Archaeological Survey
and
Cultural Resources Overview
Fort Richardson, Alaska
ARCHAEOLOGICAL SURVEY AND CULTURAL RESOURCES OVERVIEW

FORT RICHARDSON, ALASKA

Prepared by

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ARCHAEOLOGICAL SURVEY AND CULTURAL RESOURCES OVERVIEW
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TABLE OF CONTENTS

Item

Page

ABSTRACT ................................................................................ iii
Acknowledgements ................................................................ iv
Introduction .............................................................................. v

PART I: BACKGROUND RESEARCH

Environment ........................................................................... 1
Prehistory ................................................................................. 10
Tanaina: Ethnographic Background ..................................... 16
History ..................................................................................... 19

PART II: RESEARCH DESIGN AND IMPLEMENTATION

Research Design ....................................................................... 27
Research Problems .................................................................. 27
Predictions and Sampling Strategy ...................................... 28
Implementation and Data Recovery ...................................... 33

PART III: RESULTS AND RECOMMENDATIONS

Results ..................................................................................... 37
Cabin #1: Site ANC-263 ............................................................. 37
Cabin #2: Site ANC-264 ............................................................. 38
Structure #3: Site ANC-265 ..................................................... 41
Eagle River Railroad Bridge: Site ANC-266 ......................... 43
Other Structures and Features .............................................. 44
Archaeological Results and Evaluation ............................... 45
Recommendations ................................................................. 49

BIBLIOGRAPHY ........................................................................ 55

LIST OF APPENDICES

Number  Title

1  Previously Known Sites in Study Area
2  Future Development Survey
<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vegetation of the Study Area</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Wildlife Species of Fort Richardson</td>
<td>5-6</td>
</tr>
<tr>
<td>3</td>
<td>Physiography of the Study Area</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Local Sequence for Upper Cook Inlet Illustrating Cultural Affiliations</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Local Tanaina Place Names</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>BLM Cadastral Survey Maps</td>
<td>21-23</td>
</tr>
<tr>
<td>7</td>
<td>Homestead Map of Fort Richardson Area 1942</td>
<td>24</td>
</tr>
<tr>
<td>8</td>
<td>Historic Structures Near Eagle River Railroad Bridge</td>
<td>26</td>
</tr>
<tr>
<td>9</td>
<td>Schematic Drawing of Sampling Scheme</td>
<td>30</td>
</tr>
<tr>
<td>10</td>
<td>Fort Richardson, Alaska: Surveyed Areas</td>
<td>32</td>
</tr>
<tr>
<td>11</td>
<td>Military Activity Areas</td>
<td>36</td>
</tr>
<tr>
<td>12</td>
<td>Cabin 1: Site ANC-263</td>
<td>39</td>
</tr>
<tr>
<td>13</td>
<td>Cabin 1: Site ANC-263</td>
<td>40</td>
</tr>
<tr>
<td>14</td>
<td>Structure 3: Site ANC-265</td>
<td>42</td>
</tr>
<tr>
<td>15</td>
<td>Ship Creek Valley</td>
<td>50</td>
</tr>
<tr>
<td>16</td>
<td>Chugach Foothills Looking West to Eagle River Flats</td>
<td>51</td>
</tr>
<tr>
<td>17</td>
<td>Grassy Area Near Knik Arm Bluffs</td>
<td>52</td>
</tr>
<tr>
<td>18</td>
<td>Tundra Bog Area</td>
<td>53</td>
</tr>
<tr>
<td>19</td>
<td>Alder Thicket in Disturbed Area</td>
<td>54</td>
</tr>
</tbody>
</table>
ABSTRACT

A reconnaissance level survey, including some minor subsurface testing, was conducted on Fort Richardson, Alaska in summer 1979 in order to assist the Army in complying with Federal laws applying to cultural resources. A three part sampling strategy was devised in order to provide reliable information for future planning purposes and to locate sites for an inventory of cultural resources. Part I consisted of a systematic interval sample with random starts for each set of transects. Part II consisted of intensive survey of areas deemed to have high potential for the recovery of cultural remains on the basis of background research into aboriginal settlement patterns. Part III involved intensive survey in areas known to have been used historically by European Americans. Four (4) sites probably related to European American activities in the past 80 years were located. No archeological sites were discovered.
ACKNOWLEDGMENTS

The help given by many people in making this project a success is gratefully appreciated. Lizette Boyer, Christopher Brown, and Barbara Thurston provided able assistance as crew during the field portion of the survey. Many others helped in the field work and report writing phases including 120th Aviation Company, Fort Richardson, Alaska (Arctic Knights); Fort Richardson Range Control; Facility Engineer Support Section, Alaska District, Corps of Engineers; and Douglas R. Reger, Alaska State Office of History and Archaeology, Alaska Division of Parks.
INTRODUCTION

This study was implemented to enable the Army to partially fulfill its obligations under AR 200-1, Chapter 8, in compliance with Executive Order 11593, the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, and the Archaeological and Historical Preservation Act of 1974.

This report provides a partial inventory of cultural resources on the Fort Richardson installation. It also presents the results of a probabilistic survey that provides data suitable for predicting the likelihood of finding cultural resources in various sectors of the post. Although this sort of determination can help the Army in managing its lands and provide guidance for future cultural resources surveys, a partial survey does not fulfill the Army's responsibilities to completely inventory all sites on Army land. Complete compliance can only be the result of an ongoing plan to identify all properties on Fort Richardson that are eligible for the National Register of Historic Places.

The report is divided into three sections: Background Research, Research Design and Implementation, and Results and Recommendations.
PART I: BACKGROUND RESEARCH

ENVIRONMENT

Ascertaining the environmental associations at archaeological sites is one of the goals of modern archaeology. Only by discovering the place of human populations within the ecosystems in which they exist can we understand past human cultural processes and how they facilitate adaptation to the environment. Furthermore, once certain types of sites have been found to be associated with particular environmental feature we have a valuable tool for predicting site distributions across the landscape.

Fort Richardson, stretching as it does from the Chugach Mountains to Knik Arm, encompasses several different environmental zones. On the large scale these zones are directly related to elevation, i.e., tundra ecosystems at high altitudes and forest systems at lower altitudes. Other factors such as slope, orientation, relief, and availability of moisture and light cause variation on a smaller scale.

Another variable is the fact that the environment has not necessarily remained the same during the period of human occupancy of the Upper Inlet. Unfortunately, the climatological and environmental sequence for the region is not well known, so it is necessary to use present day environmental data to model past human resource exploitation.

The following descriptions of present day ecosystems and physiography are summarized from the working Draft Environmental Impact Statement for Installation Utilization at Fort Richardson, Alaska (Metrek Corporation, 1978).

Terrestrial Ecosystems of Fort Richardson

Barren Ecosystems

These areas consist of unvegetated landscapes such as mountains, glaciers, and river terraces. Viereck (1967) describes mountain zonation moving from the low spruce forests upward. Above the spruce is a zone of low, matted alpine vegetation which becomes more sparse until there is merely bare rock, and above that perpetual snow. This pattern can be seen in the mountainous areas of Fort Richardson. Many of these truly barren areas are so steep, inaccessible, and support so little animal or vegetable life that it is unlikely they were exploited by humans.

