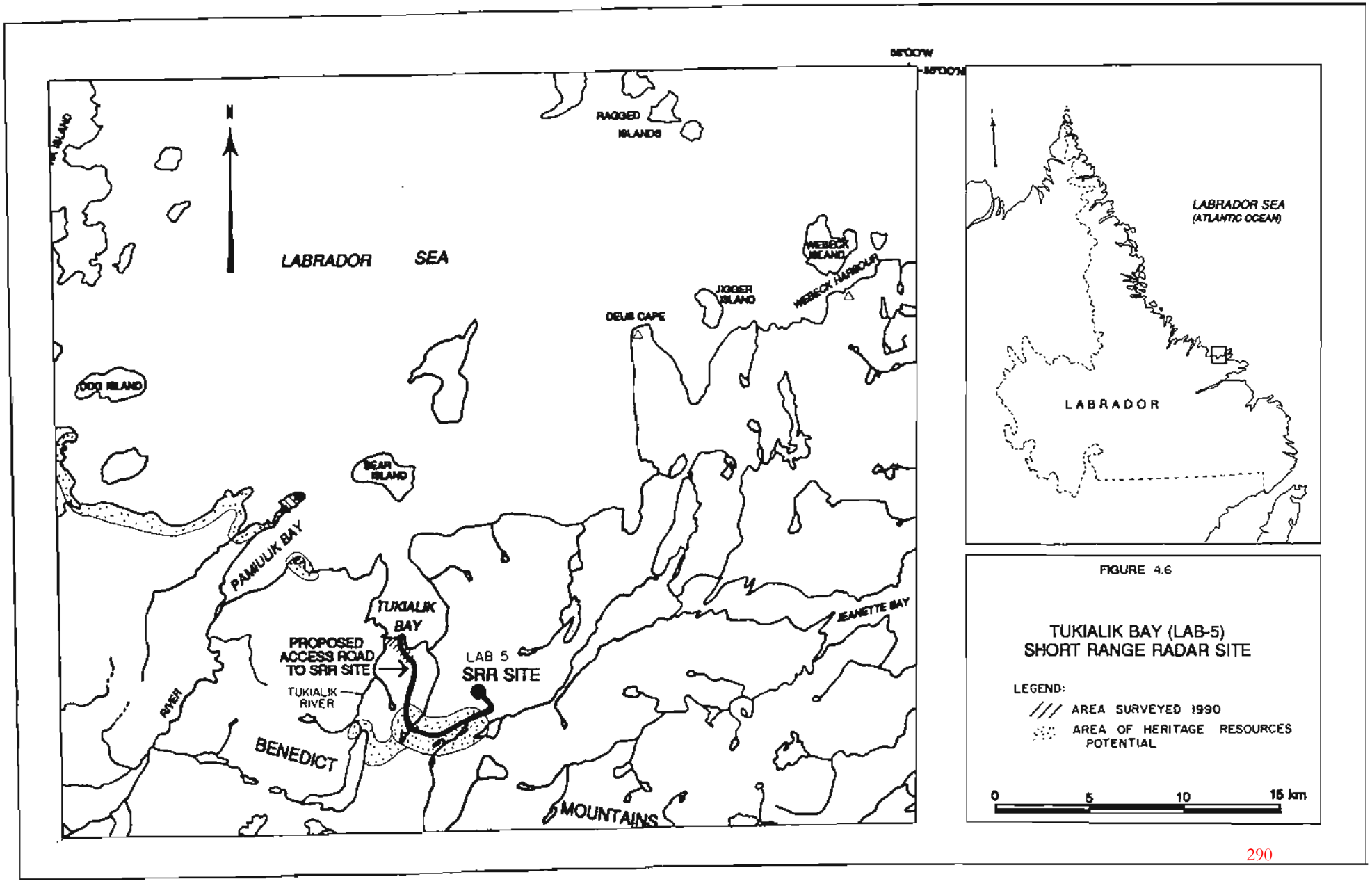
The access road route to the top of the Benedict Mountains was flown. The summit was inspected for signs of previous visits. These we found, in the form of a topographic survey marker and several indications that a radio mast had been situated there at some point, probably during the military occupation of the peninsula below. The summit offers a magnificent view in all directions but would require a hard climb to access. No evidence was found to suggest that any prehistoric or historic native peoples had ever visited the area.

A comparison of the bottom of the bay with the nearby point and several beach ridge blowouts within a few kilometres of Tukialik Bay suggested that the SRR site offered less potential as a camp site than the other locations. During the return visit in June, the access road route was overflown again. Snow cover was still deep in places on the upper parts of the route, particularly in sheltered valleys. It seemed unlikely that archaeological sites would be situated at this elevation (250-600 m) except, perhaps, features such as blinds and cairns built to aid in the hunting of caribou.

The landing beach, eroding bank and two terraces (3, 5 m a.s.l.) immediately above the beach were walked and inspected for surface indications of sites. Test pits through a cover of caribou moss and peat were only dug to a depth of 10-25 cm because the soil was still frozen. Both terraces were level and seemed suitable for habitation, although the present cover of thick tuckamore made the location less than inviting. The lack of fresh water, the distance of the beach from more plentiful food resources on the open coast, the likelihood that vegetation conditions have remained the same for the past several millennia and the presence of more hospitable situations within a kilometre or two makes it unlikely that this place was ever occupied. During a return visit to the site following clearing of the laydown and associated shore areas no evidence was found of any former occupations.

Following the test-pitting of the landing beach and lower access road, the shore west as far as the mouth of Tukialik River was walked and test-pitted. The mouth of the river seemed to offer good potential and one abandoned cabin is located on either side of the river. No cultural remains pre-dating the present century were found. A Settler graveyard is also situated near the river; this was not located.

Two large Inuit sites were found on the tip of the point on the north side of Parniulik Bay and roughly mapped (Figure 4.6; Appendix A). No artifacts were noted.


N
LABRADOR SEA
RAGGED ISLANDS
WEBBER ISLAND
WEBBER HARBOUR
JIGGER ISLAND
DEUR CAPE
ODD ISLAND
BEAR ISLAND
PAMIUUK BAY
TUKIALIK BAY
PROPOSED ACCESS ROAD TO SRR SITE
LAB 5 SRR SITE
TUKIALIK RIVER
BENEDICT MOUNTAINS
JEANETTE BAY
LABRADOR SEA (ATLANTIC OCEAN)
LABRADOR
FIGURE 4.6
TUKIALIK BAY (LAB-5) SHORT RANGE RADAR SITE
LEGEND:
AREA SURVEYED 1990
AREA OF HERITAGE RESOURCES POTENTIAL
0 5 10 15 km

Pamiulik Bay 1 (GeBp-1)

This site is situated on the south side of a point, mostly on the lowest of a series of cobble and boulder beach ridges. Ten oval, circular or long rectangular tent rings are strung in a linear pattern from the east end of the beach, sheltered from the north and west by a large outcrop and successively higher beach ridges. Several of the structures contain hearth features and most are covered with a heavy growth of black lichen, giving an appearance of some antiquity. Two small caches are present on the same terrace and one larger one is situated on the fourth highest ridge. All thirteen structures are most likely Inuit in origin. Others may be present elsewhere on the terraces.

Pamiulik Bay 2 (GeBp-2)

A second series of boulder beach terraces is located at the very tip of the same peninsula. Two subrectangular tent rings were found on the lowest terrace, partially hidden amongst stunted spruce. The floor of at least one is formed of pea-sized gravel. No internal features and no artifacts were noted.

Two 3 m diameter tent rings or shelters were found on an upper terrace (Plate 7). Both were dug into the boulder terrace and had raised walls. One was adjoined on one side by a longer, rectangular feature (6 x 3 m) of similar construction. An additional six tent rings (Plate 8) were found on a bald rock outcrop at the extreme tip of the peninsula. A single 3 m wide cache or shelter was found on the highest boulder terrace, about 100 m west of the rest of the site.

The more substantial three of these features resemble Maritime Archaic structures but, as no lithic material was found and as no caches were found in association, it is more likely that they are all Inuit.

PLATE 7 PAMIULIK BAY 2. FEATURE 2, INUIT TENT RING. VIEW EAST.

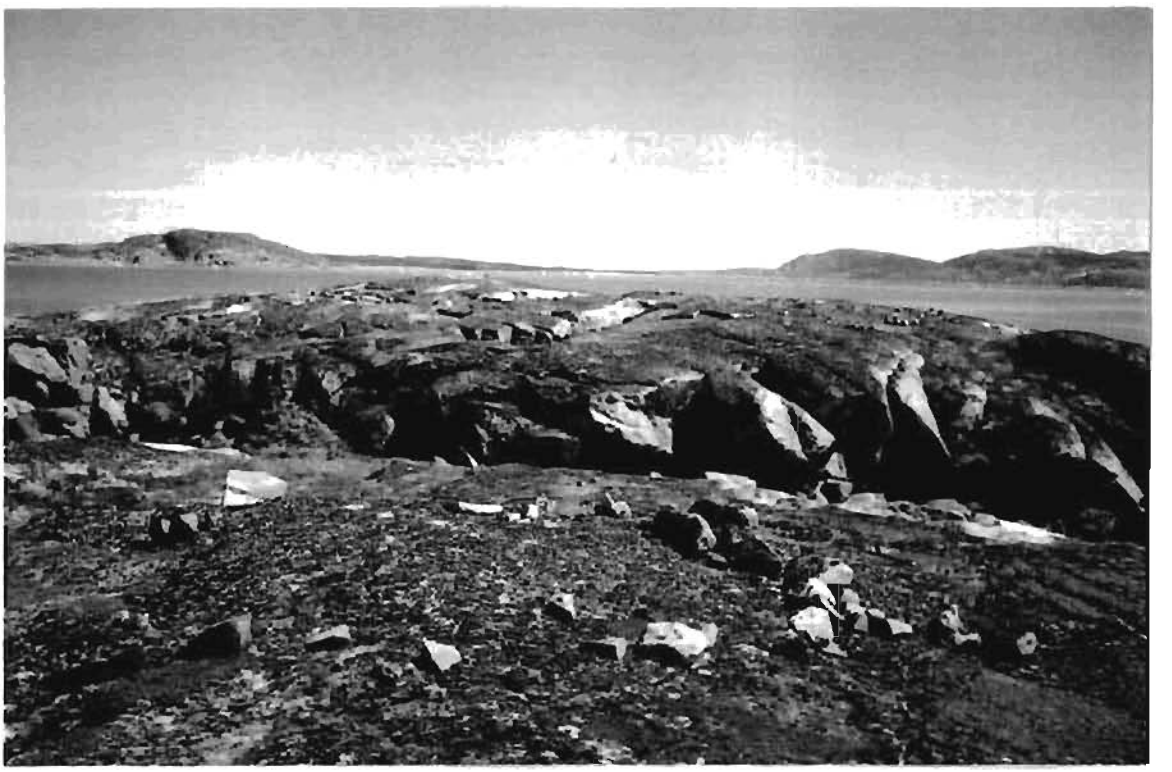


PLATE 8 PAMIULIK BAY 2. FEATURE 4, VIEW EAST TO FEATURES 5-11 IN BACKGROUND.

5.0 MITIGATION

Recommendations were made at LAB-1 and LAB-3 to safeguard or otherwise mitigate impacts upon known heritage resources. Further mitigation measures which may be required at each site are discussed in Section 8.3. In the event of the discovery of archaeological sites in a development area standard mitigation options include project redesign so as to avoid the resource, active site protection, which might involve capping or the erection of a physical barrier such as a fence, and a program of systematic data recovery which entails the partial or complete excavation of a site and the recording of all related information (Figure 5.1). All archaeological sites are protected under the Provincial Historic Resources Act (Government of Newfoundland and Labrador 1985) and must not be disturbed except under the terms and conditions of a research permit.

5.1 LAB-1: Cape Kakkiviak

Discussions were held on-site with the NAADM coordinator, Captain Barron Meyerhoffer, and the CSL site engineer, Jocelyn Piquet, regarding preservation of the known sites at LAB-1. Each of the three sites near the landing beach was flagged with tape. It was agreed that site construction activities would not impact upon any of the sites, with the possible exception of Locus 2 of JaDb-25, the Telliaosilik Arm 1 site. Features at this locus, interpreted as being a temporary communications post set up by personnel from the USS Tanner, are situated on a source of gravel and boulders required for road construction. If it is established that this is the only available source and the site must be disturbed, additional mitigation measures will be required (see Section 8.3). During the last visit to the site in September, each site or locus was given additional protection by painting a 50 m buffer zone around each area. This, of course, will not be visible in spring until the snow cover thaws, but the site engineer and construction foreman are aware of the site locations.

Additional sites were noted from the air within a few kilometres of the construction site (see Figure 4.1). No assessment was made of the significance and potential for impact by vandalism at these sites. Mitigation measures are proposed in Section 8.3.

Figure 5.1: Potential Impacts to Heritage Resources and Possible Mitigation Options

Possible Direct Sources of Impacts on Heritage Resources	A	B	C	D	E	F	G	H
Laydown Area, Access Road	*	*	*	*	*	*	*	*
Buildings, Dumps, Fuel Storage	*	*	*				*	*
Borrow Pits	*							*
Bridges	*							*
Power Lines	*	*		*	*		*	*
Water Lines	*				*			*
Other Related Forms of Disturbance	*	*		*	*			*

Possible Indirect Impacts on Heritage Resources	A	B	C	D	E	F	G	H
Increased Activities Stemming From Improved Access		*		*	*	*	*	*
Looting		*		*	*	*	*	*
Vandalism		*		*	*	*	*	*
Accelerated Erosion		*					*	*

Mitigation Options

A. Project Redesign and Avoidance
B. Capping
C. Building Placement Without Subsurface Foundation
D. Fence and/or Signage In Combination With Permanent Supervision
E. Public Education
F. Site Development and Interpretation
G. Monitoring
H. Archaeological Data Recovery, Including Excavation

5.2 LAB-3: Cape Kiglapait

Both the proposed (northern) and alternate (southern) landing beach contain archaeological sites. Discussions were held on-site with the NAADM project coordinator, Captain Barron Meyerhoffer, and the CSL site engineer, Jocelyn Piquet, regarding preservation. It was agreed that, although the northern beach was preferable from a logistical point of view, being clear of boulders and sheltered from most winds, there would not be room on the small terrace to accommodate both the Dorset Palaeo-Eskimo archaeological site and project-related construction activities. Use of the northern beach is also problematic in that the access road would pass over the Maritime Archaic site at the northern edge of the southern terrace.

The proposed road route from the southern, alternate, landing beach to the upper terrace, which was planned for use as the lay-down and temporary camp area, would pass directly over Locus 3 of the Maritime Archaic site; Locus 6 is situated on a bank of sand which was designated for construction purposes. The other loci on the front edge of the terrace, Locus 1 and Locus 2, and any other sites found during the proposed additional surveys (see Figure 4.2) would also be at risk from project related activities and, because of the visibility of artifacts and raw materials on the surface, from vandalism. Discussions were held as to the feasibility of driving the access road from the landing beach southward on the lower terrace for several hundred metres until well clear of the Maritime Archaic site, then bringing it up onto the upper terrace near the south end of the beach. The laydown area and camp could then be situated on the south or west side of the upper terrace, well clear of the archaeological site. This option and other mitigation needs are developed further in Section 8.3.

5.3 LAB-4: Big Bay

Because no archaeological sites were found during the survey of the LAB-4 project area no mitigation measures were developed. However, an unconfirmed site was found beside the upper part of the access road; this will require some form of protection (see Figure 4.5). Options are presented in Section 8.3.

5.4 LAB-5: Tukialik Bay

No archaeological sites were found in the development area. However, there are some abandoned buildings and a reported cemetery within walking distance of the landing beach. These must not be vandalized in any way by project personnel. Additional known sites are located within a few kilometres walk or boat ride from the landing beach (see Figure 4.6).

6.0 MONITORING

Monitoring of archaeological sites within a development area to ensure their continued integrity is a responsibility of the developer. In the case of sites found within the LAB-1 and LAB-3 development areas and the unconfirmed site at LAB-4, monitoring requirements will depend on the final construction plans and the mitigation options selected. Other sites found or previously recorded within easy reach of the development area may also require monitoring to prevent vandalism (see Section 8.4).

7.0 CONCLUSIONS

Six confirmed sites and one unconfirmed site have been recorded in the study area. Four additional sites were found and recorded within a few kilometres of the development areas; five or more other sites were noted but not recorded in three areas in close proximity to LAB-1. The potential for the discovery of additional archaeological sites or loci at or near the LAB-1 and LAB-3 development areas is considerable. Little to no potential was thought to exist at LAB-4 and LAB-5 following the original surveys. This conclusion has been modified at LAB-4 where a possible caribou hunting station was reported by a site visitor and suggests that a final check should be made of the upper parts of the access road route at LAB-5. Additional research within a few kilometres of both of the southern project areas, where high potential raised beaches and other paleo-environmental indicators were noted, would result in the discovery of additional sites. This is not considered to be within the scope of the present project unless site workers visit such locations during leisure activities. The recent history of settlement and military occupation of the LAB-5 area is worthy of additional informant, archival and field research. Mitigation measures and monitoring plans should be instituted at both of the northern SRR project areas.

7.1 Data Gaps

The helicopter overflights were helpful in identifying areas of archaeological potential within the development area. In most cases, flying time was insufficient to conduct a thorough helicopter survey beyond the limits of the beach landing area, access road route and summit site, i.e. the main areas of disturbance, with the result that other sites may be present within easy access of the development area and therefore liable to vandalism. In all cases, the planned access road routes had not been flagged; routes followed and areas inspected were at the direction of the helicopter pilot. In the case of LAB-1, at least, the planned road route was a considerable distance from that actually constructed. In the case of LAB-3, weather conditions prevented a survey beyond the limits of the landing beach. At LAB-4, no time was available to visit areas of high potential within easy access of the development area other than from the landing beach. At LAB-5, deep snow cover obscured the upper section of the planned route. It is expected that all sites within the landing beach/laydown area at each station were identified during the site

visits. However, shortage of time on the ground, especially at the two northern sites, may have resulted in some loci or wider distribution of some loci not being identified. Mechanisms for filling these data gaps are discussed further in Section 8.

7.2 Predictions

Based on existing knowledge and the results of the 1990 survey work, the number of sites present but not identified within the four development areas is likely to be low. Areas of greatest potential include the middle section of the access road at LAB-1, between the coastal plain and the steeper, upper section of the west side of the Cape; the access road route between the upper beach terrace and the final, steep stretch of the access road to the summit at LAB-3; mid-sections of the access road at LAB-4, in the vicinity of the unconfirmed inuksuit site; and the upper valleys at LAB-5, which were under deep snow cover on the two visits to this site. In each of these areas it is possible that sites related to caribou hunting might be present.

In addition, there is high potential for the discovery of several new Palaeo-Eskimo and Neo-Eskimo sites at Shoal Bay and on the north side of Telliaosilik Arm and Saglarsuk Bay, all within easy access of the construction area. At LAB-3 additional Maritime Archaic, Palaeo-Eskimo and Neo-Eskimo sites might be found on the coast immediately to the north and south of the proposed landing beach. At LAB-4, site of many Indian, Palaeo-Eskimo and Neo-Eskimo cultural groups may be present on headlands and in coves to the north and east of the summit site (see Figures 4.1, 4.2, 4.5 and 4.6).

7.3 Heritage Resources Values in Study Areas

All archaeological sites are unique and provide some information on human use and occupation of the environment of which they are a part. Archaeological sites in Newfoundland and Labrador are protected under the provisions of The Historic Resources Act (Government of Newfoundland and Labrador 1985) and must not be investigated or disturbed in any way except under the terms and conditions of a research permit issued by the Historic Resources Division.

The historic period archaeological site found at LAB-1 relating to the visit of the USS Tanner is of value in that it represents a late stage in the scientific exploration and documentation of the coastal waters and adjacent coastline in the Arctic and Subarctic, a tradition which has persisted for several centuries but intensified in Labrador in the twentieth century. The Inuit/Thule sites found during the project in the study area, at Ikkudliayuk Fiord and on Home Island and the Palaeo-Eskimo/Neo-Eskimo sites noted at Shoal Bay, Williams Harbour and Saglarsuk Bay are also informative and should be protected pending further investigation and relating to previous knowledge of prehistoric and historic use and occupancy of the region.

The sites at LAB-3 are of great interest. The brief survey of the northern beach isolated a substantial Middle Dorset component; the prevalence of Cod Island and Mugford fine-grained cherts, rarely used by this cultural group, suggests either that other cultural groups are represented at the site or that this particular group deviated from the traditional patterns of lithic procurement and use. The Maritime Archaic site is of significance in that it is in an unusually exposed location, inferring that the people who camped and perhaps were buried on the terrace were there as a result of an inability to round Cape Kiglapait safely on at least one occasion. The raw materials present, the style of the tools made, the possible burial mounds and the estimated date of occupation, c. 6000 B.P., indicate that this site has a considerable amount of information to impart about the Naksak complex, one of the earliest of the Maritime Archaic complexes in northern Labrador.

The unconfirmed site at LAB-4 has the apparent appearance of being related to caribou hunting operations. If this is so, it is probably of Inuit or Thule origin and probably represents part of a system used to persuade caribou into travelling in a certain direction or thinking that there are more hunters around them than there are, or as blinds from which to observe and ambush the animals. If some or all of these assumptions are correct, this site will be important in that few such features have been identified in the interior of Labrador. Documentation will assist in the recognition of similar sites by construction workers and others.

The sites identified at Pamiulik Bay will add to the knowledge of Inuit occupation of this part of the Labrador coast, which has not been intensively investigated. More information should be

gathered on the military occupation of the Tukialik Bay area during World War II and the impact of the communications establishment and various related ship and plane wrecks on the economy of communities in the region.

7.4 Potential Impacts and Impact Management Options

Impacts on archaeological sites could occur from most of the project activities, including vehicular traffic, building construction, installation of power and water lines, preparation of the ground for the access road, lay-down areas, camps, dumps, fuel storage, septic fields and other features, removal of sand, gravel and other materials, modification of ponds, streams and other watercourses and other processes of disturbance (see Figure 5.1).

In addition, sites visible on the surface in the development areas and within easy pedestrian, truck, boat or helicopter access are liable to illegal disturbance. Features such as lithic scatters or bone scatters are apt to be the focus of illegal collecting, which can result in the loss of significant information about a site's occupants, and people have been known to move structural rocks in tent rings, cairns, graves and other features to see if there is anything hidden. These illegal activities obviously have the result of modifying sites which may have lain undisturbed for hundreds or thousands of years and may have the effect of creating incomplete or false information for archaeologists to record.

Of particular importance at LAB-3 would be the tendency for pedestrian or vehicular activity in the vicinity of the Maritime Archaic site to accelerate erosion of the already-unstable and fast-disappearing terrace.

In addition to more direct forms of mitigation discussed below, such as avoidance, burial, active site protection and data recovery, a program of public education should be instituted as part of an Historic Resources Protection Plan at each SRR site. This program would be directed at project personnel who might encounter known sites and others situated off the project area during walks, fishing trips and other excursions. The Plan would include procedures to follow in the event of finding a site and contacts to make to report such findings.

8.0 RECOMMENDATIONS

The 1990 investigations were successful in that they resulted in the recording of eleven new archaeological sites in or near the development areas and several additional sites and locations of high potential. Preliminary mitigation measures and monitoring have preserved all known sites. The following section provides recommendations for additional investigations, mitigation and monitoring.

8.1 Need for Additional Studies

Additional studies are required to compile a more complete inventory of archaeological sites and historical data in the four study areas. This will allow for a higher degree of confidence that most or all archaeological sites have been identified and suitable mitigation measures prepared, and that information on more recent land use has been collected. It would be beneficial to the timely and cost-effective completion of the field studies if helicopter support between and at sites was dedicated as much as possible to the archaeological project rather than split among several personnel as has been the case in the past. The scope of the proposed field studies is outlined below in Sections 8.1.3 and 8.1.4.

8.1.2 Literature Research and Consultation

The field studies must be preceded by preparation of a field research permit application which should be submitted to the Historic Resources Division for review several weeks prior to the anticipated start of field work. The results of the 1990 investigations will provide most of the information required for preparation of the application. Field work should also be preceded by a period of consultation with officials of the Labrador Inuit Association in Nain and elsewhere, preferably in person. In the case of the two southern SRR sites, residents of the villages of Hopedale, Makkovik and Postville should be consulted further; this could be accomplished at least in part by mail or telephone. Records should also be consulted at U.S. and Canadian hydrographic and military archives to gather information on the effects of former activities at

Telliaosilik Arm and in Tukialik Bay. Interviews with project construction crews and other site workers during the course of field surveys might also be beneficial.

8.1.3 Helicopter Survey

8.1.3.1 LAB-1: Cape Kakkiviak

A helicopter survey should be conducted of all areas within 10 km of the construction area that have potential for the presence of heritage resources and are accessible by site personnel. Sites noted from the helicopter should be briefly inspected on foot and their precise location recorded for a return visit (see Section 8.1.3). Following flagging of the route to the summit, a helicopter survey should also be conducted of the access road route prior to construction.

8.1.3.2 LAB-3: Cape Kiglapait

A helicopter survey should be conducted of the proposed access road route to the summit following placement of route markers. It would also be helpful to visit by helicopter known sites a few kilometres north and south between Snyder Bay and Port Manvers to observe the topography, structural types and raw materials present in other sites in the same region. A helicopter survey should be undertaken to identify any other sites which might be present on the coast immediately north and south of the landing beach and accessible to site workers. Any sites found during the helicopter overflights would be briefly inspected on foot and their location noted for a return visit.

8.1.3.3 LAB-4: Big Bay

A helicopter survey should be conducted of the headlands and coves on the shoreline to the north and east of the summit site; some archaeological sites have previously been identified in this area and on adjacent offshore islands. Any sites found would be briefly inspected on foot and their location noted for a return visit.

8.1.3.4 LAB-5: Tukialik Bay

No further helicopter work is required at this site.

8.1.4 Ground Survey

Additional archaeological survey work is required within or adjacent to each of the four SRR sites. This work should be conducted following the conduct of helicopter surveys and when snow cover has melted and shorelines are free of ice.

8.1.4.1 LAB-1: Cape Kakkiviak

Because of the lack of a flagged centre line and the lack of time available during previous site visits, and in view of the finding of an archaeological site on a hill side a considerable distance from the landing beach at LAB-4 (R. Nancarrow 1990: personal communication), it would be advisable to walk at least the lower few kilometres of the road route prior to disturbance and following marking of the proposed route. As caribou abound in the Cape Kakkiviak area there is potential for the finding of caribou fences and related structures at higher elevations.

Similarly, any borrow pits and other areas of off-road disturbance not yet inspected should be marked prior to being archaeologically surveyed. A foot survey of the lower 2-3 km of access road was conducted in 1990, but the route and other areas of disturbance had not been flagged at that time. During the September monitoring operation, no new sites were found while the lay-down area was being prepared but the road route selected was substantially different from that previously surveyed. Discussions were held with Captain Meyerhoffer and Jocelyn Piquet on the feasibility of sacrificing Locus 2 of the Telliaosilik Arm 1 site so as to access the aggregate source beneath this set of features. If this is agreeable to the Historic Resources Division, an archaeologist should be on site when a final decision is made so that it can be ascertained that no alternative exists. If the site is sacrificed, full documentation should be undertaken both prior to and during destruction. The concrete slab containing the USS Tanner inscription should be

moved to another, protected site and the move documented in the Historic Resources Division site files.

In addition, because of the potential for vandalism by construction workers and others at sites observed from the helicopter within a few kilometres of the landing beach it will be necessary to conduct a foot survey within a 10 km radius of LAB-1. Sites found will be recorded, artifacts found on the surface will be recorded and collected, if necessary to deter looting, and the sites' locations made known to the site environmental monitor or supervisor. Because of the frequency of polar bear sightings in the area (5 were seen in two visits in 1990), this activity should be conducted by a team of two archaeologists, preferably armed. Areas of prime potential include the shores of Shoal Bay, Iselin Harbour, the north side of Telliaosilik Arm and the north side of Saglarsuk Bay (see Figure 4.1).

8.1.4.2 LAB-3: Cape Kiglapait

Because of recent discussions on revising the access road route and lay-down area, the consequent lack of a flagged centre line, insufficient time available and poor weather and ground conditions prevalent during previous site visits, and in view of the finding of an archaeological site on a hill side a considerable distance from the landing beach at LAB-4 (R. Nancarrow 1990: personal communication), it would be advisable to walk at least the planned new road route as far as the upper plateau below the summit prior to disturbance and following marking of the proposed route. Similarly, any borrow pits and other areas of off-road disturbance should be marked and surveyed by an archaeologist. No surveys have been conducted to date beyond the landing beach and proposed lay-down areas.

If sufficient potential for heritage resources is found during the proposed helicopter survey north and south of the landing beach a return visit should be made on foot to these areas (see Figure 4.2) to document any sites and make surface collections, if necessary. Site locations will be made known to the monitor or supervisor.

8.1.4.3 LAB-4: Big Bay

The archaeological site found above the tree line near the access road by R. Nancarrow in 1990 should be visited by an archaeologist and recorded. A survey of the vicinity of this feature should be conducted to discover whether other structures are present. A complete walking survey should be performed of a corridor to a distance of 100 m on either side of the road and any other areas of disturbance (see Figure 4.5). Any areas found to have potential for heritage resources on the coast north and east of the summit during the helicopter survey will be revisited on foot or with helicopter support. Sites found will be documented, surface collected, if necessary, and shown to the monitor or supervisor.

8.1.4.3 LAB-5: Tukialik Bay

In view of the finding of a probable caribou fence at high elevation at LAB-4 it would be advisable to conduct a brief foot survey to record any other archaeological sites not previously noted that will require avoidance and monitoring. Areas to receive particular attention include the upper valleys which were snow covered during prior visits (see Figure 4.6), which may contain structures built to intercept caribou coming down to the coast from the Benedict Mountains (Frank Andersen 1990: personal communication).

8.2 Public Education

A Historic Resources Protection Plan should be prepared for this project to enable prompt and correct response to the discovery of heritage resources with the clearly stated understanding that archaeological sites in the province are the property of the Crown and must not be disturbed in any way except under permit to a licensed archaeologist. The Plan could be prepared from the findings of this report. Known and anticipated site, artifact and raw material types should be described, preliminary recording procedures should be outlined in the event that additional archaeological sites are found and contact persons should be identified. This Plan could be comprised of two parts: a session in the field in which site types, artifacts and raw materials will be shown to project personnel to aid in site recognition, and the preparation of a brief, field-

usable document. The Plan should also contain a summary of the sections of The Historic Resources Act and other literature which deal with the rationale for preservation of heritage sites, the damage done to the province's heritage by looting and other vandalism and the penalties faced by the construction company and its agents in the event of site disturbance.

8.3 Mitigation Requirements

8.3.1 LAB-1: Cape Kakkiviak

A decision should be made by the Historic Resources Division Resource Archaeologist in the near future on the historic significance and preservation/documentation requirements of the DEW Line communications base at LAB-1. One of the two loci which comprise this site is situated on a potential aggregate source. If considered of minor significance and avoidance seems impossible, which is the finding of this report, consideration should be given to conducting a more complete documentation of the site prior to and during its destruction. One part of the locus, an inscribed concrete slab, could be moved to another location without harm and site documentation should reflect the alteration; the other component is a boulder and sod mound which probably supported a communications mast. This is probably dispensable.

If removal and destruction of the communications base locus is approved, CSL will be required to avoid this area until documentation of the site and removal of the concrete slab are completed. Other work on the lower terrace can proceed providing that other known sites are avoided. If possible, road construction beyond the first kilometre should be preceded by an archaeological survey of the flagged route.

Mitigation measures will be recommended for any other sites found during the proposed additional surveys.

8.3.2 LAB-3: Cape Kiglapait

If the southern beach is selected for landing, it would be advisable to clearly flag or fence off-limits the Maritime Archaic site area to prevent inadvertent disturbance by construction, material extraction or other activities. In the event that any part of the Maritime Archaic site is endangered by aggregate extraction, instability caused by road construction or other activities it may be necessary to completely document and excavate that part. The northernmost loci, 3 and 6, are particularly vulnerable as they are apparently situated on the best source of construction materials in the area (J. Piquet 1990: personal communication). Because some of the features may be burial chambers, which are very rare in Labrador and excavation of which would be very time-consuming, every effort should be made to avoid and preserve these structures for future excavation under controlled, problem-oriented conditions. Excavation of any locus would involve a crew of two-four experienced archaeologists to prepare a detailed site plan, document and remove all surface artifacts and lithic materials, document and remove surface structural elements and document and remove successive layers of soil, lithic and other material, structural rocks and other objects and features.

If the site can be preserved without excavation, it will still be necessary to prepare a detailed site plan and to plot all surface artifacts and lithic debris prior to collecting all visible artifacts. The remaining features should be protected from inadvertent damage during the construction period by the placement of a fence around the site.

The Dorset/Inuit site on the northern beach should be avoided by construction-related activities and clear directives, including placement of a warning notice on the site, should be given to site workers to avoid disturbance of the site. It may be advisable to prepare a detailed site plan and to collect all significant surface artifacts. The Inuit tent rings on the lower terrace above the alternate (southern) landing beach are modern and will not require additional studies or mitigation.

Mitigation measures will be recommended for any other sites found during the proposed additional surveys.

8.3.3 LAB-4: Big Bay

The Nancarrow site, once verified and documented, should be avoided by construction related activities and not be disturbed by site workers. If road maintenance or other activities encroach on the site area, a barrier of some kind should be placed to protect the site.

Mitigation measures will be recommended for any other sites found during the proposed additional surveys.

8.3.4 LAB-5: Tukialik Bay

Mitigation measures will be recommended for any sites found during the proposed additional survey of the upper section of the access road.

8.4 Monitoring Requirements

8.4.1 LAB-1: Cape Kakkiviak

A site environmental monitor or the site supervisor should be made aware of where the archaeological sites are in relation to the proposed areas of disturbance and should monitor them for their continued integrity during and after construction. Because of the way in which some of these sites blend into their background, this awareness program can only be performed by an archaeologist familiar with the sites' locations. Other sites found within a 10 km radius of LAB-1 will be made known to the monitor, who periodically should check on their integrity. If no environmental monitor is stationed on site, the site supervisor should be given the responsibility of maintaining the sites' integrity and regular inspections should be made by an archaeologist.

8.4.2 LAB-3: Cape Kiglapait

A site environmental monitor or the site supervisor should be made aware of where the archaeological sites are in relation to the proposed areas of disturbance and should monitor them

for their continued integrity during and after construction. Because of the way in which some of these sites blend into their background, this awareness program can only be performed by an archaeologist familiar with the sites' locations. Other sites found in the vicinity of the landing beaches and elsewhere in the development area will be made known to the monitor, who should check on their integrity periodically. If no environmental monitor is stationed on site, the site supervisor should be given the responsibility of maintaining the sites' integrity and regular inspections should be made by an archaeologist.

8.4.3 LAB-4: Big Bay

A site environmental monitor or the site supervisor should be made aware by an archaeologist of where the reported archaeological site and any others found during the recommended additional survey are situated and should monitor them for their continued integrity. If no environmental monitor is stationed on site, the site supervisor should be given the responsibility of maintaining the sites' integrity and regular inspections should be made by an archaeologist.