Tundra

The moist type of tundra occurs in the eastern mountainous area of Fort Richardson above treeline at about 3,500 to 4,000 feet (see Figure 1). Alpine tundra is found at higher elevations and on better drained
FIGURE 1

SOURCE: LAPERRIERE, 1976; SELKREGG, 1972

A-ALPINE TUNDRA
B-BARREN
IF-INTERIOR FOREST
M-MARSH
P-HIGH BRUSH
SB-BLACK SPRUCE
T-MOIST TUNDRA
TB-BOG

VEGETATION OF THE STUDY AREA
slopes. It varies from dwarf shrubs, thick moss and grass, to a few lichens. Lower protected valleys and wetter depressions in the rock support low shrubs, berry plants, grasses, sedges, and a spongy moss layer. Exposed ridges are usually only covered with lichens.

Dall sheep live in alpine tundra zones, and can be found within the fort boundaries and in the adjacent areas of Chugach State Park; sheep were a relatively important game animal for Tanaina populations in the Upper Inlet. Ground squirrels are found in the subalpine zones. These small animals were eaten by aboriginal peoples although they were not usually a major resource. During the summer months moose were sighted in the protected shrubby valleys above treeline although such areas are not considered their "typical" habitat.

High Brush Ecosystems

These are usually narrow zones of transition between forests and barren areas or between forests, lakes, and streams. On Fort Richardson brushy vegetation occurs between timberline and the moist tundra on the west face of the mountains on fairly steep slopes. It also follows wet valleys and south facing slopes at higher elevations. As noted, moose browse up into this zone during summer months. Ptarmigan are also found here. These birch/alder/willow thickets can be extremely dense and virtually impenetrable to people. Devils Club is found under the brush in particularly moist areas which makes travel through the area even less pleasant. Many areas disturbed by human activity in the past have returned to this dense vegetational stage. Old roads and once cleared areas on post have generally regrown into thick alder patches.

Forest

Most of Fort Richardson is forested with the white and black spruce typical of Alaska's "taiga." This is wooded vegetation typical of the boreal subarctic latitudes and subalpine elevations adjacent to treeless tundra zones (Le Roi 1967). Species diversity is low (only about four or five species) with a more diverse herb and shrub strata below. White spruce predominates on well drained sites with black spruce typical of cooler, poorly drained sites. In general, the forested areas of the post are easily traversed on foot because the trees are not particularly dense and the undergrowth is low.

Spruce Bog

Bogs are common in the low, flat sections of the post and in the northwestern area especially. The cold, waterlogged soils often support stands of small black spruce. Spruce bogs are usually underlain by a thick mat of sphagnum, sedges, grasses, and heath shrubs. They are characterized by several kinds of edible berries, including cranberry, lingonberry, and blueberry, as well as paper birch, willows, and labrador tea.

Spruce hen were noted in these areas.
Although these are moist places at some times of year, it was usually no problem to walk through a spruce bog in midsummer. Many spruce bogs seem to be located in dried up beds of old lakes, ponds, and streams. Frequently old shorelines could be observed ringing the bogs.

Marsh

Both freshwater and saltwater marshes occur on post.

Salt marshes occur in small patches along Knik Arm and in the tidal reach of Eagle River. These marshes are characterized by salt tolerant vegetation.

Freshwater marshes are found along Eagle River and in bogs, ponds, and lakes. Associated vegetation includes sedges, rushes, and grasses as well as floating and submerged plant species.

Marshes are important bird habitat and freshwater marshes are prime moose habitat.

Wildlife

At present Fort Richardson is noted for high moose and sheep populations. Caribou were found in the area at one time and were hunted by the Tanaina, but they are presently extinct in the Anchorage area.

Both black and brown bears and wolves are found in the area.

See Figure 2 for a list of other animals found in the area.

Aquatic Ecosystems

Marine Ecosystems

Knik Arm of Cook Inlet forms the western boundary of Fort Richardson. Steep bluffs make access to the Arm difficult in many places except where erosion or streams have cut through the bluff. Extensive tidal marshes and mudflats are found along Knik Arm. Beluga whales and harbor seal do travel up the Arm but they are mainly found along the western shore. These animals are more abundant in lower Cook Inlet.

Waterfowl are found in great numbers on Eagle River flats, especially during the spring and fall migrations, and there is a resident summer duck population.

Salmon migrate through the Arm to reach their spawning streams. These fish were extremely important to aboriginal populations.
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Habitat</th>
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<tr>
<td><strong>MAMMALS</strong></td>
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<tr>
<td>Alaska vole</td>
<td>Microtus miurus</td>
<td>well drained slopes, dwarf</td>
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<td>Microtus pennsylvanicus</td>
<td>willow tundra</td>
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<td>Microtus oeconomus</td>
<td>meadow</td>
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<td>Redback vole</td>
<td>Clethrionomys rutilus</td>
<td>tundra, damp forest, alpine</td>
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<td>Brown lemming</td>
<td>Lemmus trimucronatus</td>
<td>tundra &amp; alpine meadow</td>
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<tr>
<td>Deer mouse</td>
<td>Peromyscus maniculatus</td>
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<tr>
<td>Jumping mouse</td>
<td>Zapus hudsonius</td>
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<tr>
<td>Pygmy shrew</td>
<td>Microsorex hoyi</td>
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<tr>
<td>Water shrew</td>
<td>Sorex palustris</td>
<td>along streams</td>
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<td>Dusky shrew</td>
<td>Sorex obscurus</td>
<td>wet muskeg, spruce forest,</td>
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<tr>
<td>dry hillsides</td>
<td></td>
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</tr>
<tr>
<td>Masked shrew</td>
<td>Sorex cinereus</td>
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<tr>
<td>Shorttail weasel</td>
<td>Mustela erminea</td>
<td>brush or forest</td>
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<tr>
<td>(ermine)</td>
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<tr>
<td>Least weasel</td>
<td>Mustela rixosa</td>
<td>brushy areas</td>
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<td>Marmota caligata</td>
<td>rocksides, alpine</td>
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<td>Snowshoe or</td>
<td>Lepus americanus</td>
<td>forest, meadow thickets</td>
</tr>
<tr>
<td>varying hare</td>
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<td></td>
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<td>Citellus undulatus</td>
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<td>Ursus americanus</td>
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<td>Coyote</td>
<td>Canis latrans</td>
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<tr>
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<td>Vulpes vulpes</td>
<td>ubiquitous</td>
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<td>Lynx</td>
<td>Lynx canadensis</td>
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<tr>
<td>Dall sheep</td>
<td>Ovis dalli</td>
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<td>Moose</td>
<td>Alces alces</td>
<td>willow, muskeg spruce</td>
</tr>
<tr>
<td>forest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red squirrel</td>
<td>Tamiasciurus hudsonicus</td>
<td>interior forest</td>
</tr>
<tr>
<td>Northern flying</td>
<td>Glaucymys sabrinus</td>
<td>old spruce-birch forest</td>
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<tr>
<td>squirrel</td>
<td></td>
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<td>Marten</td>
<td>Mortes americana</td>
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<td>Little brown bat</td>
<td>Myotis lucifugus</td>
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<tr>
<td>Beaver</td>
<td>Castor canadensis</td>
<td>streams, marshes lowlands</td>
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<tr>
<td>Muskrat</td>
<td>Ondatra zibethicus</td>
<td>lakes, marshes, lowlands</td>
</tr>
<tr>
<td>Mink</td>
<td>Mustela vison</td>
<td>streams, lakes, lowlands</td>
</tr>
<tr>
<td>Otter</td>
<td>Lutra canadensis</td>
<td>streams, lakes, lowlands</td>
</tr>
</tbody>
</table>

FIGURE 2 Continued
Wildlife, Ranges, Concentrations, of Study Area.