8.4.4 LAB-5: Tukialik Bay

If any archaeological sites are found during the proposed additional survey, any necessary monitoring requirements will be made known to the environmental monitor or site supervisor.

9.0 SUMMARY OF RECOMMENDED 1991 ARCHAEOLOGICAL OPERATIONS

Recommended archaeological activities in 1991 and estimates of time requirements for completion of each activity are provided in this section for the guidance of NAADM and the contractors. The following operations are recommended to ensure, where possible, the continued integrity of known sites and the completion of site inventories at the four stations. Estimated personnel requirements are provided; travel time and time lost to poor weather or other conditions are not included. It is strongly recommended that helicopter transportation be provided and dedicated to the archaeological program so that no other conflicting interests such as caribou inventories and raptor surveys divert resources away from and place time constraints on archaeological work.

1. A Historic Resources Protection Plan should be prepared for each site and an education program led by an archaeologist familiar with sites and raw materials in the four areas should be conducted for the Environmental Monitor or Site Supervisor.

Requirements: Three days preparation of Plan. As part of the implementation of the Plan, a visual inspection of known sites can be conducted by the archaeologist and Environmental Monitor during the course of other work. Additional time and costs for this component of the Plan are subsumed under site work.

2. Final plans for construction of camps, use of borrow areas, road construction and other disturbance activities at LAB-1 and LAB-3 should be reviewed by an archaeologist prior to the arrival of CSL personnel on site. Known archaeological site locations and areas of high potential should be plotted on these plans and clearance for construction plans obtained from the Historic Resources Division (HRD).

Following submission by DND of the final report to HRD on 1990 activities a new permit application for 1991 activities will be prepared and submitted to HRD by the archaeologist.

Requirements: Three days review of plans and preparation of permit application.

3. When construction starts at LAB-1 and LAB-3 an archaeologist should be present to show the Site Supervisor and Environmental Monitor the precise location of known sites and to ensure that they will remain intact. This should preferably be done following completion of other activities outlined in Recommendations 4 and 5. If this is not feasible, because of a start to site construction activities prior to loss of snow cover, a second site tour will probably be necessary. This second tour can be carried out in conjunction with other activities.

Requirements: 2 - 4 days for guided inspection of sites at LAB-1 and LAB-3 by Site Supervisor prior to construction.

4. If removal of the communications locus at LAB-1 is approved as a suitable mitigation measure to facilitate access to local aggregate sources, this feature should be avoided until it can be completely documented and its removal monitored by the archaeologist. This should not take place until after the snow cover has gone.

Requirements: 4 person-days for documentation of site removal at LAB-1.

5. The sites at the two landing beaches at LAB-3 should be documented completely and surface collected. In the event that CSL determines that the recommended detour around the Maritime Archaic site can not be accomplished or that any archaeological component must be removed, following approval by the Historic Resources Division, it will be necessary to completely record and partially or completely excavate those site loci which will be impacted.

Requirements: 8 person-days for documentation and surface collection of both LAB-3 sites. 8 - 30 person-days for documentation and excavation of each locus; the time will depend on whether or not sub-surface features such as burial chambers are encountered.

6. Before road construction starts at LAB-1 and LAB-3 and following marking of the proposed route a foot survey should be conducted of at least the lower, level sections of the access road above the lay-down areas already surveyed and in other sections where caribou fences and similar features may be present. Sites found will be shown to the Environmental Monitor.

Requirements: 4 person-days for foot survey at LAB-1 and LAB-3.

7. When weather and ground conditions are suitable a helicopter and foot survey should be conducted of the area around LAB-1 in order to record all sites within walking distance of the construction site (i.e. 10 km radius). Sites of major significance will be shown to the Environmental Monitor or Site Supervisor. Because of the frequency of polar bear observations in this area, two archaeologists, preferably armed, should undertake this survey.

Requirements: 6 person-days for foot survey at LAB-1.

8. When weather and ground conditions are suitable a helicopter and foot survey should be conducted of the coastline north and south of the LAB-3 site to record all sites within walking distance of the construction site. Sites of major significance will be shown to the Environmental Monitor or Site Supervisor.

Requirements: 4 person-days for foot survey of coast at LAB-3.

9. A foot survey should be conducted of the road corridor at LAB-4 and LAB-5, especially on the higher slopes and terraces above the tree line. The site at LAB-4

should be documented. Additional helicopter and foot surveys should be conducted of the headlands and coves to north and east within walking distance of the summit.

Requirements: 6 person-days for helicopter and foot surveys at LAB-4, foot survey at LAB-5 and site documentation at LAB-4.

10. Research should be conducted in military and other archives in Washington, Ottawa and elsewhere and consultation should be conducted among former residents or seasonal visitors to the LAB-1 and LAB-5 areas to investigate the activities of the USS Tanner in Telliaosilik Arm in 1952 and the effects of the military establishment at Tukialik Bay in the 1940s on the economy of the region. This section of the report could be produced as an illustrated appendix to the final report for easy distribution to interested public.

Requirements: An estimated 10 professional person-days for archival and informant research on LAB-1 and LAB-5 hydrographic and military activities, plus technical and drafting components.

11. Preliminary and final reports on 1991 activities will be prepared.

Requirements: 16 professional person-days plus technical components.

12. Additional costs will be incurred for travel, helicopter charter, equipment and other disbursements. The amount will depend on the construction schedule, weather delays, availability of helicopter support at appropriate times and the number of site visits required, including monitoring, if necessary. It is assumed that field accommodation will be provided by NAADM/CSL.

10.0 SCHEDULE FOR 1991 ARCHAEOLOGICAL OPERATIONS

The following schedule (Figure 10.1) provides provisional milestones for completion of the components described in Section 9. Dates are approximate and dependent upon construction schedules, archaeological investigation requirements and other variables.

1. Historic Resources Protection Plan: **March 15, 1991.**

2. Site plan review and Permit application: **March 31, 1991.**

3. Site tour of LAB-1 and LAB-3 with Engineer and Monitor: **Phase 1 prior to start of construction; Phase 2 following additional archaeological surveys.**

4. Documentation and removal of Locus 2, if necessary: **July, 1991** (following loss of snow cover).

5. Site documentation at LAB-3; excavation at LAB-3, if necessary: **July-August, 1991** (following loss of snow cover).

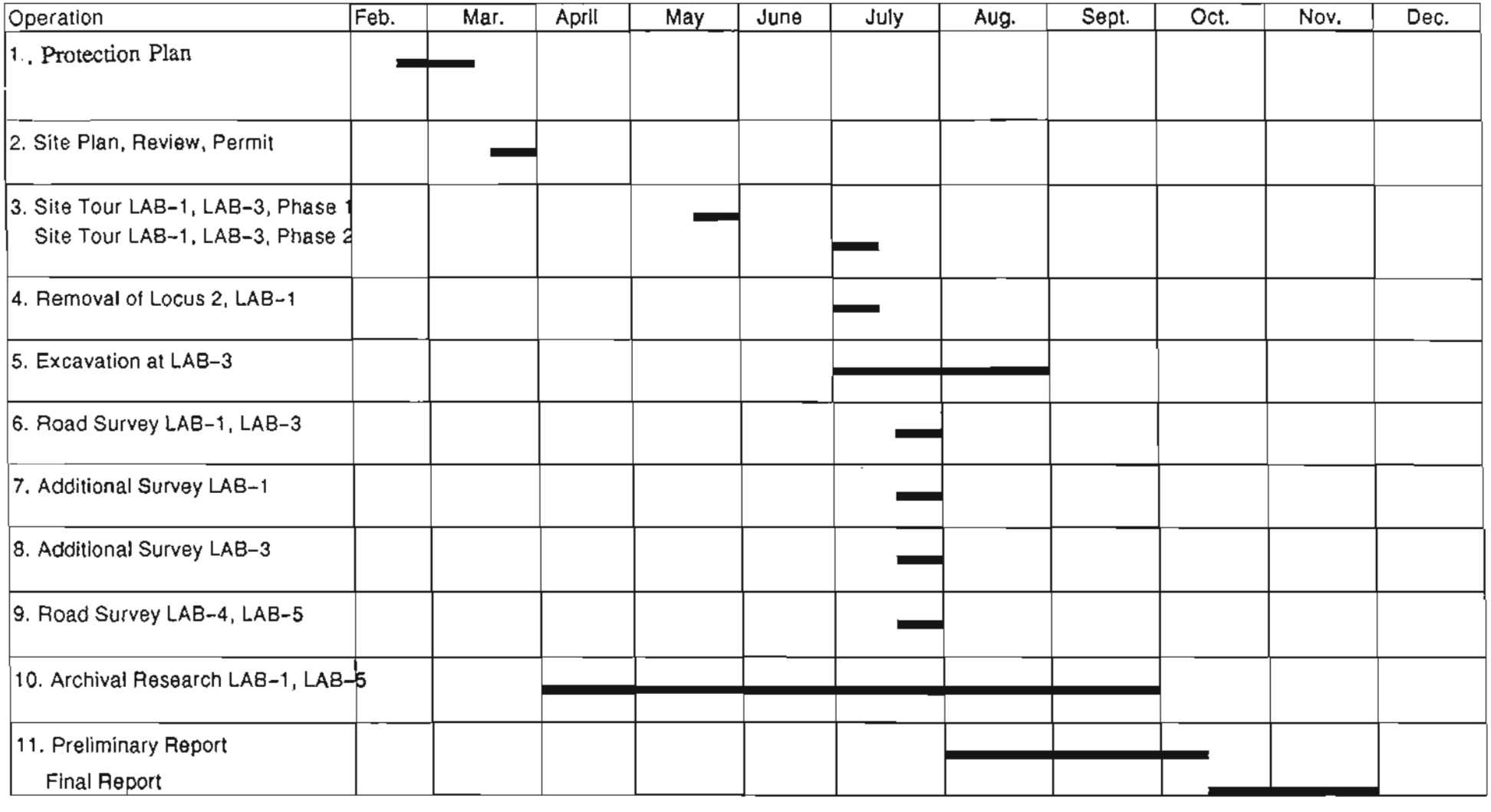
6. Road surveys at LAB-1 and LAB-3: **July or August, 1991** (following loss of snow cover on whole route).

7. Additional surveys at LAB-1: **July or August, 1991** (following loss of snow cover).

8. Additional surveys at LAB-3: **July or August, 1991** (following loss of snow cover).

9. Road surveys at LAB-4 and LAB-5 and helicopter and foot survey of additional areas at LAB-4: **July or August, 1991** (following loss of snow cover on whole routes).

Figure 10.1 SCHEDULE OF 1991 OPERATIONS



10. Archival Research into hydrographic survey at Cape Kakkiviak and military occupancy of Tukialik Bay: **April-September, 1991.**

11. Preliminary Report on 1991 activities: **October 15, 1991** (following completion of all phases above).

    Final Report on 1991 activities: **November 30, 1991.**

11.0 GLOSSARY

Adze. A ground and polished stone tool with a thick, sharpened bit, most commonly used in woodworking.

Artifact. An object of human manufacture or use.

a.s.l. Above sea level.

B.P. Before Present, with "present" being defined as 1950.

Biface. A stone tool **flaked** or ground on both faces. This term is often used when the object's function can not be identified.

Blowout. An area from which vegetation and, often, topsoil, has been removed by wind action. **Artifacts** from layers beneath the surface are gradually exposed.

Burin-like tool. A cutting and engraving tool usually made of **nephrite.**

Celt. A term used to describe ground and often polished stone cutting tools such as **adzes**, axes and chisels for which no specific purpose can be observed, but commonly used for woodworking.

Chert. A flint-like stone of the silica or quartz family favoured by **prehistoric** and early historic peoples for its durability and **flaking** properties.

Complex. An archaeological unit possessing discrete traits, limited to a region and to a brief time period.

Component. The material pertaining to a single cultural group found in a distinct layer in an archaeological site and unrelated to other **components** or layers at the same site.

Distal. The working end of a tool, usually furthest from the user.

Dorset. A prehistoric Eskimo culture usually divided into three periods which, in Labrador date to approximately 2500-2200 **B.P.** (Early), 2200-1500 **B.P.** (Middle), and 1500-450 **B.P.** (Late).

Ecotone. The edge or overlapping boundaries between two distinct ecological zones, usually containing species of plants and animals common to both.

Endblade. A thin, sharp stone tool used as a cutting and piercing tip on a harpoon, spear or other shaft or in a knife handle.

Endscraper. A stone implement with a steep, **distal** scraping edge used to remove fat from skin, to smooth wood, to scrape soapstone and leather and for other purposes.

Feature. A term used to include evidence such as a stone structure, hearth, buried layer of food bone, charcoal or **flaking** debris, discoloured soil layer, or some other collection of cultural material assembled within a usually small, resticted, area.

Flake. A thin, flat fragment of stone removed by pressure- or percussion-**flaking** during the process of reduction or retouching of a stone **preform** or tool. **Flakes** are themselves often the desired end product and are formed into tools.

Groswater Palaeo-Eskimo. A cultural group resident in Labrador between c. 3000 **B.P.** and 1800 **B.P.** descended from the first Eskimo residents of Labrador, the **Pre-Dorset Palaeo-Eskimos.**

Hearth. Fireplace.

Historic Resources Division. The branch of the Provincial Government in Newfoundland and Labrador responsible for providing **archaeological** research permits and protecting **archaeological sites** under the statutes of The Historic Resources Act.

Ikkudliayuk Fiord (Ikkordliarsuk). The nice little place where caribou swim across (Wheeler 1953: 22).

Innu. The modern term for Indian residents of Labrador, known previously as Naskapi and Montagnais, probably descended from the late **prehistoric** Indian group known archaeologically as the **Point Revenge Indians.**

Intermediate Indian. A cultural group which follows the **Maritime Archaic** period, dated in northern and central Labrador to c. 3800-1500 **B.P.**

Inuit. The modern term for residents of Labrador (and other Arctic regions) descended from people of the **Thule** tradition, whose origins are in the Alaska/Bering Strait area. **Thule** Eskimos arrived in Labrador about 1300 **B.P.** Singular of **Inuit** is **Inuk.**

Inuksuk. A cairn or carefully-built pile of rocks resembling a man (**inuk**, singular of **Inuit**).

Inuksuit. The plural of **inuksuk.**

Inuktitut. A language spoken by **Inuit.**

Kakkiviak, Cape. The area between the mouth and the nose (Wheeler 1953: 30).

Kiglapait Mountains. The big indentations between the teeth of a saw (Wheeler 1953: 48).

Killinek Island. The one nearest the ocean (Wheeler 1953: 48).

Lithic. Of stone.

Loci. Plural of **Locus.**

Locus. A discrete location within a larger site.

Maritime Archaic. A cultural group dating from c. 7500-3500 **B.P.** in northern Labrador. They were descended from the original occupants of Labrador, the **Palaeo-Indians.** People of the **Maritime Archaic tradition** were well-adapted to living on the coast, at least seasonally, and exploited resources as far north as Ramah Bay.

Microblade. A specific type of stone cutting blade usually defined as having a width of less than 11 mm, commonly hafted into a slotted handle.

Mitigation. The process whereby negative impacts can be eliminated, reduced or controlled.

Mugford chert. A variety of fine grained, colourful **cherts** found in the Mugford Tickle area of central Labrador.

Nachvak. The find (Wheeler 1953: 52).

Naksak. Beach pass (Fitzhugh 1978: 72).

Naksak complex. The term used to lump together artifacts and other cultural attributes of a certain type which were made during a specific time period (ca 6000-5000 **B.P.**) during the Maritime Archaic Indian period by a locally-restricted group of people.

Neo-Eskimo. An archaeological term used to define the prehistoric and early historic ancestors of Labrador's **Inuit.**

Nephrite. A silicate, a member of the jade family; a very hard stone used for making small tools for trimming, cutting, carving and engraving organic materials and soapstone.

Nipple-based. A nipple-shaped stem on a **biface** used for hafting.

Palaeo-Eskimo. The original and subsequent occupants of Labrador of Eskimo origin, descended from people who migrated west from Alaska 4000-5000 years ago. Labrador **Palaeo-Eskimos** are divided into **Pre-Dorset** (4000-3000 **B.P.**), **Groswater** (3000-1800 **B.P.**), **Dorset** (2500-500 **B.P.**).

Pamiulik Bay (Pamialuk ?). Pamialuk is defined as the sacrum, a generic term for long, tail-like points, which is appropriate (Wheeler 1953: 68).

Phase. Similar to **complex.**

Point. An **endblade** used to tip a harpoon, spear, arrow or other similar weapon.

Point Revenge Indian. Late **prehistoric** Indians, the ancestors of today's **Innu**. Well-adapted to seasonal maritime exploitation and partial to the use of **Ramah chert**.

Pre-Dorset. The original **Palaeo-Eskimo** residents of Labrador. Sites are most commonly found in central and northern Labrador and date between 4000-3000 **B.P.** Made extremely finely shaped, small, stone tools of fine-grained **cherts**.

Preform. A partially-made tool.

Prehistory. The period prior to the invention of writing; in Newfoundland, prior to the arrival of Europeans, c. A.D. 1500.

Proximal End. The end, usually of a tool, closest to the user.

Radiocarbon dating. Dating of organic specimens by the decay rate of radioactive carbon (C^{14}).

Ramah chert. A relatively coarse-grained **chert** found in beds between Nachvak and Saglek. Translucent, commonly white to black with black specks or bands and some iron staining. Excellent **flaking** properties; favoured by **Maritime Archaic, Dorset** and **Point Revenge.**

Retouch. Secondary **flaking** of a stone tool to remove irregularities and to refine or modify the cutting, piercing or hafting edges.

Saglek. The low land (Wheeler 1953: 74).