HARBOR SEAL
GRIZZLY BEAR, SUSPECTED DENNING AREA
MOOSE CONCENTRATION AREAS
WINTER
SPRING-FALL
WATERFOWL AND SEA BIRD
NESTING OR MOLTING AREA

DALL SHEEP
RANGES FOR MOOSE, BLACK BEAR, GRIZZLY BEAR, WOLF AND WOLVERINE COVER ENTIRE STUDY AREA. BELUGA WHALES ARE PRESENT IN KNIK ARM AND TURNAGAIN ARM.

WILDLIFE RANGES AND CONCENTRATIONS OF STUDY AREA
Freshwater Ecosystems

Fishing, especially for salmon, was a major subsistence activity of the Tanaina, so the margins of lakes and streams were particularly important to this study.

Ship Creek had substantial runs of salmon in the past (D. Reger, personal communication). People from Eklutna would travel to its mouth where there was a fishing camp as well as to the mouth of Eagle River. Campbell Creek and Chester Creek could have provided trout and grayling.

The Tanaina place names listed in the prehistory section below attest to fishing camps along Knik Arm and to the further importance of Ship Creek for its run of sticklebacks.

Geology

Physical Characteristics

Most of Fort Richardson is located within the Cook Inlet-Susitna lowland section of the coastal trough physiographic province. This is a glaciated lowland containing areas of ground moraine and stagnant ice topography, drumlin fields, eskers, and outwash plains. Most of the area is below 500 feet in elevation with local relief of 50-250 feet (Wahrhaftig 1965).

The fort borders Knik Arm, which is a branch of Cook Inlet, one of the deepest indentations in the west coast of North America. The banks of the Inlet are constantly eroding or being sloughed off by earthquakes and forming steep cliffs which range in height from 30 to 100 feet along Knik Arm. As the banks are eaten back the Inlet is becoming broader and shallower. These cliffs or bluffs bounding the Inlet are a very distinctive feature and in some places make access to the plateau difficult.

The other province in the study area is the Kenai-Chugach Mountains. The area was heavily glaciated during the Pleistocene and the resultant topography exhibits typical glacial geomorphology i.e., U-shaped valleys, cirques, etc.

Glacial History

Archaeologists are interested in the record of glaciation in the hope of determining the times in the past when the environment would have been suitable for human colonization of Alaska and the New World, and in order to distinguish areas where signs of early human occupation could be uncovered. The study area would not be a prime zone for remains of early peoples due to heavy glaciation until Holocene times (Karlstrom 1960). The later glacial history of the specific study area has not been resolved, but it seems clear that the Anchorage area was basically free of ice by about 10,000 years ago, although for most of the Pleistocene southcentral Alaska was a heavily glaciated zone.
Soils

The main soil categories basically correspond with the physiographic divisions outlined above.

a. Rocky soils are found in the steep, unvegetated, mountainous areas.

b. Upland mineral soils are composed primarily of silt, loam, and peat. Above 60 percent of these are shallow silt loam over gravelly loam or sandy loam on moraine hills. Twenty-five percent are fibrous peat. Fifteen percent are silty soils associated with depressions. These types are the typical soils of the lower areas of the fort.
FIGURE 3


ELEVATIONS IN FEET

PHYSIOGRAPHY OF STUDY AREA
This section will attempt to outline previous archaeological work in the Upper Inlet area with the purpose of developing an hypothetical chronological and cultural framework for human occupation in the area. The prehistory of the Upper Inlet is not well defined as yet, a situation that is not surprising given the gaps in the archaeological record. Therefore, any discussion of the cultural sequence is, of necessity, tentative, and will draw heavily on broad regional level analyses. Temporal and cultural constructs are necessary models through which archaeologists evaluate new data; these constructs may then be reviewed and refined on the basis of new information.

Review of previous research in the area is important for other reasons besides establishing or synthesizing cultural sequences. Previous studies serve as guides in formulating research questions and problems for the area, and in devising the research design and sampling strategy. The available archaeological documentation, in conjunction with pertinent environmental, historical, and ethnographic data, aids in the derivation of initial predictions about the kinds and distribution of archaeological sites that might be expected in the area.

The broad spectrum of past human behavior in the Upper Inlet has not been well studied as yet for at least several reasons: 1) research has been concentrated along the shores of Knik Arm and along road and power corridors, so the complete settlement-subsistence system has not necessarily been recovered from the archaeological record; 2) few stratified sites are known from the area, which makes it difficult to clarify questions of chronology and culture change, and; 3) researchers have focussed on questions of coast-interior migrations and interactions, and dating, to the exclusion of other problems of potential interest to archaeology. These comments are not meant to be critical, but rather to point out that there is still a good deal to be learned about the prehistoric cultures of the Upper Inlet.

The first systematic program of survey and excavation carried out in the study area was that conducted by Frederica de Laguna (1975) in the early 1930s. De Laguna was interested in Cook Inlet because data indicated that the Tanaina Indians had only recently moved into the area which had previously been Eskimo territory. She wanted to examine this shift in ethnic groups and place it in a temporal framework. Although she concentrated her efforts on the Lower Inlet and Kachemak Bay, part of her time was spent in exploring Knik Arm and in gathering much ethnographic and ethnohistoric data. De Laguna excavated at the Fish Creek site near the town of Knik, where recovery of a stone lamp similar to those found near Kachemak Bay indicated an Eskimo occupation at approximately 1000 A.D.

In 1966 excavations were resumed at the Fish Creek site under the direction of A. C. Spaulding of the University of Oregon. The purpose of his research was to attempt to fix the time of the earliest arrival of
the Tanaina in the area (Dumond and Mace 1968:3). As later reported by Dumond and Mace (1968), the house they excavated was found to be a Tanaina summer house placed on top of an earlier Eskimo site.

The University of Oregon excavated three other sites on Knik Arm that proved to be Tanaina. On the basis of this evidence, Dumond and Mace conclude that the "vicinity of Knik Arm, and probably all of Cook Inlet, was at least seasonally occupied by Pacific Eskimo, or their direct ancestors, beginning some time before A.D. 1000 and lasting perhaps as late as 1700 A.D." (p. 19).

The site that provides us with the most information about the early prehistory of the area is the Beluga Point Site on the north shore of Turnagain Arm (Reger 1976, 1978). This site provides clear-cut stratigraphic evidence of the time depth of human occupation in the Upper Inlet and can be dated on the basis of radiocarbon assays and by correlation with dated sites from other areas. Davis (1979) provides an excellent discussion of some of the other regional sequences correlated with the Beluga Point sequence. The site is worth discussing in some detail due to the period of time it spans and the cultural affiliations it documents.

Two areas of Beluga Point, which were separated by a bulldozer cut, were excavated. The stratigraphic connections between the areas are not always clear, possibly as a result of different geomorphological processes affecting the two portions of the site. Reger has called the two components Beluga Point North (B.P.N.) and Beluga Point South (B.P.S.). A brief summary of his findings at the various levels of each component follows:

a. B.P.N. I can be compared with the Denali complex, a core and blade industry first recovered from interior Alaska, which suggests a date ca. 6,500-9,000 years ago. Other similar finds have been made fairly near the project area so it might be possible that they occur on Fort Richardson. These other finds include Denali related assemblages at Long Lake (West 1975, fig 1) and the Matanuska Canyon (Bacon 1975:1).

b. B.P.N. II correlates with the Takli Birch and possibly Brooks River gravel phases of the Alaska Peninsula, which are generally characterized as illustrating adaptation to fishing and sea mammal hunting and are thought to be associated with ground slate using people of the "Eskaleut Pacific Zone" (Dumond 1977:60). Reger sees similarities between the stemmed and tapering base points of Beluga Point N. II and the above phases. This similarity suggests a date of 3,000-4,000 B.P.

c. B.P.N. III-a has been carbon dated to 790±120 years ago. This component is comparable to B.P.N. III-b but seems to postdate it stratigraphically. Reger (p. 9) feels that the B.P.N. III-b component is several centuries older than III-a, or ca. 1000 B.P.; both assemblages include ground slate and chipped slate. These may be related to the Kachmak III materials of Kodiak and the Lower Inlet.

d. Beluga Point South I (B.P.S. I) consists of 1 undiagnostic scraper and has been dated at 4,155±160 B.P.; it cannot be correlated with other sites at present.
e. B.P.S. II is compared with Norton material from the Iyatayet site, placing it roughly in a 2,200-2,500 B.P. age bracket based on Bristol Bay dates.

f. B.P.S. III and IV are difficult to correlate with other collections and cannot be dated as of now. They are more recent than B.P.S. II and therefore, are less than 2,000 years old.

The general picture presented at Beluga Point indicates that at an early date, perhaps as early as 9,000 B.P., people whose technology was associated with the Denali Complex were camped on the shores of Upper Cook Inlet. All indications are that this complex developed at an early date in the Alaskan and Canadian interior and that aspects of it are still evident at a later date in the interior (ca. 2,500 B.C. to A.D.1000) (Dumond 1976: 51, 52-54). It is unlikely that these early people are ancestral to the marine resource oriented Eskimo people represented in the later components of the site and elsewhere in the Inlet at a later date (see Figure 4).

Population replacement in the area is an interesting problem which needs to be resolved by future research. It may be related to climactic change and associated vegetation changes to which Denali hunters were not adapted (see Bacon 1977). It is interesting to note that the resources of the Beluga Point area were of interest to people of two different cultural traditions.

The data garnered from the sites discussed above are useful in constructing a rough chronology of Upper Inlet prehistory but are not particularly adequate for assessing such aspects of prehistoric life as settlement and subsistence patterns. Not much information is available for making predictions on site locations for the earliest occupations. We do know that Eskimo and earlier sites are found near Knik Arm, Turnagain Arm, and freshwater sources, but we don't really know that they aren't found elsewhere.

For the later Tanaina period there is a good deal more evidence available from both archaeology and ethnography that is useful in making predictions about the nature and location of sites. There is also more available information on the full scope of Tanaina technology and material culture to assist the researcher in reconstructing the lifestyles of these people. Several locations of past Tanaina activity and settlement are known from the Upper Inlet area and from the immediate vicinity of Fort Richardson. Information is derived from both the archaeological record and documentary sources, and will be discussed below.

De Laguna (1975), Dumond and Mace (1968), and Reger (1975) all report on artifacts and structures found in excavation of Tanaina sites in the Upper Inlet area. In general, these sites do not yield vast quantities of material goods, but do provide information that clarifies building methods (see Discussion of Structures in the Ethnography section).

To the south of Fort Richardson there may have been as many as six pit houses along the bluff at Point Woronzoff facing Fire Island. A quarter mile to the northeast is a graveyard where, until recently, the
FIGURE 4
LOCAL SEQUENCE FOR UPPER COOK INLET
ILLUSTRATING CULTURAL AFFILIATIONS

<table>
<thead>
<tr>
<th>DATE</th>
<th>INTERIOR</th>
<th>PACIFIC COAST (ESKIMO/ALEUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Tanaina (Athapaskan)</td>
<td>Fish Creek Site</td>
</tr>
<tr>
<td>AD 1000</td>
<td>Beluga Point North IIIa and IIIb (correlated with Kachemak III of Kodiak and Alaska Peninsula)</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Beluga Point South II</td>
<td>Beluga Point South II (correlated with Norton materials from NW Alaska)</td>
</tr>
<tr>
<td>BC 1000</td>
<td>Beluga Point North II</td>
<td>Beluga Point North II (correlated with Takhl Birch and Brooks River Gravels of Alaska Peninsula)</td>
</tr>
<tr>
<td>2000</td>
<td>Beluga Point North I</td>
<td>Beluga Point South I</td>
</tr>
<tr>
<td>3000</td>
<td>Long Lake Site</td>
<td></td>
</tr>
<tr>
<td>4000</td>
<td>Beluga Point North I</td>
<td></td>
</tr>
<tr>
<td>5000</td>
<td>Beluga Point North I</td>
<td></td>
</tr>
<tr>
<td>6000</td>
<td>Beluga Point North I</td>
<td></td>
</tr>
<tr>
<td>7000</td>
<td>Beluga Point North I</td>
<td></td>
</tr>
<tr>
<td>8000</td>
<td>Beluga Point North I</td>
<td>(both sites related to Denali complex of interior Alaska)</td>
</tr>
<tr>
<td>9000</td>
<td>Beluga Point North I</td>
<td></td>
</tr>
</tbody>
</table>

1See body of report for specific dates and citations.
roof portion of a spirit and the remains of a fairly recent, ca. 1900, sweat house could be seen (Reger n.d.).

One of the pit houses was excavated in 1967 by Alaska Methodist University. It yielded one dog skull, some fire cracked rocks, and some wooden structural members.

To the north of the post is the village of Eklutna, presently the only native village in the area. This village has been in existence as a winter settlement at least since the 19th century. In the summer months the villagers would disperse to various fishing camps at Fire Island, Ship Creek, and the mouth of Eagle River (Chandonnet, 1979; Daniel Alex, personal communication).

In the 1880 census several other Tanaina villages were noted along Knik Arm (see map; Petroff 1884). Some of these villages may have been misplaced on the map and/or misidentified, but it is clear there was more than one settlement in the area. For example, what Petroff labelled Zdluiat was probably Eklutna, there may have been a village at Anchorage, and house pits and fortifications were seen on the north bank of Ship Creek. To the north of Fort Richardson, besides Eklutna, there is evidence of a village on the north bank of Moonshine Creek (De Laguna 1975:140.)

Near the mouth of the Knik and Matanuska Rivers there was a village that De Laguna thinks was the Kinik of Petroff's map. Another village called Niteh was located on the Matanuska River and was not abandoned until the 1930's (J. Kari cited in Carberry 1979:141).