Schist. A metamorphosed slate which splits into flat slabs, commonly used as an abrading stone.

Side-notched. A technique for hafting a tool securely into a shaft or handle by the indentation of symmetrical notches on either edge of the tool.

Site. Location of **archaeological** remains.

Soapstone. A soft rock with a high proportion of talc used by **Palaeo-Eskimo** and **Neo-Eskimo** people for manufacturing cooking pots, oil lamps, bowls and figurines and by **Maritime Archaic Indians** for small amulets.

Subsistence. The means of providing food and other essentials for life.

Telliaosilik Arm. Possibly: the nice little arm (Wheeler 1953: 82).

Tent ring. The outline formed of rocks formerly used to hold down the walls and guy ropes of a tent-like structure

Thule. The ancestors of today's Labrador **Inuit** who arrived in Labrador about A.D. 1300 from the Eastern Arctic after migrating westward from Alaska over the previous three centuries.

Tip-fluted. A tool, usually a harpoon endblade, that has been shaped by the technique of applying pressure to its tip to remove a long sliver (usually two) which leaves a longitudinal channel and renders the point sharper and thinner.

Tip-fluting spall. The sliver removed by the **tip-fluting** technique.

Torngat Mountains. The spirits, the home of Torngarsoaq, the ruler of all sea animals (Wheeler 1953: 88).

Tradition. An **archaeological** unit concept that persists in time but is limited in space. Used to measure specific evolution of individual cultures.

Ulu. A semi-lunar shaped knife commonly made of ground and polished slate, usually hafted securely into a handle by means of gouged (**Maritime Archaic**) or drilled (**Neo-Eskimo**) holes. Used for cutting meat and skins and scraping hides.

12.0 REFERENCES CITED

Bird, Junius B. 1945. Archaeology of the Hopedale area, Labrador. Anthropological papers of the American Museum of Natural History 39(2). New York.

Brice-Bennett, Carol. 1977. Land use in the Nain and Hopedale regions. In: Our Footprints are Everywhere: Inuit land use and occupancy in Labrador. C. Brice-Bennett ed., pp. 97-203. Labrador Inuit Association, Nain.

Clark, Peter U. and William W. Fitzhugh. 1990. Late Deglaciation of the Central Labrador Coast and Its Implications for the Age of Glacial Lakes Naskaupi and McLean and for Prehistory. Quaternary Research 34: 296-305.

Cox, Steven L. 1977. Prehistoric settlement and culture change at Okak, Labrador. Ph.D. dissertation, Department of Anthropology, Harvard University.

-----. 1978. Palaeo-Eskimo occupations of the north Labrador coast. Arctic Anthropology 15(2): 96-108.

Canadian Hydrographic Service. 1979. Sailing Directions: Labrador and Hudson Bay. Department of Fisheries and the Environment, Ottawa.

Douglas, Alec. 1981/82. The Nazi weather station in Labrador. Canadian Geographic 101(6): 42-47.

Fitzhugh, William W. 1972. Environmental archaeology and cultural systems in Hamilton Inlet, Labrador: a survey of the central Labrador coast from 3000 B.C. to the present. Smithsonian Contributions to Anthropology 16. Washington, D.C.

-----. 1973. Smithsonian archaeological investigations on the central Labrador coast in 1973: a preliminary report. Canadian Archaeological Association Bulletin 5: 77-90.

-----. 1976. Preliminary culture history of Nain, Labrador: Smithsonian fieldwork 1975. Journal of Field Archaeology 3: 123-142.

-----. 1977a. Population movement and culture change on the central Labrador coast. Annals of the New York Academy of Sciences 288: 481-497.

-----. 1977b. Indian and Eskimo/Inuit Settlement History in Labrador: An Archaeological View. In: Our Footprints Are Everywhere: Inuit Land Use and Occupancy in Labrador, Carol Brice-Bennett Ed., pp. 1-42. Labrador Inuit Association, Nain.

-----. 1978a. Maritime Archaic cultures of the central and northern Labrador coast. Arctic Anthropology 15(2): 61-95.

-----. 1978b. Winter Cove 4 and the Point Revenge occupation of the central Labrador coast. Arctic Anthropology 15(2): 146-174.

-----. 1980a. Preliminary Report on the Torngat Archaeological Project. Arctic 3393): 585-606.

-----. 1980b. A prehistoric caribou fence from Williams Harbour, northern Labrador. Proceedings of the 11th Annual Chacmool Conference, University of Calgary, October 1978.

-----. 1982. Smithsonian surveys in central and southern Labrador. Archaeology in Newfoundland and Labrador 1981, J. Sproull Thomson and C. Thomson eds. Annual Report 2: 32-55.

-----. 1985. Early Maritime Archaic settlement studies and central coast surveys. Archaeology in Newfoundland and Labrador 1984, J. Sproull Thomson and C. Thomson eds. Annual Report 5: 48-85.

Fitzhugh, William W. and Henry F. Lamb. 1985. Vegetation History and Culture Change in Labrador prehistory. Arctic and Alpine Research 17: 357-370.

Government of Newfoundland and Labrador. 1985. The Historic Resources Act. St. John's.

Hiller, J.K. 1977. Moravian land holdings on the Labrador coast: A brief history. In: Our Footprints are Everywhere: Inuit land use and Occupancy in Labrador. C. Brice-Bennett ed., pp. 83-94. Labrador Inuit Association, Nain.

Historic Resources Division. 1990. Archaeological Site Records. St. John's.

Jordan, Richard H. 1979/80. Dorset art from Labrador. Folk 21-22: 397-417.

-----. 1980. Preliminary Results from Archaeological Investigations on Avayalik Island, Extreme Northern Labrador. Arctic 33(3): 607-627.

Kaplan, Susan A. 1983. Economic and social change in Labrador Neo-Eskimo culture. Ph. D. dissertation, Department of Anthropology, Bryn Mawr College.

-----. 1985. Early Neo-Eskimo sites in central Labrador. Archaeology in Newfoundland and Labrador 1984, J. Sproull Thomson and C. Thomson eds., Annual Report 5: 13-47.

Lazenby, M.E. Colleen. 1984. Ramah chert use patterns during the Maritime Archaic period in Labrador. M.A. thesis, Department of Anthropology, Bryn Mawr College, Pennsylvania.

Leechman, Douglas. 1943. Two new Cape Dorset sites. American Antiquity 8: 363-375.

-----. 1950. Eskimo summer. Museum Press, London.

Loring, Stephen. 1985. Archaeological investigations into the nature of the late prehistoric Indian occupation in Labrador: a report on the 1984 field season. Archaeology in Newfoundland and Labrador 1984, J. Sproull Thomson and C. Thomson eds. Annual Report 5: 122-153.

Nagle, Christopher. 1978. Indian occupations of the Intermediate Period on the central Labrador coast: a preliminary synthesis. Arctic Anthropology 15(2): 119-145.

-----. 1984. Lithic raw material procurement and exchange in Dorset culture along the Labrador coast. Ph.d. dissertation, Department of Anthropology, Brandeis University.

Schledermann, Peter. 1971. The Thule tradition in northern Labrador. M.A. thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

Schwartz, Fred. 1977. Land Use in the Makkovik Region. In: Our Footprints are Everywhere: Inuit land use and occupancy in Labrador. C. Brice-Bennett ed., pp. 239-278. Labrador Inuit Association, Nain.

Scott, Mary. 1990. Report on a program of archaeological monitoring at LAB-1, Cape Kakkiviak, northern Labrador.

Strong, W. Duncan. 1930. A Stone Culture from northern Labrador and its relation to the Eskimo-like cultures of the Northeast. American Anthropologist 32: 126-144.

Taylor, J. Garth. 1977. Traditional land use and occupancy by the Labrador Inuit. In: Out Footprints are Everywhere: Inuit land use and Occupancy in Labrador. C. Brice-Bennett ed., pp. 49-58. Labrador Inuit Association, Nain.

Taylor, J. Garth and Helga R. Taylor. 1977. Inuit Land Use and Occupancy in the Okak Region, 1776-1830. In: Our Footprints Are Everywhere: Inuit land use and Occupancy in Labrador. C. Brice-Bennett ed., pp. 59-82. Labrador Inuit Association, Nain.

Thomson, J. Callum. 1988a. Late Dorset shamanism at Shuldham Island 9, Northern Labrador. M.A. thesis, Department of Anthropology, Bryn Mawr College.

-----. 1988b. Labrador: Archaeological evidence for 8,000 years of human adaptation. Inuktitut 69: 14-34.

Tuck, James A. 1975. Prehistory of Saglek Bay, Labrador: Archaic and Palaeo-Eskimo occupations. Archaeological Survey of Canada Mercury Series 32. National Museum of Man, Ottawa.

Wheeler, E.P. 1953. List of Labrador Eskimo Place Names. National Museum of Canada Bulletin No. 131, Ottawa.

13.0 PERSONAL COMMUNICATIONS

Bill Andersen, Sr., Makkovik.

Frank Andersen, Makkovik.

Jim and Susie Andersen, Makkovik.

Paul Anderson, Makkovik.

Gary Baikie, Labrador Inuit Association, Nain.

William Barbour, Nain.

Garnet Broomfield, Makkovik.

Ches Dyson, Makkovik.

William Fitzhugh, Smithsonian Institution, Washington, DC

Ruth Flowers, Makkovik.

John Innes, Universal Helicopters, Goose Bay.

Sarah Jacques, Makkovik.

Linda Jefferson. Resources Archaeologist, Historic Resources Division, St. John's.

George Lane, Hopedale (via M. Winters-Abel).

Tom Lane, Hopedale (via M. Winters-Abel).

Horace and Kate Mitchell, Makkovik.

Andrew Piercy, Hopedale.

Jocelyn Piquet, CSL, Beaumont.

William Ritchie, Cape Dorset, NWT.

George Voisey, Makkovik.

Martha Winters-Abel, Hopedale.

REPORT OF THE STAGE 2 ARCHAEOLOGICAL ASSESSMENT OF PEDDLE'S COVE POND GREAT MOSQUITO COVE TRINITY BAY, NEWFOUNDLAND

PREPARED FOR:
HIBERNIA MANAGEMENT AND DEVELOPMENT COMPANY LIMITED

PREPARED BY:
LEDREW, FUDGE AND ASSOCIATES LIMITED
607 TORBAY ROAD
ST. JOHN'S, NEWFOUNDLAND
A1A 2Y3

B. LeDrew, President

for
K. Penney, Project Manager

November 21, 1990

EXECUTIVE SUMMARY

A Stage 1 Archaeological Assessment of Great Mosquito Cove undertaken in October of 1989 indicated that there was significant potential for the presence of historic resources in the Peddle's Cove Pond area. As a result of this, it was recommended that an archaeologist be on-site during development of the Peddle's Cove Site. Subsequently the Hibernia Management and Development Committee and the Historic Resources Division later decided that further survey test-pitting of the area after the trees and brush had been cleared would be sufficient. This project was undertaken on November 5, 1990.

The results of the recent Stage 2 survey do not suggest the presence of any significant historic or prehistoric cultures within the study area around Peddle's Cove Pond. As a result, no further mitigation is required. An archaeological education/orientation program for the on-site Environmental Inspector is recommended. This provision would ensure that no historic resources are lost during construction. As well, the Historic Resources Contingency Plan that has been written as part of the NODECO Environmental Protection Plan should be introduced as an integral part of the Environmental Education and Orientation Program for all workers at the Platform Construction Site.

TABLE OF CONTENTS

LIST OF FIGURES

1.0 INTRODUCTION

1.1 DEVELOPMENT PROJECT

Newfoundland Offshore Development Corporation (NODECO) is developing the Hibernia Development Project Platform Construction Site (SITE) in Great Mosquito Cove, Bull Arm, Trinity Bay (Figure 1.1). The production platform for the Hibernia Oilfield, a Gravity Base Structure (GBS) and six components of the topsides facility will be constructed at the SITE. The major SITE preparation activities are planned for the period between 1990 and 1992. These will include:

- ground clearing, excavation, backfilling, levelling and other site preparation for camps, access roads and other facilities;

- nearshore civil works to provide a breakwater, dry dock and quays which will involve excavation and backfilling;

- channel preparation for tow-out lanes;

- extensive landfill and sea reclamation at Peddle's Cove for construction of the topsides assembly; and

- preparation of land facilities for anchor points for the deep water mating site.

In October of 1989 a Stage 1 Archaeological Assessment of the proposed SITE was conducted by LeDrew, Fudge and Associates Limited (LFA) for Mobil Oil Canada Properties (NGL 1990). Included was a test pitting program on a small terrace above the gravel beach at Peddle's Cove (Figure 1.2). No historic material predating the present century was found but it was felt that minor potential

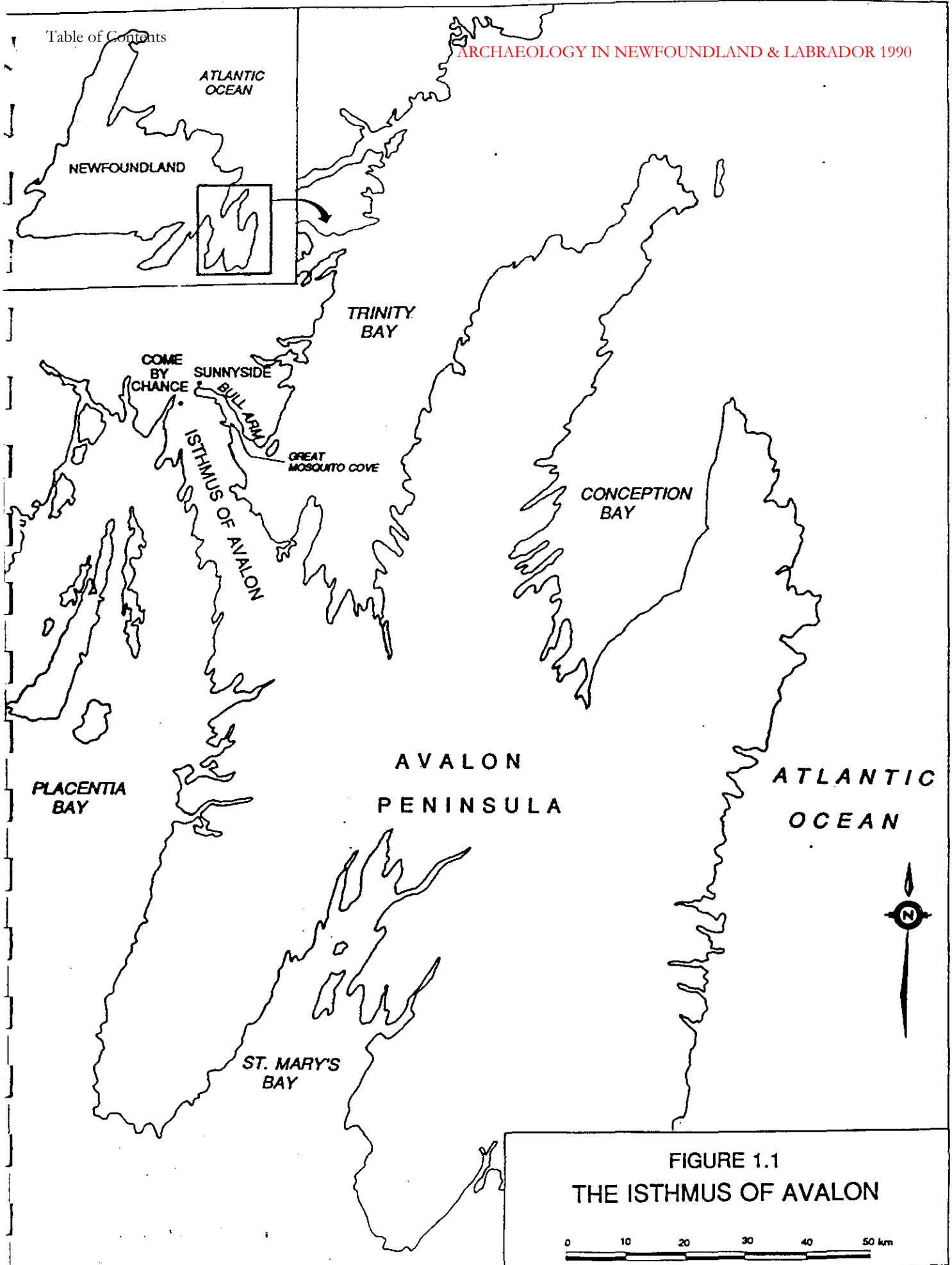
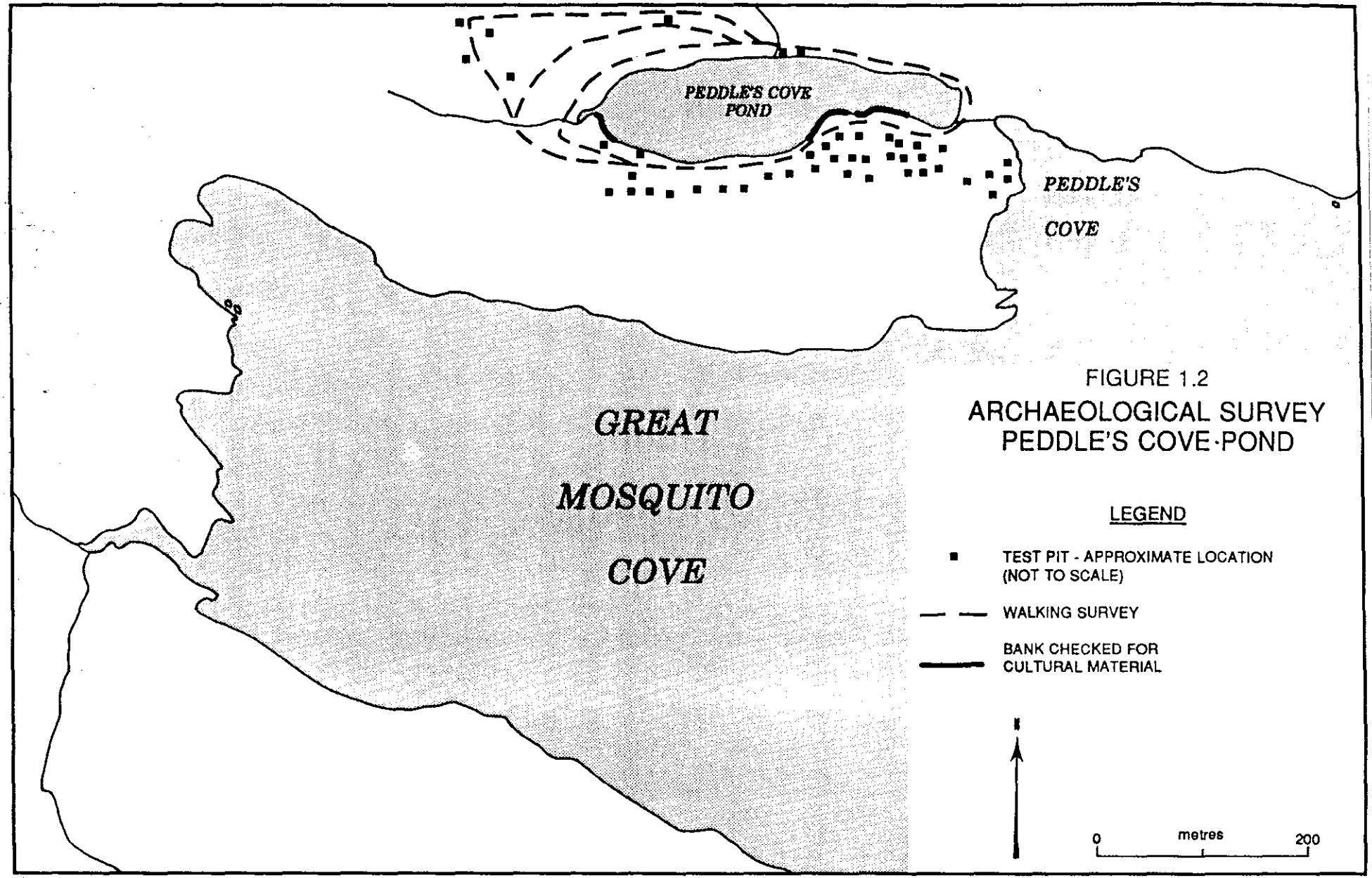


FIGURE 1.1
THE ISTHMUS OF AVALON


PEDDLE'S COVE POND
PEDDLE'S COVE
GREAT MOSQUITO COVE
FIGURE 1.2
ARCHAEOLOGICAL SURVEY
PEDDLE'S COVE-POND
LEGEND
TEST PIT - APPROXIMATE LOCATION (NOT TO SCALE)
WALKING SURVEY
BANK CHECKED FOR CULTURAL MATERIAL
N
0
metres
200

remained for historic resources on the terrace located on the south side of Peddle's Cove Pond. At that time, the Peddle's Cove Pond site, was covered with a dense growth of spruce and alder and therefore could not be adequately assessed. As a result, further evaluation in the way of a monitoring program was recommended.

It was decided, however, that in lieu of having an archaeologist on-site during construction, it would be preferable that a more intensive walking survey and program of test-pitting be implemented once the trees and brush around Peddle's Cove Pond had been cleared.

The survey was conducted on November 5th, 1990, under the Historic Resources Division Permit # 90-13. This report presents the results of that survey and the test pitting program.

1.2 REPORT ORGANIZATION

This report is structured according to the Historic Resources Division Stage 2 Guidelines (Government of Newfoundland and Labrador 1982) and will present a brief description of the development project, study area, the study methodologies used and the principal results obtained.

1.3 PROJECT PERSONNEL

The Stage 2 archaeological assessment was conducted for Hibernia Management and Development Committee (HMDC) by LeDrew, Fudge and Associates Limited. The survey, analysis, and report preparation were conducted by archaeologists Callum Thomson, Roy Skanes and Mary Scott.

1.4 PROJECT TIMING

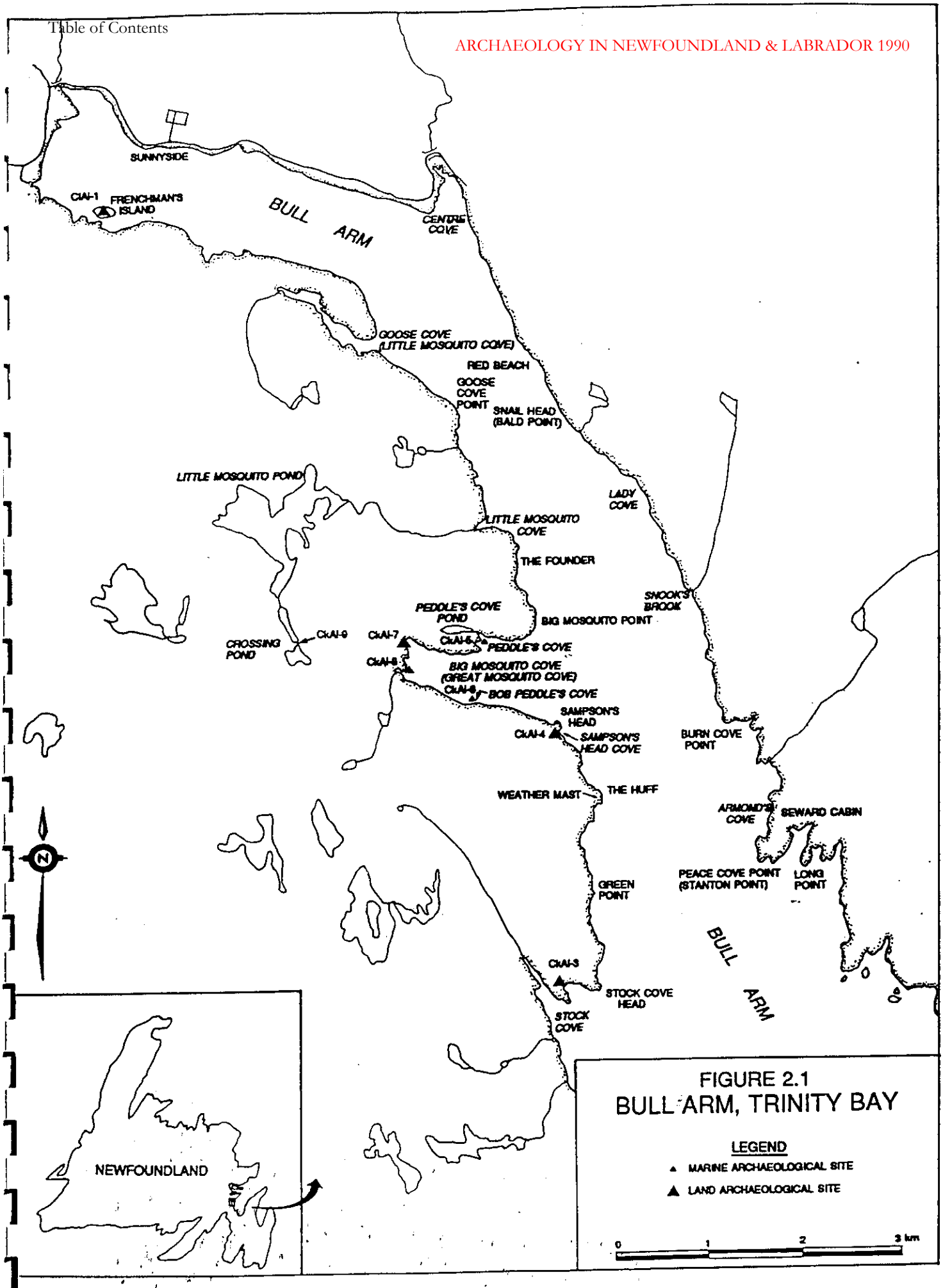
The survey and test pitting around Peddle's Cove Pond were conducted on November 5, 1990. Site construction is expected to be completed by 1992 with the GBS platform finished by 1995.

2.0 SIGNIFICANCE

Bull Arm and the Isthmus of Avalon are now known to be among the most interesting areas of the Island from an archaeological viewpoint. Sites representing a time span of 3500 years have been found at Sunnyside, Stock Cove and Sampsons Head Cove, all within a few kilometres of the study area. An archaeological site is reported to be present at Crossing Pond and a small Dorset Eskimo site (CkAl-8) was found in the SITE area at the extreme western end of Great Mosquito Cove (Figure 2.1). Additional sites are known in the Placentia Bay and Trinity Bay areas (NGL 1990).

The implication is, therefore, that the southern end of Trinity Bay was well known and used by most prehistoric cultural groups that occupied the Island of Newfoundland (*i.e.* Maritime Archaic Indians, Dorset and Groswater Palaeo-Eskimo and Recent prehistoric and historic Indians), and that travel between Trinity Bay and Placentia Bay and onto and off the Avalon Peninsula may have occurred across the Isthmus.

Robbins (1985) has suggested that the occupants of Stock Cove exploited sea mammals in Trinity Bay, arctic hare (*Lepus arcticus*) and other small mammals and coastal fish and bird species in the general region, caribou (*Rangifer tarandus*) on the Isthmus, and salmon (*Salmo salar*) on rivers draining into Placentia Bay. This would also account for the substantial sites at Sunnyside and Sampsons Head Cove. The most unusual aspect to these occupations is that, unless prehistoric


SUNNYSIDE
CkAl-1
FRENCHMAN'S ISLAND
BULL ARM
CENTRE COVE
GOOSE COVE (LITTLE MOSQUITO COVE)
RED BEACH
GOOSE COVE POINT
SNAIL HEAD (BALD POINT)
LITTLE MOSQUITO POND
LADY COVE
LITTLE MOSQUITO COVE
THE FOUNDER
SNOOK'S BROOK
PEDDLE'S COVE POND
BIG MOSQUITO POINT
CkAl-9
CkAl-7
CkAl-5
PEDDLE'S COVE
CROSSING POND
CkAl-8
BIG MOSQUITO COVE (GREAT MOSQUITO COVE)
CkAl-6
BOB PEDDLE'S COVE
SAMPSON'S HEAD
CkAl-4
SAMPSON'S HEAD COVE
BURN COVE POINT
WEATHER MAST
THE HUFF
ARMOND'S COVE
SEWARD CABIN
PEACE COVE POINT (STANTON POINT)
LONG POINT
GREEN POINT
CkAl-3
STOCK COVE HEAD
STOCK COVE
BULL ARM
N
NEWFOUNDLAND
FIGURE 2.1
BULL ARM, TRINITY BAY
LEGEND
MARINE ARCHAEOLOGICAL SITE
LAND ARCHAEOLOGICAL SITE
0
1
2
3 km

climates were considerably cooler than today, residents of Bull Arm would not have been able to exploit harp seals (*Phoca groenlandica*), the mainstay of most cultural groups living on the northeast and west coasts of the Island. Instead, harbour seals (*Phoca vitulina*) and perhaps grey seals (*Halichoerus grypus*) would have been more common sea mammals.

Such large sites as those at Stock Cove and Sunnyside are rarely found so far from the open sea; it seems likely, therefore, that the combination of sea and land resources and rare travel routes between resource areas and neighbours on two sides of the Island may have been the attraction for the people of Bull Arm.

From the historic period there exists evidence contained in journals kept by John Guy and Henry Crout in 1612-13 (Quinn 1979; Cell 1982) indicating that a small Beothuk encampment was located in a place they called Flagstaff Harbour. Geographic descriptions of their places of call in Trinity Bay suggest that Flagstaff Harbour may in fact be Great Mosquito Cove.

Data gaps in our knowledge of the occupation of Bull Arm include, geographically, the shores of the arm between Frenchmen's Island and Stock Cove on the west side, the west coast south of Stock Cove and the entire east side, the interior and, culturally, all of the groups prior to and since the Dorset occupation. Any additional sites found have the potential to add significantly to our knowledge of prehistoric and historic land use in the region.

2.1 RATIONALE/OBJECTIVES

During an archaeological investigation in 1989 (NGL 1990) a site was found in Sampsons Head Cove (Figure 2.1), just outside the mouth of Great Mosquito Cove. This site contained evidence of Beothuk occupation (ca. A.D.1500-A.D.1829), as well as the earlier presence of Recent Prehistoric Indian (1900-450

B.P. before present), Groswater (2800-2100 B.P.) and Dorset Palaeo-Eskimo (1900-1100 B.P.), and Maritime Archaic Indian (5000-3000 B.P.). It is possible, therefore, that this is the site seen by Crout in what he called Flagstaff Harbour. Alternatively, the three Beothuk houses that were present in 1612 could have been situated further west in Great Mosquito Cove or, possibly in Peddle's Cove where there is a relatively good beach and an expanse of level ground. The Stage 2 archaeological survey and test pitting program conducted around Peddle's Cove Pond (Figure 1.2) was implemented to assess this possibility, and to determine the nature and extent of other cultural activity in the area.

3.0 STUDY AREA

The main study area incorporates primarily the terrain situated on the south side of Peddle's Cove Pond which is located on the north east end of Great Mosquito Cove (Figure 1.2). Peddle's Cove itself contains a gravel beach, a small level terrace and a stream draining Peddle's Cove Pond. The higher elevations around the pond were, prior to cutting, covered with a thick growth of alder, fur and spruce trees. The lower areas, to the west of the pond for example, are wet and boggy.

Great Mosquito Cove, in which the study area is located, is approximately 1.6 km long and 0.85 km wide at the mouth. It is aligned almost due east-west and opens out into Bull Arm, a 20 km long fjord at the southwest corner of Trinity Bay (Figure 1.1). Great Mosquito Cove, colloquially known as Big Mosquitty Cove, is thickly wooded around most of its margins. Much of the north side is a bare rock face which drops precipitously into the water from 100 m (330 ft) elevation.

The west end of Great Mosquito Cove is less thickly forested than the south side. Deep deposits of peat have formed over the bedrock and as a result this area

remains sparsely wooded. There is a small gravel beach at the northwest corner of the cove backed by a wet, peat-covered terrace.

4.0 METHODOLOGY

4.1 ASSESSMENT REQUIREMENTS

As the area around Peddle's Cove was considered to have potential for the presence of historic resources (NGL 1990) it was originally recommended that a Stage 4 monitoring of the area by an archaeologist be undertaken during construction. However, it was agreed after consultation between the Historic Resources Division and the HMDC that a Stage 2 testing and survey program would be the preferred course of action following clearing of the trees and brush.

4.2 PEDDLE'S COVE

The entire cleared area around Peddle's Cove Pond was thoroughly walked and visually surveyed for archaeological features and structures. Areas which exhibited even minor potential for the presence of historic resources (*i.e.* level, dry ground) were test-pitted and inspected for culturally constructed surface features. Test-pitting was, for the most part, concentrated on the south side of the Pond (Figure 1.2).

5.0 SURVEY RESULTS

In total 43 test pits were excavated around Peddle's Cove Pond, concentrating on the area directly to the south of the small inland body of water (Figure 1.2). The stratigraphy encountered during these excavations was fairly consistent throughout the study area in that the uppermost layer of peat which covers virtually the entire location measured from 30-40 cm thick. Directly below this matrix was bedrock

or, a thin gravel layer overlying the bedrock. No cultural material of any significance was encountered at any test location.

Further to the above, a visual survey was conducted throughout the entire cleared area around Peddles's Cove Pond (Figure 1.2). No archaeological material of any nature was located.

6.0 EVALUATION AND DISCUSSION

Bull Arm and the Isthmus of Avalon were important travel routes between Trinity Bay, Placentia Bay and the Avalon Peninsula as well as containing valuable subsistence resources. Components at a number of sites in the area relate to several prehistoric and historic traditions and phases, indicating that the region and its resources were well known for at least 3500 years. Work done in Great Mosquito Cove has revealed that the area and its environs were favoured at certain times of the year by most of the cultural groups represented elsewhere in the region. Since Peddle's Cove is so close to sites of prehistoric and historic significance in Great Mosquito Cove and Bull Arm, it seemed reasonable to suppose that the cove may also offer archaeological evidence of cultural use. By the same token however, Peddle's Cove's proximity to perhaps better locations may have made it more likely that culture groups would have used these other sites preferentially.

6.1 POTENTIAL FOR NEW SITES

It is the opinion of the investigators that all parts of the project area around Peddle's Cove Pond have been adequately investigated and contain only minor potential for the presence of historic resources.

While it is possible that opportunistic camp sites, kill or butchering sites and other cultural features could be located virtually anywhere within the study area where topographic conditions are suitable, the chances of finding such sites, if they exist, are practically non-existent through traditional survey means. It is recommended that the on-site NODECO Environmental Inspector remain vigilant for such signs as butchered bone, stone or iron tools and cobble hearths and be prepared to act appropriately.

6.2 POTENTIAL IMPACTS AND MANAGEMENT OPTIONS

Negative impacts on currently unknown sites may arise through the inability of project personnel to recognize significant locations missed during the survey. Based on the results of the Stage 2 assessment, however, it is not likely that any such sites exist. Nonetheless, the recommended education program for the on-site Environmental Inspector involving instruction in the identification of raw materials used by historic and prehistoric peoples will help to avoid the destruction of unknown archaeological sites that may exist. A Contingency Plan for Historic Resources discovery has been written into the NODECO Environmental Protection Plan and should be implemented if any discovery is made.

7.0 RECOMMENDATIONS

It is believed that the area in Peddle's Cove designated for use as the Topsides Assembly and Laydown area has been sufficiently surveyed and test-pitted. The probability of the area containing historic resources can confidently be said to be low. In the event of the discovery of historic resources by the Environmental Inspector or workers on the site, procedures outlined in the NODECO Contingency Plan for Historic Resources should be followed.