Other villages and fishing camp sites are known from the western side of Knik Arm. Undoubtedly, the local Tanaina did not see the Arm as a boundary to movement and a group may have utilized the resources of both sides.

Another line of evidence for Tanaina use of the project area is provided by linguistics. Dr. James Kari of the University of Alaska, Alaska Native Language Center, has compiled a comprehensive list of Tanaina place names for the Eklutna area (as reprinted in Carberry 1979: 144-145). Those names related to Fort Richardson are listed in Figure 5. The names indicate the importance of fishing in local subsistence patterns in that many indicate the location of specific fishing activities.

Several small scale surveys have been done on, or near, the fort. In 1978, rights-of-way for the Chugach Electric Association from the University substation to the east terminal in Knik Arm were surveyed for cultural resources.

A large section of this right of way (between the Glenn Highway and Knik Arm) passed through Fort Richardson. The only cultural remains found were related to recent military activities (Veltre, 1978; Karen Workman, 1978).

In a reconnaissance of a Fort Richardson land withdrawal area located in the Chugach Mountains no cultural resources were found (Holmes 1978), nor were any found in a survey of the Malemute Air Assault Strip (Bacon 1974).
Benka (Big Lake) - Lake Clunie

K'qiydulghakt (where they put up fish)-point north of Eagle Bay, "Whitney."
This name refers to a fishing location at this unnamed point. Kaydulrak is the anglicized version.

K'eitaydeght (high place)-bluff and point two miles north of Eagle River mouth.
Kethtaydat is the anglicized version.

Tsaitl'uu-gully half mile north of Eagle River mouth.
Chathlu is the anglicized name.

Nuk'elehitnu (spawn again creek)-Eagle River.
Luther Kelly used the term "Yukla-hitna" in describing this river in 1898. Kelly's commander, Captain E.F. Glenn, abbreviated the name to Yukla Creek.

K'ults'ey (wind against it)-Mt. Magnificent.
K'ults'eytnu (wind against it creek)-Meadow Creek

Liq'ata Bugh (fish soup shore)-creek from Mt. Yukla 18 miles up Eagle River
Likatabo is the anglicized version.
Nantutsaghala (?-pack)-mountain at head of Eagle River on south side.
Nantucharala is the anglicized version.

Ts'ak'dinlen'at (where it flows out)-small creek from Green Lake.
This was important fishing site on Knik Arm. The Alex family fished here annually until 1918.

Dgheyaytnu (needlefish creek)-Ship Creek.
The creek was named by the Tanaina for its run of needlefish (or sticklebacks).
This was an important fish site for Knik people well into this century.

Tak'at (dipnet platform)-bank on beach at Ocean Dock.
It is said a pole fish fence was built here and a fisherman would stand out on it and dip net salmon.
Tak'at Qenuts'en (dipnet dock across from)-one-fourth mile from dock toward Anchorage.

Tsanstnu (grass creek)-Chester Creek.
Ethnographic data provides the basis for predicting and understanding many of the manifestations of past human behavior that are preserved as archaeological evidence. Ethnographic studies furnish the "ground work on which archaeological interpretations can be built, both in regard to the behavioral components of past technologies and in regard to the wider realm of ecological relationships between prehistoric societies and their environments" (Nelson 1974:64). Through the means of ethnographic analogy it is frequently possible to suggest viable hypotheses about past human behavior that enable us to piece together the evidence gathered from the archaeological record in terms of behaviorally meaningful patterns.

In this case, there is a direct correspondence between the ethnographically known group and a portion of the archaeological record. Clearly, knowledge of the ethnographic data is vital if we are to be able to predict and interpret Tanaina site distributions.

The Tanaina Indians, who were the inhabitants of the Cook Inlet-Susitna Valley region at the time of white contact in the late 18th century, are a subgroup of the most widely spread Indian group of North America, the northern Athapaskans. The Athapaskans, who are related by language, occupy a vast stretch of the northern coniferous forest where they have adapted to a relatively inhospitable environment through the use of a diversified subsistence strategy. In some areas of northern Athapaskan habitation inland fish resources are extremely important; in other places hunting of various game animals is the main subsistence base. The Tanaina are unique among northern Athapaskans in that the sea coast is included in their territory and marine resources were locally very important.

Much of Tanaina material culture and many extractive techniques were probably borrowed from the Eskimo who neighbored the Tanaina to the east in Prince William Sound, to the west on the Alaska Peninsula, and to the south on Kodiak Island. In fact, most evidence points to an Eskimo occupation of the Cook Inlet region before the Tanaina moved into the area sometime after 1650 A.D. (See Archaeological Background Section, above). The Tanaina probably moved to the coast from the neighboring interior where they had ties with the Ahtna of the Copper River drainage during late prehistoric times (Reger, n.d.:16-17; Davis 1979:59-60).

Tanaina adaptability did not stop with borrowing from the Eskimo. Archaeological and ethnographic evidence points to the fact that after white contact the Tanaina, like many Athapaskan groups, quickly adopted many European customs and goods (Nelson 1975:284-290). The Tanaina in particular were much more receptive to European material goods than were their more conservative Eskimo neighbors (Van Stone and Townsend 1970).

The most complete ethnographic account we have of the Tanaina is that of Osgood (1937). Obviously his work was done years after many of the
aboriginal lifeways had been altered by contact with both Russian and American cultures. Nonetheless, it is still extremely useful to review the subsistence data reported in Osgood's study for the insight it may provide on aspects of resource exploitation and settlement that may be preserved in the archaeological record.

According to Osgood, the following marine species were exploited in the Upper Cook Inlet: humpback salmon, dog salmon, silver salmon, red salmon, king salmon, herring, candlefish, tomcod, hair seal, and beluga.

For the Tanaina in general, fish was the most important article of diet but in the Upper Inlet (centered on Knik Arm) caribou was equally, if not more, important. The Eskimo kayak was adopted in the lower Inlet where sea products were particularly important while in the Upper Inlet the birch bark canoe remained in general use.

Other land mammals, besides caribou, contributing to the diet in the Upper Inlet area were beaver, moose, bear, porcupine, rabbit, muskrat, and squirrel; birds were also quite important. Van Stone (1975:30) states that moose are more abundant in the Tanaina area than in most northern Athapaskan territories and that black bear are particularly important to the Tanaina. Sheep and goat were also hunted quite intensively here and contribute a good deal to the food supply. Also, Van Stone and Townsend (1970:157) mention that caribou were captured in carefully constructed surrounds; details of construction are not given.

Vegetable resources did not play a large role here, nor do they anywhere in the north. Berries were important in July and August. Particularly important in the Upper Inlet, was a parsnip like root (Hedysarum borealis) that was dug in the mudflats along the shore of the Inlet. This root was abundant enough and desired enough elsewhere that it became an important trade item.

The Tanaina constructed several different sorts of structures. The most permanent was the winter house or "barabara" (from the Russian term). According to Osgood (p. 55) the dimensions of the largest of these rectangular structures were 20 X 40 feet, but most were much smaller. Barabaras were semisubterannean with gabled roofs covered with thatch or birch bark. Inside were a fireplace, sleeping platform, and several small sleeping compartments. Additional rooms might be added to the main part of the house for use as sweat house, menstrual lodge or as extra sleeping rooms if needed.