9

7.1 ENVIRONMENTAL PROTECTION

In order to familiarize SITE workers and supervisors with the types of terrestrial and marine sites, artifacts and other cultural material which they might expect to encounter, it is recommended that a training program be developed for the benefit of the NODECO on-site Environmental Inspector. Included in this should be:

- a personal visit to sites in the Bull Arm area with qualified archaeologists;
- viewing of photographs, slides and videos of various site types; and
- workshops held by qualified archaeologists to help familiarize the NODECO on-site Environmental Inspector with common archaeological materials.

In the event that an archaeological site or material is encountered the Historic Resources Contingency Plan in the NODECO Environmental Protection Plan requires that the Environmental Inspector contact the Historic Resources Division of the Department of Environment and Lands. The appropriate people to contact are:

Ms. Linda Jefferson
Historic Resources Division
Resource Archaeologist
576-2460

Dr. Bernard Ransom
Historic Resources Division
Historic Sites Officer
576-2460

In an emergency, LeDrew, Fudge and Associates can also provide archaeological support for NODECO in the field. The appropriate person to contact in this instance is:

Mr. Roy Skanes
Archaeologist
LeDrew, Fudge and Associates
(709) 576-1458

Appropriate procedures will be followed once one of the above individuals has been contacted.

7.2 MITIGATION

Based on the results of the Stage 2 archaeological assessment of Peddle's Cove and the area around Peddle's Cove Pond no further mitigation is recommended. If additional historic resources are encountered within the project area, mitigation alternatives should only be implemented following discussions and approval from the Historic Resources Division.

7.3 MONITORING

Sites found in the development area in Great Mosquito Cove and not subjected to any direct disturbance, such as Sampsons Cove and Crossing Pond (Figure 2.1), should be regularly monitored by the on-site Environmental Inspector to ensure their continued integrity. As a result of this Stage 2 archaeological assessment of the Peddle's Cove Pond area, a monitoring program during construction does not appear to be necessary. If archaeological material is encountered the appropriate contact person should be informed so that a professional evaluation can be offered and appropriate mitigation measures implemented.

8.0 REFERENCES CITED

Cell, Gillian (Ed.). 1982. Newfoundland Discovered: English Attempts at Colonization, 1610-1630. The Hakluyt Society, London.

Crout, Henry. 1612a. Journal written in Newfoundland, 1612-1613. Reprinted in D.B. Quinn (Ed.), 1979, Newfoundland From Fishery to Colony. Northwest Passages Searches. In New American World: A Documentary History of North America to 1612. Vol. IV. Arno Press and Hector Bye, Inc. New York.

Government of Newfoundland and Labrador. 1982. Historic Resources Impact Assessment Guidelines. Historic Resources Division, Department of Culture, Recreation and Youth. St. John's.

Newfoundland Geosciences Limited. 1990. Report of a Terrestrial Archaeological Survey and an Underwater Reconnaissance of Great Mosquito Cove. Report prepared for Mobil Oil Canada Properties by Callum Thomson, LeDrew, Fudge and Associates Limited.

Quinn, David B. 1979. Newfoundland from Fishery to Colony. Northwest Passage Searches. In New American World: A Documentary History of North America to 1612, Vol. IV. Arno Press and Hector Bye, Inc., New York.

Robbins, Douglas. 1985 Stock Cove, Trinity Bay: The Dorset Eskimo occupation of insular Newfoundland from a southeastern perspective. M.A. thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

APPENDIX A

STAGE 2 ARCHAEOLOGICAL ASSESSMENT OF CkAl-8 GREAT MOSQUITO COVE, BULL ARM, TRINITY BAY, NF

Original photographs for this report are contained in original document which is on file at Hibernia Management Development Company Limited (HMDC), St. John's, Newfoundland.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PLATES

1.0 INTRODUCTION

In June 1990, LeDrew, Fudge and Associates (LFA) Ltd. on contract to Mobil Oil Canada Properties Ltd. completed a terrestrial archaeological survey in the vicinity of Great Mosquito Cove, Bull Arm, Trinity Bay (Figure 1.1).

The survey resulted in the location of a prehistoric site (CkAl-8) at the extreme western end of the cove. Preliminary excavations have now been completed at the site and this supplement prepared to report on these results.

2.0 THE SITE

The site, located approximately 55 m north of the only substantial river running into great Mosquito Cove, is situated on relatively level terrace approximately 7-10 m west of the high water line (Figure 2.1). The present vertical elevation of the terrace is approximately 1-1.5 m above sea level. Due to tidal action, the water at the mouth of the river is certainly unsuitable for drinking, but the site's proximity to it would mean that salmonids and other essential food sources would likely have been seasonally available.

Mosquito Cove is bounded on the north and south by steep cliffs. Along the western end of the bay however, where the site is located, the rise in elevation from water level is much more gradual, so that the site is located on a piece of land which slopes only slightly upwards towards the west.

Although the waters in the cove were relatively calm during the course of field work it is quite obvious that high tides accompanied by strong easterly winds could easily result in erosion of the bank of the site.

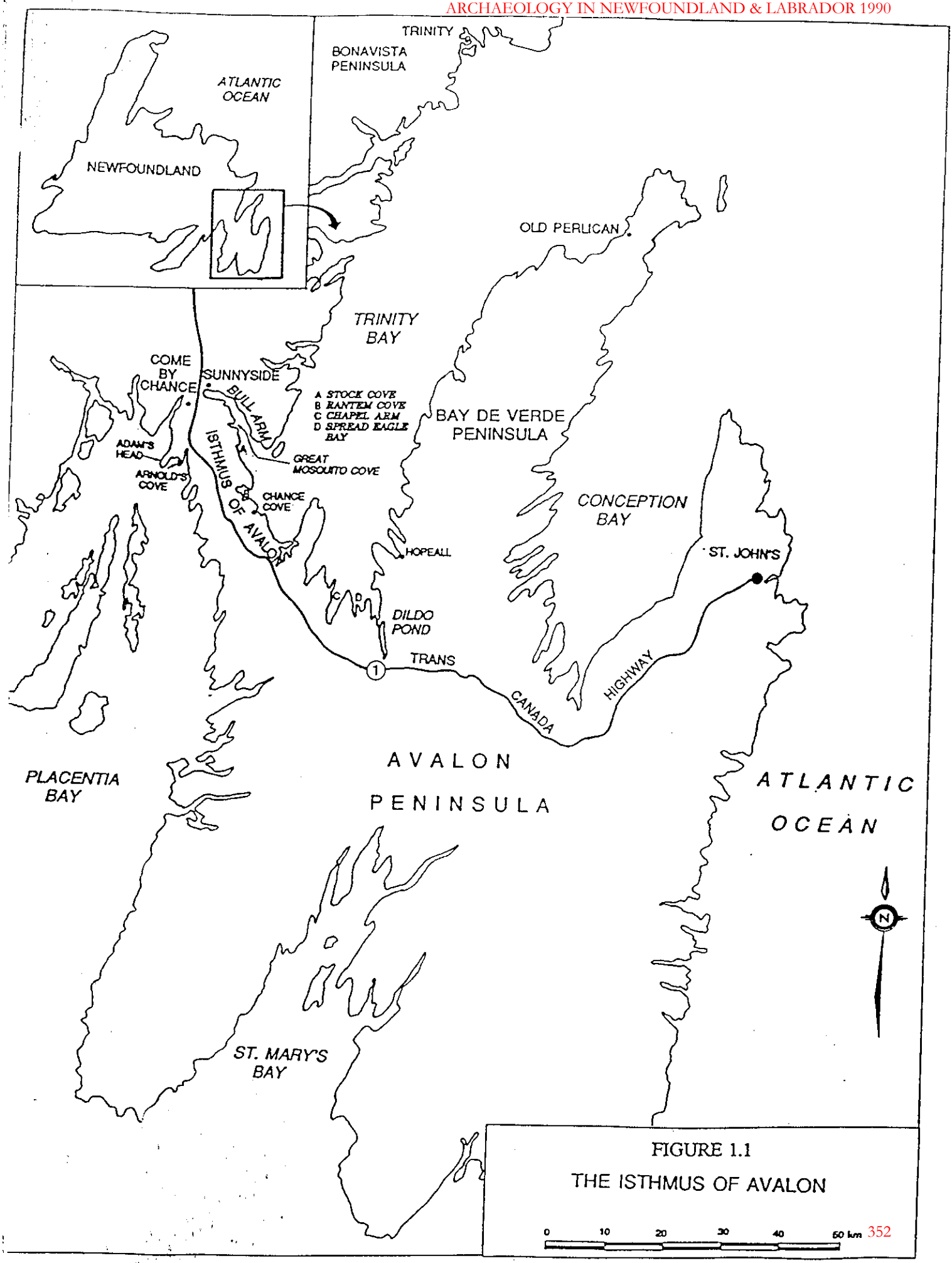


FIGURE 1.1
THE ISTHMUS OF AVALON

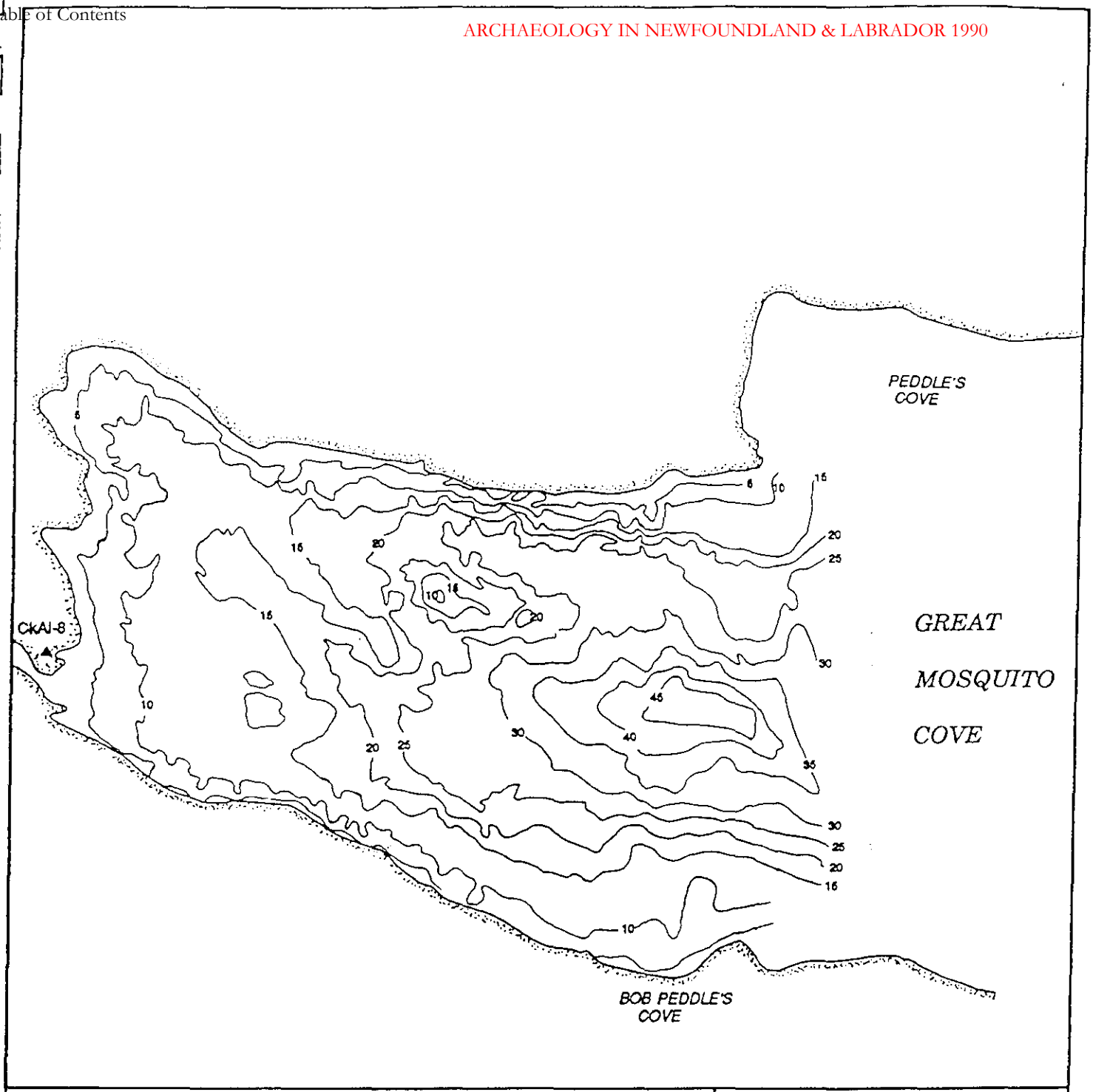


FIGURE 2.1

GREAT MOSQUITO COVE

At the time of occupation by the Dorset Eskimos this site would very likely have been at a higher elevation than it is today. The very eroded condition of the bank combined with the fact that sites located at such a low elevation are unusual would support this theory. According to Dr. Joyce Macpherson (Pers. comm.) the sea level on the south and southeast coasts of the Island has experienced a net rise in the past 2,000 years of approximately 6 m. It is difficult to say with absolute certainty that this is the case in Mosquito Cove but it does appear very probable that the site would now be lower relative to sea level than it was at the time of Dorset occupation 1500 years ago.

3.0 SIGNIFICANCE

The Isthmus of Avalon is known to have attracted prehistoric and historic occupants of the Island of Newfoundland; evidence exists for occupation spanning 3500 years in Sunnyside, Stock Cove, Arnold's Cove, Come By Chance, and on the islands of Placentia Bay.

Specific cultural groups whose remains have been identified in this area and for whom radiocarbon or estimated dates have been obtained in Newfoundland include Maritime Archaic (5000-3000 B.P.), Groswater Palaeo-Eskimo (2800-2100 B.P.), Dorset Palaeo-Eskimo (1900-1100 B.P.), Recent Prehistoric Indian (1900-450 B.P.), Beothuk (?- A.D.1829), and European (ca. A.D. 1500-Present). In the Bull Arm/Isthmus region only the Dorset occupation has been extensively analyzed (Robbins 1985); the remaining cultural groups have received little attention.

Each of these groups traditionally located their settlements close to the water's edge. Sites are generally small and may have been re-occupied by several successive groups.

Subsequent to the prehistoric and early historic periods Europeans are known to have frequented the area. Sunnyside and probably Great Mosquito Cove were visited by John Guy in his barque Indeavour in 1612. The Isthmus region, including a cove referred to by Guy as Flagstaffe Harbour, which is probably Great Mosquito Cove (Seary 1971), was at that time occupied by Beothuk Indians, but they soon afterwards withdrew north to Bonavista Bay and Notre Dame Bay in the face of at least occasional hostility from increasing numbers of European seasonal and permanent settlers (Whitbourne 1622).

The preliminary assessment of CkAl-8 was required to determine if the site could prove the existence of prehistoric and historic presence in Great Mosquito Cove, the potential of which has been indicated.

All archaeological sites are unique and can not be duplicated or restored when destroyed or disturbed. This is an important factor to be kept in mind when considering the need for future studies and mitigation procedures.

4.0 OBJECTIVES

Based on the above, the objectives of the present field reconnaissance were as follows:

1) determine the nature and extent of the site; and

2) determine the culture(s) represented therein.

5.0 METHODOLOGY

The area test pitted by Mr. Thomson during his initial survey is the area included in test pit 1 (Figure 5.1). The result of this test-pitting was the discovery of one diagnostic artifact; a blue chert micro-blade (Plate 6.1) which is diagnostic of either the Dorset or Groswater Palaeo-Eskimo culture. This discovery positively identified the site as containing at least one cultural element and indicated the need for further investigation.

Following Thomson's discovery of the site a two person crew undertook more intensive investigations. Since there were only three days left in the allotted field work the testing investigations were very limited.

An area approximately 10 m (north to south) by 18 m (east to west) was cleared of brush and overburden.

Once the site was cleared a datum point was chosen to aid in establishing east-west and north-south reference lines. To accomplish this a measuring tape was run out from the edge of the bank, where the initial archaeological testing by Thomson had taken place, to a point 18 m to the west. Subsequent to this, the north-south line was installed relative to the original reference line in order that all areas tested could be placed accurately on a site plan.

When the preliminary survey grid system was in place, 17 test-pits, 11 of which are indicated on Figure 6.1, were excavated. Test pits dug but not indicated on the map were located in the wooded area to the south of the cleared land and northeast of the cleared area on a point of land 27 m north of the cleared site. Each test-pit was excavated stratigraphically, i.e. by controlled levels, in order that any existing evidence of occupation or occupations could be accurately observed and recorded.

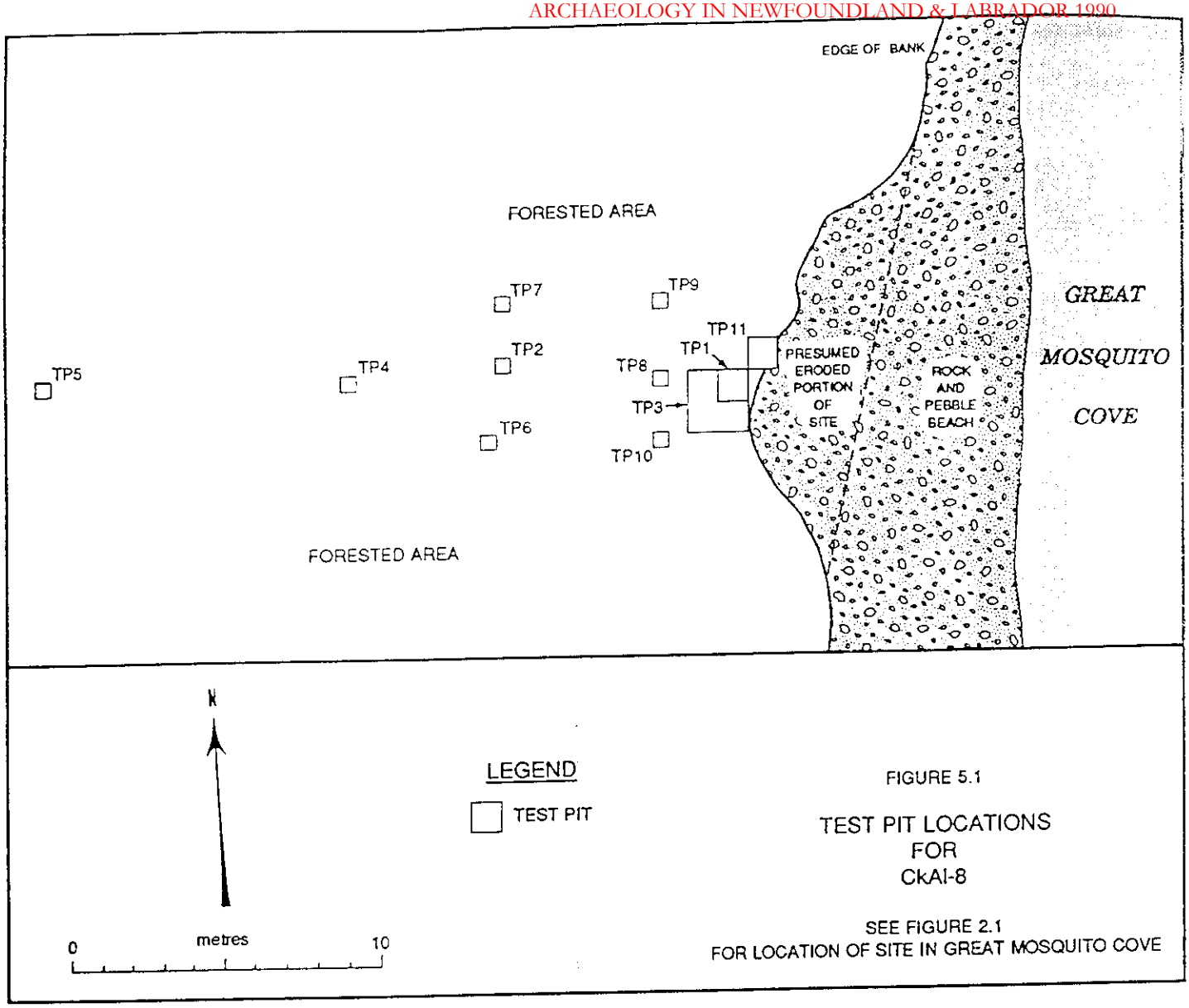
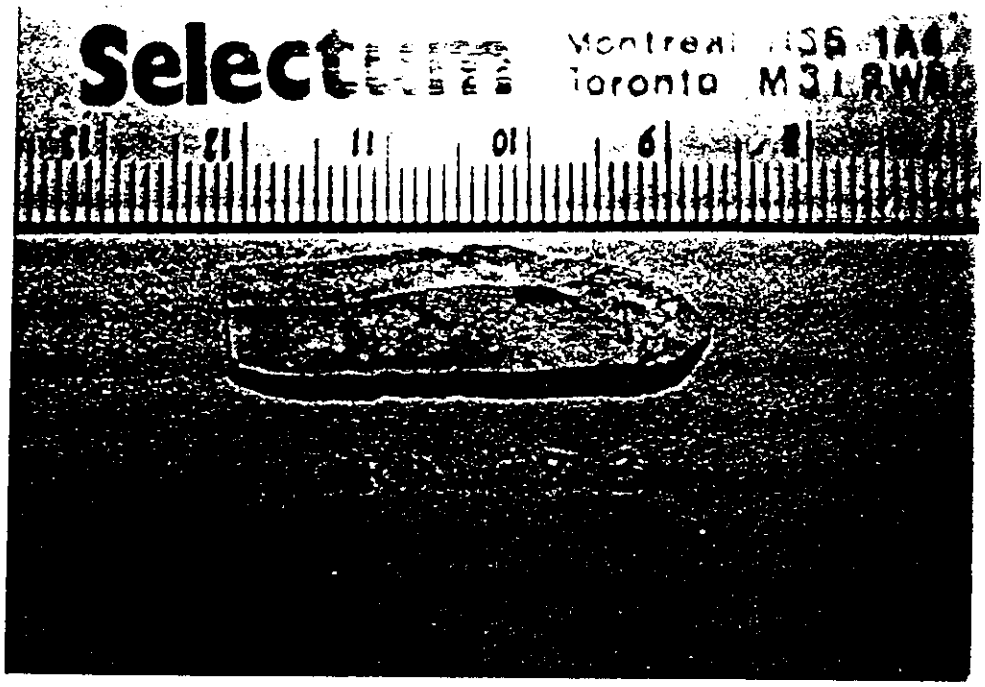


FIGURE 5.1

TEST PIT LOCATIONS
FOR
CkAl-8

SEE FIGURE 2.1
FOR LOCATION OF SITE IN GREAT MOSQUITO COVE

PLATE 6.1 BLUE CHERT MICROBLADE



The strategy for deciding test-pit locations was based on the knowledge obtained from the initial survey wherein cultural material had been recorded from the eroding eastern bank. Based on this it was safe to assume that any extant remains would be located there. Therefore, in an attempt to delimit the boundaries of the site, test-pits were dug in all directions from datum.

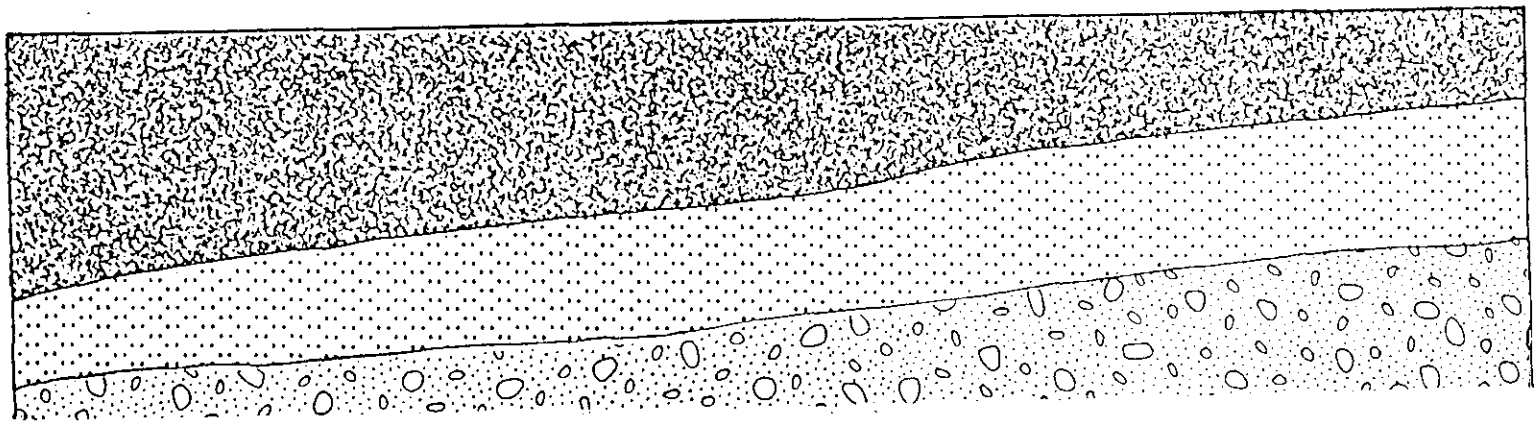
6.0 TEST PITS

Test Pit 1

This 1 m by 1 m excavation unit had a sod level which measured an average of 22 cm thick. Cultural material was not found in this level.

Level 2 is the only cultural level under the sod and is grey/brown and somewhat gravelly in consistency. Charcoal was found specifically in the southeast corner at this level and generally throughout the level. Four flakes (the majority of the flakes found on this site were made from patinated chert which very probably has a Dorset affiliation) were found within this cultural level. Previous to the more intensive excavation carried out between the 28th and 30th of June a blue chert microblade (Plate 6.1), which is diagnostic of either Dorset or Groswater Palaeo-Eskimo culture, had been uncovered in this pit.

The total depth of this level varies from; 2.5 cm in the northwest corner, 4 cm in the northeast corner, 12 cm in the southwest corner, to 8 cm in the southeast corner. The total depth therefore of what would have to be called the cultural level could extend up to 12 cm (Figure 6.1). Chert flakes were found at both the top and bottom of this level, however, it is the opinion of the investigators that this site was not occupied on a continuous enough basis to produce a 12 cm cultural level. What seems more likely is that, given the clay and gravel consistency of the level, cultural material may well have become widely



1 Sod layer

2 Cultural layer

3 Sterile

0 50 cm

FIGURE 6.1

FIELD PROFILE
WEST WALL OF TEST PIT 1 AND 3

distributed at the time of occupation. This theory is supported by the fact that the matrix itself does not consist of the kind of organic material one would expect to see as a result of human occupation. Also, the flake found at the lowest elevation was found flush to the side of a rock, indicating that it could have slipped into the place where it was discovered rather than having been initially deposited there.

Test-Pit 2

The sod level in this pit was 11 cm thick in the northwest corner, 16 cm in the northeast corner, 13 cm thick in the southwest corner, and 17 cm in the southeast. No artifacts were uncovered in the sod level but small amounts of charcoal were found on the very bottom of the sod.

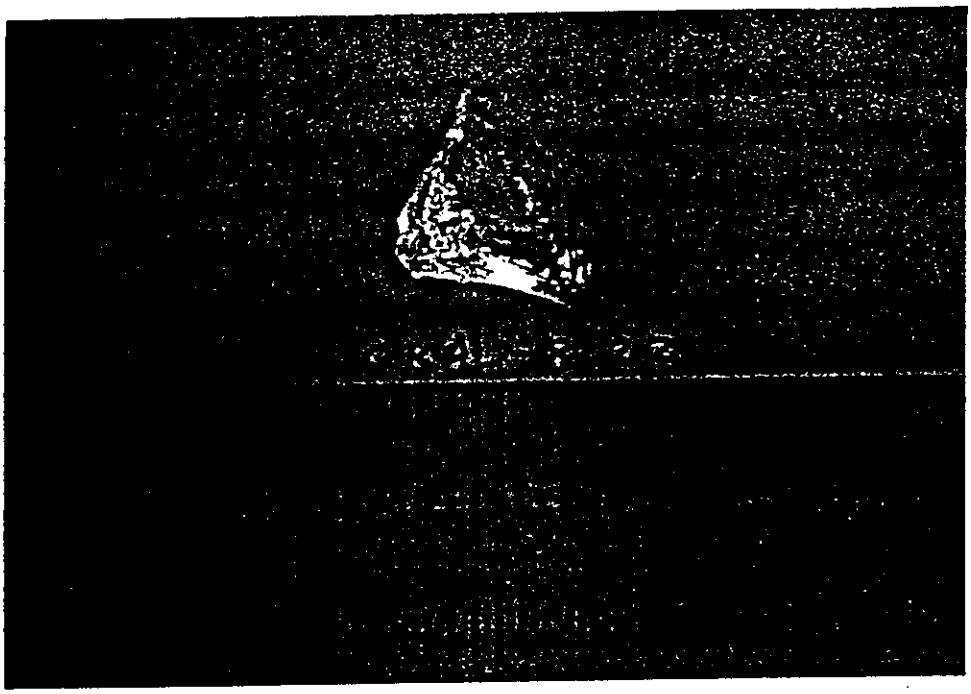
Level 2 was directly below the sod level and consisted of a light grey/brown clay like material 1.5-2.0 cm thick. Small amounts of charcoal were found at the very top of this level. Two or three flakes were recorded in the clay level.

Directly below level 2 was a level of clay mixed with gravel which was excavated to a depth of 5 cm and determined to be sterile.

Test-pit 3

On the 29th of June test-pit 1 was expanded to the south and the west to incorporate a 2 m by 2 m area. The extended area is referred to as test-pit 3. The first level of this test-pit, the sod level, was 12 cm thick in the northwest corner, 28 cm in the northeast corner, 36 cm in the southwest corner and 37 cm in the southeast corner. Some charcoal was found throughout the sod level and a quartz crystal flake (Plate 6.2) was found at the base of the sod. Quartz crystal is a diagnostic material of the Palaeo-Eskimo culture.

PLATE 6.2 QUARTZ CRYSTAL FLAKE



Below the sod was level 2. The matrix of level 2 is a grey/brown gravelly clay. The thickness of this level varied from 1 cm in the southeast corner, 7 cm in the southwest corner, 6 cm in the northeast corner, to 17 cm in the northwest corner at which point the cultural level had definitely become sterile. The more extreme depth of 17 cm in the northwest corner may well have included the level below level 2 which was determined to be sterile. It was difficult to determine the boundaries of the cultural level accurately as the sterile level did not become very obvious until it approached presumed bedrock at which point the level became little more than crushed rock, or pale grey/brown clay.

The northwest quadrant of level 2 contained numerous rings of charcoal and charcoal staining which appeared to be arranged in a more or less circular fashion. The charcoal was associated with a number of rocks (Plate 6.3) none of which appeared to be fire-cracked or even heat or charcoal stained, although the possibility exists that they are the remains of a hearth. A charcoal sample was taken from the southwest quadrant of this pit and sent to Beta Analytic Inc. in Florida for carbon dating. The results of the sample revealed a date of 680 years ago, +/- 60 years.

The following, and all unmapped test-pits are 50 cm by 50 cm pits in plan view.

Test-Pit 4

Level 1 of Test-Pit 4 was a sod level between 25-41 cm thick. No cultural material was found in the sod level. Level 2 consisted of a dense grey/brown clay with gravel inclusions. This level was excavated to a depth of 30 cm below the sod level and was found to be sterile.

PLATE 6.3 BASE OF LEVEL 2 AT THE NORTHWEST QUADRANT OF TEST-PIT 3

Test-Pit 5

The sod level in this test-pit measures between 39-42 cm thick. No cultural material was found in this level. Below the sod level was 3-4 cm of the grey/brown clay mixed with gravel. This level was also sterile.

Test-Pit 6

The sod level in this test-pit was an average of 20 cm thick and was sterile. No cultural material was recorded below the sod level.

Test-Pit 7

The sod level in this test-pit was 15-20 cm thick and was sterile. The grey/brown clay and gravel level below the sod was also sterile.

Test-Pit 8

This test-pit had a 12-15 cm thick sterile sod level. Below the sod level were some small rocks followed by the grey/brown clay and gravel mixture all of which was sterile.

Test-Pit 9

This test-pit had a 12 cm thick sod level which was sterile. No cultural material was found in this entire pit.

Test-Pit 10

The 25 cm thick sod level in this test-pit hits rock at the base of the sod. The sod contained no definite cultural material but it did contain some charcoal. Whether or not the charcoal has any cultural affiliation is uncertain at this stage. At the very base of the sod there is red/brown crushed rock.

Test-Pit 11

The sod level in this test-pit was 12 cm thick and sterile. Underneath the sod level was red/brown crushed rock which was also sterile.

Aside from these numbered test-pits there were an additional six, 50 cm by 50 cm test-pits dug adjacent to the cleared site all of which proved sterile. Also, during the initial survey done by Mr. Thomson, cultural material was found on the beach east of the site

7.0 CONCLUSIONS

Based on the somewhat limited excavation undertaken at CkAl-8, it can be stated that there is without doubt a Dorset cultural element to this site. The blue chert microblade and the quartz crystal flake (Plates 6.1 & 6.2) attest to this occupation. Based on data complied by researchers (Tuck 1986 and Robbins 1985), it would appear that the Dorset Eskimo were not present on the island of Newfoundland after roughly 1000-1200 years ago. Therefore, even though no diagnostic lithic artifacts specific to "Recent Indian" cultures (i.e. post-Dorset) have been recorded at CkAl-8, the C14 date of 1290-1300 A.D. obtained from the charcoal sample taken from what is thought to be a hearth in test pit 3, suggests this presence. In this instance the term Recent Indian is used to define any native occupants of the island dating to after the tradition or culture defined as Maritime Archaic and prior

to European contact; that is the period covering approximately 800-1600 A.D. As is clear, the occupation indicated by the C14 date falls well within this range.

Based on this intriguing information and the documented occupation of the area, it is highly likely that the location designated as CkAl-8 in Great Mosquito Cove was used after the Dorset by more recent native groups. Whether the site was occupied at the time of European contact is at present an unanswered question but, nonetheless, a distinct possibility.

It seems reasonable to assume that this site had extended further east towards the sea (Figure 5.1) but due to rising sea levels and run-off from land much of the site has collapsed onto the beach. It is possible that further evidence of occupation could be found in the inter-tidal zone.

8.0 REFERENCES CITED

Robbins, Douglas. 1985. Stock Cove, Trinity Bay: the Dorset Eskimo occupation of insular Newfoundland from a southeastern perspective. M.A. thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

Seary, E.R. 1971. Place names of the Avalon Peninsula of the Island of Newfoundland. University of Toronto Press.

Tuck, J. 1976. Newfoundland and Labrador Prehistory. National Museum of Man, National Museums of Canada. Ottawa, Ontario.

Whitbourne, Richard. 1622. A Discourse and Discovery of New-found-land. F. Kingston, London. In Gillian Cell, ed. 1982. Newfoundland Discovered. Hakluyt Society, London.

9.0 PERSONAL COMMUNICATIONS

Dr. Joyce Macpherson Professor of Geography, Memorial University of Newfoundland.