Summer houses were similar but more simple than winter houses. Sometimes the people would live in the smokehouses with their catch during the warmer months.

This description is of a general Tanaina pattern but Osgood provides an even more specific description of Upper Inlet winter houses. These were excavated to a depth of 5 feet below the surface and had ridgepoles that might be 12 feet above the floor. More than one nuclear family usually lived in a house and four or five houses in one place constituted a large village.
Although such structures would eventually fall apart and the wood might rot there is still a good possibility that some features would be preserved in the archaeological record. The remains of these semisubterranean houses are usually discovered by recognizing depressions in the ground.

Other structures associated with Tanaina villages include caches, which are elevated, miniature, cabin-like structures, and drying racks for meat and fish.

The Tanaina also used less permanent structures when traveling or hunting away from the village. The lean-to was probably used the most but there is some evidence of the teepee in the Upper Inlet (Osgood 1937:65). Van Stone and Townsend (1970:159) concluded, on the basis of their excavations at the Old Kijik Fish Camp Site, a Tanaina ruin, that there were few if any cabins at this site. They suggest that the people must have lived in tents while pursuing fishing activities during the warmer months.

In terms of adaptation the Tanaina probably deviated somewhat from the general Athapaskan pattern described by Van Stone: "Wherever they live, Athapaskans have exploited their total environment" (1974:121), and "there are very few subsistence methods not shared by all Athapaskans" (1974:122). This difference was due to the relative abundance of food resources available in the Cook Inlet region, particularly salmon and sea mammals, which allowed a greater degree of sedentism than was possible for inland hunters.

This emphasis on coastal and riverine resources as well as on the resources of large inland lakes (i.e., Lakes Iliamna and Clark) does not mean the Tanaina disdained other resources; to the contrary, the information presented above shows that a wide range of species were exploited. It is likely that the Tanaina were capable of the more traditional, inland pattern of exploitation if forced into it by circumstances. Davis (1979:57) suggests that "increasingly smaller and more mobile groups might be expected to exist further (inland) as fish resources, (particularly salmon) decreased and large game hunting became the primary means of subsistence.

On this basis it is possible to predict that larger Tanaina settlements would be located near water bodies in order to exploit marine and riverine resources. Smaller camps and hunting stations would be located further inland in order to exploit other, less concentrated, resources. Such sites are probably less visible in the archaeological record since they are records of brief encampments.
The history of Fort Richardson is obviously closely associated with the history and growth of Anchorage. This chapter will discuss some historical episodes that may have left a visible record on Fort Richardson lands both before and after they were withdrawn for military purposes.

**Russian Influence**

Russian fur traders exploited Alaska from the late 1700's until the territory was sold to the United States in 1867. Although the Russians did not establish any permanent settlements on the eastern shore of Knik Arm, they did pass through the area while travelling and to trade with natives. The Russians also sent missionaries and most of the Tanaina adopted some of the beliefs of the Russian Orthodox Church, at least officially. The Orthodox Church at Eklutna may have been built at least as early as 1870 (see Chandonnet 1979), and the influence of the missionaries in the area must have predated church construction.

As a result of this contact, the potential exists for finding articles of Russian manufacture on Fort Richardson. Other Tanaina villages beside Eklutna were extant during the Russian and early American period and the native population was greater than it has been in the 20th Century. These villages are discussed in the section on prehistory.

**Trails**

Perhaps the earliest Americans to arrive in the Anchorage area were miners who began exploring the local creeks and valleys by the 1890's. Soon a network of trails developed tying the Anchorage area to various other settlements and mining districts. The most important settlement in the area before the birth of Anchorage was Knik which had become a commercial center supplying the interior as well as the Upper Inlet area (Carberry 1979:106).

The Iditarod trail, which ran from Seward to the Iditarod mining district near Nome, ran up the north side of Turnagain Arm then branched out to cross the mountains through Crow Creek Pass or Indian Creek Pass. This trail has been designated a National Historic Trail by the Secretary of the Interior. Once through the mountains the trail skirted Knik Arm to Eklutna and then turned west toward Knik. There were several roadhouses along this stretch (Carberry 1979:107). After Ship Creek (later to be called Anchorage) was settled, the trail ran from the Indian Creek Pass to the headwaters of Ship Creek and down the length of the creek to Knik Arm. By 1916, after railroad construction had begun, the Alaska Engineering Commission ran a telegraph line over this route.

Later, after Anchorage had become established, another branch of the Iditarod detoured to the town. It ran along Knik Arm and turned east near Otter Lake in order to swing around the Eagle River Flats.
When work began on the Alaska Railroad in 1915 there were only two homesteaders in the Anchorage Bowl area. One was at the mouth of Ship Creek and the other was J.P. Whitney whose place was further up the creek on present day Fort Richardson land. Whitney Road was named after Whitney, who supplied meat and produce to the growing town.

There were other people living in the area before the railroad as 1912 cadastral survey plat of the area along Knik Arm shows. An abandoned roadhouse and cabins are indicated just south of the Eagle River Flats and another cabin on the shore of Knik Arm at Six Mile Creek. These cabins may have belonged to trappers or miners who were not homesteading per se.

The Anchorage townsite and surrounding unsurveyed areas were mapped in 1916 preparatory to the selling of lots in the new town by the General Land Office. By this time several other houses or cabins as well as the railroad and an associated wagon road are indicated on Fort Richardson land (BLM: Cadastral Map Office, Survey Maps 1916). See Figure 6.

By the time the original Fort Richardson (now Elmendorf AFB) was established in 1940 quite a few homesteads were entered on what is now part of the military reservation. The Army acquired these lands in the early 40's. Many of the homesteaders had been of Finnish extraction, as their names indicate (see Figure 7).

**Railroad**

The history of the Anchorage area is closely tied to the construction and operation of the Alaska Railroad, the only federally constructed and operated railroad in the country. The railroad runs through Fort Richardson, so it is necessary to take its history into account.

Construction was begun in 1915 by the Alaska Engineering Commission. A large tent city erupted at the mouth of Ship Creek when those looking for work flocked to the area. The stretch of rail between Ship Creek and the Matanuska coal fields had top priority and the rails were laid as far as Eagle River by fall 1915. It took another year until the trestle bridge over Eagle River was completed. During this time construction workers appear to have camped on the river bank near the bridge; tents and cabins can be seen there in pictures taken by the Alaska Engineering Commission (Figure 8).

Later a section house was built near the bridge to house those responsible for the section of track running from just north of the terminal yards in Anchorage to Eagle River. During World War I Army guards were also stationed here to protect the bridge.

After the war the Eagle River section was closed down and the Whitney section lengthened. The Whitney section house stood on what is now Elmendorf AFB: about a mile closer to town than the Whitney homestead; a sign presently marks its location (Carberry 1979:82).
Township N° 14 North Range N° 2 West of the Seward Meridian, Alaska.

The above map of Township No. 14 North Range No. 2 West of the Seward Meridian, Alaska is strictly conformable to the field notes of the survey thereof on file in this office which have been examined and approved.

U.S. Surveyor General's Office.

Seward, Alaska June 29, 1927.