APPENDIX B

ENVIRONMENTAL PROTECTION PLAN
HISTORIC RESOURCES
CONTINGENCY PLAN

6.4 HISTORIC RESOURCES

6.4.1 Environmental Concerns

Undiscovered archaeological sites such as structures, tools, butchered animal bone, graves, pottery or shipwrecks may be disturbed or discovered during construction activity.

6.4.2 Environmental Protection Procedures

6.4.2.1 Personnel Training

All personnel will be informed of the historic resources potential of the site and of their responsibility to report any suspected findings in the education and orientation program (Vol. 1, Section 10.2).

6.4.2.2 Prevention

All known areas containing historic resources should be avoided where possible and/or if required.

6.4.2.3 Response-Action Plan

In the event of the discovery of a historic artifact or archaeological site, the following procedures will apply.

(a) All historic resources, including archaeological objects and sites of archaeological or historical interest or significance discovered on the site will be deemed to be the property of the Crown, and must not be disturbed. NODECO will take all reasonable precautions to prevent its

employees or other persons from removing any artifacts or damaging sites, as personnel may be held liable for prosecution under Section 35.1 and 35.2 of The Historic Resources Act, 1985 for all contraventions.

(b) All work will cease in the immediate area of the discovery until such time NODECO, having consulted with the Provincial Archaeologist (Linda Jefferson 709-576-2460), or appropriate alternative advises those involved as to the disposition of the discovery and authorizes a resumption of the work.

(c) Archaeological materials encountered should be reported to the Project Manager with the following information:

- nature of activity resulting in the discovery;
- nature of the material discovered;
- the precise location of the find; and
- names of persons witnessing the discovery.

Archaeology at Red Bay, Labrador, 1990

James A. Tuck
Archaeology Unit
Memorial University

The 1990 season at Red Bay marked the penultimate year for investigations of sixteenth century Basque whaling remains, as well as the remains of other cultures, on Saddle Island; these ecvavations were financed by the Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador.. Explorations of eighteenth century sites on the mainland at Red Bay were also continued or initiated, in this case funded by a grant from the Social Sciences and Humanities Research Council of Canada. Each of these is described briefly below.

Saddle Island

Excavations on Saddle Island had two objectives during the 1990 field season. The first was the completion of excavations begun in previous years, principally 1989 (see 1989 report of activities on file at Historic Sites Branch), of areas of sixteenth century Basque activities and the thorough testing of areas potentially impacted by the ever-increasing tourist traffic on Saddle Island.

The former excavations were confined to the "edges" of Area B where, during 1989, a considerable amount of organic and other material dating from the sixteenth century was recovered, including a nearly complete upper garment (shirt?) of a style very like those

recovered earlier form sixteenth century graves on the south end of Saddle Island.

Additional organic and other material (ceramics, glass) was recovered during the 1990 excavations but none in any concentrations to warrant further excavation.

EkBc-36

An exploratory trench at Adams Point, on the3 northernmost part of Saddle island, revealed the presence of a much-disturbed sixteenth century deposit consisting of roof tiles, fire-broken rock and burned fat, some adhering to the rocks. The whole gives the impression of a much disturbed tryworks, and its location is a more or less suitable one for a shore station. Like the shore station on Organ's Island, however, and in contrast to locations around The Harbour, the Adams Point location suffers from a lack of shelter, particularly in a northeast wind. For this reason it is suspected to be equivalent to the shore stations on Organ's Island and at Saddle Island West, which show no evidence of rebuilding and other intensive utilization so apparent at more suitable locations. Further testing of this site is planned for the 1991 field season.

Excavations at EkBc-33

EkBc-33 is a small site located on the north end of Saddle Island along the upper path between the light station wharf and Adams Point. It was first called to our attention by a collection of flakes of high quality cherts eroding from a place where the path had penetrated the thin vegetation to the sandy subsoil. Subsequent excavation revealed no features but recovered the collection of stone tools and weapon parts described below.

Except for two specimens of Ramah chert (a distinctive greyish silicate whose only source lies in Ramah Bay in northern Labrador) and a few bits of clear quartz crystal (probably locally obtained), the entire assemblage in manufactured from high grade grey to brown cherts, varying from light to dark in shade, with minute amounts of light green chert, and occasionally displaying mottling or banding. Macroscopic inspection of the suite of raw materials shows a close similarity to western Newfoundland cherts, particularly those from the well-known Cow Head formation which were utilized extensively by craftsmen of the latter part of the early Palaeo-Eskimo tradition -- the Groswater culture or phase. In fact, the use of this raw material by Groswater people, as far north as the central Labrador coast, is so distinctiove that the raw materials first suggested the presence of a Groswater component at EkBc-33, a suggestion borne out by the artifact complex described below.

End blades, presumably the tips of antler or bone harpoons, include a single basal fragment (100)[1] with the pronounced plano/convex cross section and sharply-defined "square" side notches typical of Groswater assemblages from elsewhere in Newfoundland and Labrador. A second specimen (23), consisting of the blade, broken at the notches, is lenticular in cross section and appears to have less well defined notches. A third specimen, a basal fragment, (25) has a typical plano/convex cross section but the hafting element consists of broad corner notches or an

[1]. numbers in parantheses following specimens denote the catalogue number of the specimen(s).

expanding stem, not the usual treatment for Groswater end blades. Two other fragments (140, 117), are the bases of specimens with hafting modifications similar to that described immediately above.

Two broken side blades, one (32) a somewhat dubious specimen, but thin enough to qualify as such a weapon part and a smaller, lozenge-shaped example (130) are the only two such weapon parts recovered from EkBc-33. Such objects are typical of Groswater assemblages both in Newfoundland and Labrador.

Bifaces, that is, stone tools flaked on both surfaces and generally assumed to have served as "knives", number nine fragmentary specimens of a variety of forms. This variety is characteristic of Groswater, and other early Palaeo-Eskimo assemblages wherein it seems as though thinness of the object took precedence over precise plan. The objects include: (5) the distal(?) end of a thin grey chert sepcimen with one convex and one straight edge meeting at a sharp point; (29) a narrow distal segment with one concave and one convex edge meeting at a rounded point; (24) a thin grey chert distal segment with two markedly convex edges meeting at a ashrp point; (19) a mid-swection of a parallel-sided example, broken squarely at both ends but retaining a pair of shallow side-notches, perhaps indicating a multiple-notched tool of some sort; (33) the tip of a small Ramah chert specimen with two convex sides meeting at a sharp point; (39) another mid-section, perhaps from an unfinished example, with both ends cleanly snapped at right angles to the long axix of the tool; two edge fragments (139, 142) and a biface thinning flake (129)

complete this tool category.

A single rather crude burin (112), or graving tool resharpened by removing a spall from the working edge, was recovered at EkBc-33. It is made on a rectangular flake of banded grey chert, has unifacial surface retouch, bifacial retouch along the distal edge, and has been sharpened by the removal of a single spall from one lateral edge. This type of graving tool is usually considered to indicate an early Groswater component, since true spalled burins were supplanted, wholly or partially, by chipped and ground examples which wrer resharpened by grinding during the later periods of Groswater occupation of Newfoundland and Labrador.

One such implement (52) shows polish on one surface and two intersecting edges and is probably a fragment of a chipped and ground burin-like-tool characteristic of more recent Groswater culture. Another more or less rectangular biface (37) may be a preform for a burin or burin-like-tool, although it show evidence of neither spalling nor polish. A final rectangular(?) example (88) has a polished facet on one surface and may also be a burin-like-tool in process.

End scrapers include : (27) a small greenish chert example with small graving spurs at both corners; (22) a similar specimen of dark brown chert; (36) a large black chert e3xample with pronounced flaring corners; (38) a longitudinally broken example apparently of a size and configuration similar to the first two small examples described above; (92) a short broad specimen of grey chert with a pronuonced expanded graving spur on the right-hand

corner; (84) a small rectangular example with sharp, but not protruding corners; (122) a rough trianguloid example made on a large thick flake. All of these end scrapers are in keeping with the known range of size, style and raw materials for Groswater scrapers from other assemblages.

Two unifaces include the rounded tip of a small grey chert example (11), perhaps a knife or other cutting tool, and an unusual specimen (134) with three pronounced notches of a "leg-like" appearance which almost give the object the look (with the addition of a good dose of imagination) of some sort of quadrapedal animal.

Twenty microblade fragments[2], all from green or grey chert except one of quartz crystal (81) and two Ramah chert (60, 67) examples (one of the latter found in two conjoining segments) contstitute this, the most numerous class of artifacts.

A microblade core fragment (79) of green chert matching closely several of the blades described above was apparently accidentally detached during the process of microblade manufacture.

A final specimen is a large flake (20) in the the process of reduction by thinning in the fashion of early Palaeo-Eskimo stone workers. The intended final product cannot be determined from the remaining portion.

Flakes were not counted or sorted for this report but an impression is that they conform to the types and colours of raw materials utilized for the manufacture of finished objects. By far

---

[2]. Nos. 1, 2, 3, 4, 6, 14, 15, 74c, 86, 87, 116, 117, 124, 125, 126, 127 and 133

the largest proportion of flakes is that which would be assigned to western Newfoundland, and especially Cow Head, as a place of origin.

In summary, EkBc-33 is a typical small campsite utilized briefly during the latter part of the Early Palaeo-Eskimo tradition as expressed in Newfoundland and Labrador. The Groswater period existed between about 3,000 and 2,100 years ago as determined by a large, and apparently reliable, series of radiocarbon dates from a variety of locations throughout the Province of Newfoundland and Labrador. Chronology and the artifact complex of this phase or culture clearly indicates its ancestry in the earlier Palaeo-Eskimo cultures of Newfoundland and Labrador; comparisons of the same sort with the succeeding Dorset Eskimo culture indicates equally convincing evidence of a lack of continuity between the two. If there was a transition between Groswater and Dorset cultures, present evidence indicates that it did not take place either in Newfoundland or in Labrador.

Excavations at Southwest Brook - (EkBc-34)

As part of the continuing effort to discover and understand events in Red Bay after the departure of the Basque whalers early in the seventeenth century, and prior to the beginnings of the present community in the first half of the nineteenth century, we continued our explorations west of The Basin, in an area apparently preferred by settlers of the eighteenth century.

Earlier surveys and excavation have revealed what we believe to be evidence of the habitation, or at least part of it, of Pierre

Constantin, a Quebec entrepreneur who established a year-round post at Red Bay in 1715. A short was from this establishment are the remains of stone fireplaces built in European fashion but surrounded by relatiovelt large numbers of small glass trade beads, a fragment of decorated bone and several fragments of a Native-made tobacco pipe, all of which lkead to the tentative comclusion that these represent the dwellings of the Native "servants" of Canstantin.

In 1990 we expanded our survey of the area slightly to encompass the banks of Southwest Brook which runs into The Basin at the westernmost point of the north shore, before it turns southward toward Tracy. On the east bank of the brook, near the present-day bridge to the Tracy settlement, was found evidence of a small structure not unlike those presumably occupied by Natives during the Constantin era, but of a slightly more recent date and with a different artifact assemblage.

Except for the fireplace itself, no trace of the structure remained. The fireplace consisted of a platform about two metres square, composed of flat rocks and having a burned area about one metre square near the centre. The fireplace opened towards the east, presumably indicating the interior of the structure. A second course of rocks remained in plavce on the western edge of the construction.

The area was a grass-covered clearing prior to excavation, probably another case in which an area once used for habitation by human groups failed to regenerate the natural climax vegetation

typical of the area. Artifacts associated with this feature were found immediately beneath the sod and extending through a shallow dark soil to the lighter coloured, rock-filled subsoil. The collection is described briefly below.

Ceramics

Fragments of six ceramic vessels, one represented by a single sherd and another by five sherds, comprise the entire, and somewhat unusual, collection of ceramics from Southwest Brook. The single sherd derives from a small round vessel with a constricted neck and everted lip about 6cm in diameter, but is so badly burned that the original character of the fabric and surface has been altered beyond recognition. The second example, represented by five small sherds is a thin-walled creamware vessel of uncertain shape, but perhaps a shallow bowl. Creamware is said to have been introduced by Wedgewood in its perfected form in 1762, thus providing at least a minimum date for the occupation of the Southwest Brook site.

Two vessels, represented by several dozen sherds, comprise what appears to be a matching cup or bowl and deep saucer of oriental export porcelain. Both are decorated in underglaze blue with narrow bands of abstract geometric design below the interior rim. The cup or bowl, with a diameter of about 8cm has a chinoise motif on the exterior surface. The larger saucer has a similar floral motif on the interior and a plain exterior; its diameter cannot be determined. As with the other ceramics, many of the sherds of the cup/bowl and saucer are badly fire-altered.

A single tin-glazed (faience?) vessel was apparently a small

bowl with a rim diameter of about 8cm. It has a thick base, but thins markedly toward the everted rim. The characteristically thick glaze is a bluish white and the remaining sherds bear to trace of decoration. Whether this vessel is of English, Dutch, IOberian or other origin remains to be determined.

The final ceramic vessel is a pitcher or jar of Normandy stoneware. It apparently was globular in form with a constricted neck and everted rim; a single pulled strap handle was recovered. The diameter of the rim, measured at the handle attachment (not an ideal location) is about 10cm.

Most of the vessels in the ceramic assemblage from Southwest Brook seem to have functioned in beverage (and food?) consumption, particularly if the small, unidentified vessels are cups or bowls. Only the larger Normandy stoneware vessel may have been a storage jar, but it may equally have been a serving pitcher.

The origins of the vessels are remarkably diverse, representing at least northwestern France and the Far East, with the tin-glazed vessel possibly from elsewhere in Europe or Britain.

Chronologically, the assembalge falls best into the second half of the eighteenth century, perhaps midway through that half-century.

Tobacco pipes

Tobacco pipe fragments include both stem and bowl fragments. Except for a dozen or so small spalls, the bowl sherds which will permit some meaningful observations number eight. Six are plain fragments suggestiong bowl forms characteristic of a large part of

the eighteenth century. Two fragments are decorated, one with vertical raised bands and the other displaying what appears to be a raised animal form, perhaps some heraldic device. Both of these forms are known from contexts in the latter half of the eighteenth century.

The 37 pipe stem fragments include 26 with interior diameters of 4/64" and 11 with diameters of 5/64". Using the Binford regression formula, a mean pipestem date of A.D. 1767 was obtained, probably not a bad estimate for the time of occupation of the4 Southwest Brook site.

Glass

Glass objects include only two vessels and several small sherds of thin, rolled window glass; the last are regarded as intrusive.

The two vessels include: a dark green cylindrical bottle with a moderate kick-up displaying a large pontil mark and an everted rim with an applied string rim below it, all characteristics common in late eighteenth/early nineteenth century liquor bottles; a second bottle of clear glass with s slight greenish cast with a conical kick-up and pontil mark on the base (which measures about 4cm in diameter). Neither the neck nor the rim was recovered, but the remaining portions are typical of the latter half of the eighteenth century.

Gunflints

Some 28 intact, or nearly intact, gunflints and 17 flakes of identical raw materials were found at Southwest Brook. All of the

more or less intact examples were manufactured by the "spall" technique, that is, they lack the precise facets that characterize the prismatic blade technique of manufacture. The unburned specimens are all save two examples of grey European flint. The exceptions are a single glossy grey flint specimen somewhat darker than the rest and one example of the so-called French "honey-coloured" flint. Although gun spalls of this type are often variable in workmanship and frequently have a crude appearance, some of the specimens from Southwest Brook are so much so that it might well be that they were manufactured on the site.

Whetstones

Two fragments of a small rectangular whetstone of tan sandstone and a thin slab of schistose slate, possibly intended for use as a whetstone, are the only two such objects recovered from Southwest Brook.

Iron

Except for nails, iron objects from Southwest Brook were limited in number. They include a fragment of an iron buckle, a small eye from a hook-and-eye fastening, a possible rivet fragment, a small iron object with a hole near the centre, possibly a trap part, and what may be the end of the bit of a gimlet or small auger. Somewhat more complete is one-half of a pair of scissors with the loop handle battered and pushed toward the point; it may have been reutilized or re-manufactured into a knife blade (perhaps an indication that Southwest brook was occupied by Native inhabitants). A four-tine fork, iron with some sort of plate (tin?)

and two distinctive pistol-grip knives complete the inventory of iron objects. These have bone or antler handles riveted to the straight-backed blade. Thus far attemtps to determine a precise date or place of origin for these knives has not met with success.

Lead

Lead objects include three pieces of sheet lead, 2-3mm thick, and folded once or twice, as if once used as sheathing; it was probably intended for the manufacture of shot.

Lead shot

A preliminary assessment of the lead shot, the most numerous class of artifacts from Southwest Brook, reveals 14 examples of large lead shot that could be considered musket or pistol balls. Diameters of these objects are: .33", .35", .36", .39", .41", .42", .42", .48", .57", .57", .57", .61", .68" and .78". The slight tendancy to cluster around .35 calibre and .57 calibre may be significant.

Just over 1,100 pieces of small lead shot were recorded during the 1990 season, virtually all in the 3.0mm to 5.0mm range. A few examples have sprue attached, and while this does not necessarily indicate casting of shot at Southwest Brook, it is likely that that was one of the activities performed there.

Nails and spikes

Finally, a word should be said about activities leading up to the opening of the Red Bay Visitor Centre on August 13 by the Rt. Hon. Clyde Wells, Premier of Newfoundland and Labrador. The entire

field crew performed a variety of tasks--many of them in times other than working hours-- not closely related to the archaeological fieldwork for which they were hired. Judith Logan of the Canadian Conservation Institute volunteered her services in the final stages of preparation of many of the exhibits. Ewald Lemke of PML Exhibit Services revived his art as a bender of Plexiglas and manufactured mounts for most of the artifacts. With their help, and that of many Red Bay residents too numerous to name individually, the Visitor Centre was ready for the official opening and, despite uncharacteristic heat and characteristic rain, was a great success.