Charles L. Allinder
Surveyor General.
Military

In 1939 there was only one active military post in Alaska, the Chilkoot Barracks near Haines. As the world situation got worse, construction was begun on Elmendorf Field in May 1940. Fort Richardson was begun a month later. The cantonment area of the fort was where Elmendorf AFB stands now. By 1942 Fort Richardson was home to roughly 16,000 men, many of whom lived in temporary shelters, including dugouts (U.S. Army in Alaska, Pamphlet 1972).

The present Fort Richardson was established in 1950 on the eastern portion of the military reserve after the Air Force became a separate branch of the military in 1947. It encompasses 71,372 acres of land and is important as the headquarters of 172d Infantry Brigade.
These photographs were taken by the Alaska Engineering Commission in 1916 and 1922 during the early years of the Alaska Railroad. Remains of some of the structures seen here can still be found although the vegetation has regrown. Courtesy of the Anchorage Historical and Fine Arts Museum, Alaska Railroad Collection.
PART II: RESEARCH DESIGN AND IMPLEMENTATION

RESEARCH DESIGN

It has long been recognized that the form and location of human settlement bears a definite relationship to the strategies used by human groups to exploit the natural environment in order to provide subsistence. This relationship is the case in the present as well as in the past, but it is more difficult to understand the past where the data base is limited to the archaeological record and environmental reconstructions. The goal of archaeology is not just to locate sites but to understand them within the context of the environment in which they existed and in terms of the human behavior that formed them. Sites occur across the landscape in meaningful patterns and with definite associations to various landforms, natural features, and resources; however, interpreting these patterns and associations is not always easy with our present knowledge and data base. Archeologists work under the assumption that if the biophysical environment is structured then there will be structure to human utilization and exploitation of the environment and that those structures can be defined and analyzed; different sorts of sites will be found in different environmental zones.

King, Hickman, and Berg (1977:147) caution us to remember that not all sites are settlements in the sense of long term, relatively permanent, groups of shelters. Sites can also be the material remains of hunting lookouts or blinds, butchering locales, caribou fences, fish wiers, quarries, or any other event that leaves its mark in the archaeological record. We need to understand and interpret all these site types if we wish to obtain an accurate picture of the past, not just in terms of technology, but also in terms of less tangible social and cultural processes.

The study of the distribution of human groups relative to material resources and the resultant social and cultural patterning is often termed "cultural ecology," and will be the framework of this survey.

Research Problems

The data resulting from the survey will be used to address several archaeological problems as well as to help fulfill the Army's obligation to inventory sites on Fort Richardson. The data from regional surveys such as this can be used to infer demographic patterns and to help understand the reasons behind specific settlement systems. The data can give us a representative picture of types of archaeological and historic sites and thus shed light on the range of variability of sites within the region. If a statistically valid sampling strategy is implemented it is possible to infer the total population of sites in the study area.

Broad based area studies are particularly necessary in the Upper Cook Inlet region where there is little data available on areas distant from
the Inlet or far from roads. Ethnographic sources indicate a variety of subsistence and procurement activities that are presently undocumented in the local archaeological record; for instance, sheep and caribou hunting. It may be that such activities do not leave many material remains or it may be that archaeologists have not looked in the appropriate places.

More specifically, as discussed in the archaeological background section above, in this particular area there are many problems in the interpretation of the archaeological record and many questions of chronology and cultural change that still need to be answered. These include:

What was the nature of the first human colonization of the area after the glaciers retreated? More information is necessary to supplement data from early levels at the Beluga Point Site.

De Laguna (1975) and Dumond and Mace (1968) have documented Eskimo occupation in the Upper Inlet dating to at least 1000 A.D. By the evidence of a stone lamp this occupation can be related to the Kachemak III culture of the Lower Inlet and Kodiak Island. The late stages, extent, and nature of the Eskimo occupation needs to be further understood. Was use of the Upper Inlet merely seasonal or sporadic? If so, what aspect of the subsistence system is exhibited in the Upper Inlet?

The Tanaina appear to be fairly recent immigrants to the Upper Inlet. Reger (n.d. 1978) suggests they may be related to the Ahtna of the Copper River drainage. More evidence is needed to clarify this association and to explain Tanaina movement into the area.

There is fairly good documentary evidence for early Russian and American activities in the Upper Inlet - but the location and identification of historic sites and other features can help answer questions about the actual daily existence and activities of early settlers and on their degree of contact with aboriginal populations.

Other standard archaeological/anthropological questions could well be addressed for both Tanaina and Eskimo occupations of the area. For instance, the nature of inland/coast interactions and relationships, subsistence and settlement patterns, resource scheduling, trade relationships, social organization, demographic patterns, technological adaptation, intrasite spatial analyses. This list is not exhaustive but merely attempts to outline some research questions that could be pursued on a regional or site by site basis in the Upper Inlet.

Clearly, there is room for much future work before we truly begin to understand the prehistory of the study areas.

Predictions and Sampling Strategy

On the basis of the background information outlined above, it was possible to make some initial predictions about prehistoric and historic land use on Fort Richardson. These predictions were tested through field work and have been further refined in order to aid future researchers. The predictions were the basis of stratification in the sampling design and are discussed below.
If the study area to be considered were an undifferentiated plain, the most efficient and informative means of sampling for archaeological sites would be a form of random sample wherein each sampling unit has an equal probability of being selected. One reason this form of sampling is so simple as to detract from its utility and usefulness is that it requires few assumptions about the nature of the area or material under study; it does not take into account any theoretical or empirical knowledge, such as environmental data or cultural ecology, that may be available to differentiate the universe under study.

A second practical, but not theoretical, disadvantage to simple random sampling that occurs when the universe is a spatial unit is the possibility of uneven coverage of the area; by chance all the selected sampling units may be clustered in one area. If inferences are to be made about patterning across the landscape this can be a real shortcoming.

With these considerations in mind, it was decided to sample Fort Richardson in a manner that would insure even coverage, take into account a prior knowledge of the environment, yet still maintain an element of randomness. It is seldom the case that any area (universe) can be considered as an undifferentiated plain and the area of Fort Richardson certainly does not meet this criteria in that it encompasses several different environmental and physiographic zones or strata. These were dealt with as follows:

1. The first phase of the sampling strategy was a systematic interval sample built on transects 100 meters wide.

Systematic interval sampling is an accepted technique for providing a statistically valid regional sample for purposes of predictive modeling of site type and locations. Ebert, Judge, and Hitchcock (1975) recommend interval or evenly spaced transects oriented counter to the grain of the ecological strata as the first stage in a regional design, especially where not much is known about prehistoric settlement patterns. Systematic interval samples have the advantage of providing more even areal coverage and a better basis for spatial analysis than do random samples. Redman (1974:13) also finds that a "systematic sample is not only easier to carry out, but often yields a more accurate estimate of the values of a total population" than does a random sample where fairly large areas may be excluded from the sample (i.e. the sample proportion is relatively low). Furthermore, it is possible to make systematic interval samples more reliable by drawing what is essentially a different random start for each set of transects.

The Fort Richardson area was stratified into the two basic physiographic zones (see Figure 3), mountain and lowland, for the purposes of this sample. These physiographic divisions correlate well with vegetation and faunal distributions (see Environmental Section). The lowland sector was judged to be a more likely area for human activity and cultural remains on the basis of ethnohistoric data, and thus was sampled more intensively. Data indicates fish and marine resources to be more important to the Tanaina than upland resources such as caribou.
Multiple systematic transect sample, random start for each set of transects:

set 1
set 2

* random start from position 1-10,
arbitrary interval between transects

SCHEMATIC DIAGRAM OF SAMPLING STRATEGY
A base line was laid on the map running parallel to the physiographic division between lowland and highland in a northeast to southwest direction. (see Figure 10). Five 5,000 meter intervals were checked off on this. These intervals were further subdivided into ten 500 meter wide transects. A number was picked from a random number table to select the position of the first transect. The transects run perpendicularly from the base line to the edge of the fort. It was expected that four people would be able to intensively test and survey a 100 meter wide "transect." located within the 500-meter wide subdivision. After the first set of transects was completed, another random start was selected for the next set of transects. See Figure 10 for illustration of the sampling scheme.

Each set of transects provided roughly a 2 percent coverage of the 71,356 acres of the fort. The term "roughly" is used because the fort is not an even geometric shape and it was thought more useful to survey from boundary to boundary than to standardize the length of the transect. The 2 percent figure is based on a 100 meter wide transect selected from a possible 5,000 meter interval section on the base line (100/5000=1/50=2%).

For reasons to be outlined below it was seldom possible to survey a complete transect so some statistical rigor is lacking, yet the method has other advantages besides the quantitative ones. In employing a sampling scheme it is often necessary to overlook minor aspects of statistical imprecision and instead look to such rationale as:

a. The need for careful planning in laying out a probability sample which has benefits for other aspects of the study.

b. The need to state criteria for stratification clearly and explicitly which allows others to assess the results more clearly.

c. The fact that a probabilistic sampling design forces the researcher to survey all areas, not just the ones his judgement tells him will be fruitful.

2. In the background section presented above, the study area is discussed in terms of various environmental and cultural criteria than can serve to stratify the area into subunits that are theoretically more internally homogeneous than the total area. The likelihood of finding cultural remains and the sorts of remains found in each of these may be different so they can be sampled separately.

The second part of the sampling strategy will utilize prior information, obtained from background research into the ethnography and archaeology of the area, in order to concentrate on areas or strata predicted to have high probability of cultural remains. In general terms, the high priority strata for both prehistoric and historic sites are predicated on specific ecozones or ecotones. These areas can be summarized as follows:

a. The shore of Knik Arm. Most of the previously known sites in the area have been found close to the Arm. This evidence seems to reflect traditional Tanaina and Eskimo dependence on marine and fish resources.
Furthermore, as a consequence of the steep bluffs that bound Cook Inlet and Knik Arm, De Laguna suggests "only at the mouths of streams is it possible, in most places to come up on the plateau, and it is only here of course, that we should expect to find village sites" (1975:12).

b. Along river and stream margins. These are good areas for exploiting fish, small mammals, and birds, and are also water sources.

c. Around lake and pond margins. The reasons are similar to those outlined above.

d. Elevated areas within the inland forest, high brush, and transitional areas. These high areas provide vantage points for sighting game.

e. Raw Material Quarries.

The areas outlined above concentrate primarily on the water-land ecotone. It was hoped to intensively survey all river, stream, and lake margins on the fort, but this was not possible in the time period allowed. Most of the bluff along Knik Arm, as well as Ship Creek, Otter Lake, Lake Clunie, and parts of Eagle River and Fossil Creek were intensively surveyed. Other smaller streams and ponds were encountered and dealt with in the course of surveying transects.

Similarly, elevated hills and knolls were given particular attention when transects intersected them. No outcrops of slate or knappable rocks were known previously or discovered.

3. A third aspect of the research strategy involved intensive survey in some areas known, on the basis of background research, to have a likelihood of historic American remains. Crews surveyed adjacent to the railroad right-of-way because maps and other evidence indicated the railroad followed earlier trails. It was possible to find indications of old wagon roads, railroad construction camps, and homesteads near the right-of-way.

These three strategies combined, i.e., systematic interval sampling, intensive survey of specific zones stratified on archaeological and ethnographic evidence, and survey along an historic right-of-way provided the means of identifying sites and making probabilistic statements about past human utilization of various area of the fort. Furthermore, this coverage provides a basis for further stratification and survey in the future.

Unfortunately, the Eagle River Flats, an area known to have been used historically by both the Tanaina and Americans, was off limits for the survey because it is a military impact zone. This area was judged to be a high probability zone for both archaeological and historic remains.

Implementation and Data Recovery

The field crew consisted of four people divided into two, two person teams for the purpose of note taking. Each crew was headed by a person
with an M.A. in anthropology and extensive field experience. The other two crew members had B.A.'s in anthropology and also had field experience.

For the probabilistic portion of the survey, crew personnel generally drove to a spot where a road crossed the transect line. In mountainous areas and in the remote NW corner of the post the crew was transported to the beginning of the transect by helicopter. Orientation was achieved using compasses, maps, and landmarks. Much of the time in wooded areas compasses were the only means of staying on the transect. (See map for actual transects.) We found it was actually quite easy to stay on course, contrary to the experience of some other researchers. Luckily for us there were enough landmarks in the form of road crossings, railroad crossings, buildings, and topographic features to check our position frequently.

Crew members were spaced 20 meters apart and attempted to cover an area of 10 meters on each side. Special attention was given to high spots, transitional zones, and natural or manmade disturbances that provided a view of the subsurface. Foxholes were particularly useful for viewing soil strata.

The crew chiefs were responsible for deciding when and where tests would be excavated. In general, the criteria for digging pits were that the location be either well-drained and elevated or well-drained, level and suitable for lookouts or camps. Subsurface testing was not systematic but was based on judgement.

A log was kept of all test pits excavated, including information on their location, size, depth, soil strata, and cultural remains.

In wooded areas of the post it was generally only possible to cover the 100 meter wide transect. Above treeline we were able to reconnoiter a broader area due to a clear field of vision. The extra area should not be taken into account in a statistical evaluation. After bushwacking through trees and brush to follow the transect it was usual to return to the vehicle by walking on roads. The roadsides were surveyed at this point as crews walked along. Once again, this aspect of the reconnaissance was not part of the probabilistic sample.

One environmental zone that, in the end, received very little attention in terms of on ground reconnaissance was the lower slopes of the mountains in the transitional zone between interior forest and treeline. These areas consisted of extremely dense alder thickets, frequently with equally dense brush and devils club underneath. Walking and pathfinding was so difficult and time-consuming that it was decided to delete those sections of the transects that occurred in brush. This zone will have to be further evaluated at some point, but at the present it seems to be in little danger since few army activities are carried out on the lower slopes of the Chugach.

Another means of locating sites was from aerial reconnaissance. Although flight plans were never systematized, whenever a helicopter was
used to take crews out to the field the opportunity was used to look for structures, pit houses, etc. Several cabins were located in dense vegetation in this way.

Some transects ran through military impact zones that were off limits to us due to the possibility of encountering live ammunition. These portions of the transects were dropped from the sample. See Figure 11 for locations of impact zones.
FIGURE 11

HELICOPTER PAD
+ ARTILLERY FIRING POINT
Δ MORTAR FIRING POINT
□ DROP ZONES:
  1. MALAMUTE
  2. NEIBUR
  3. CLAXTON
□ EAGLE RIVER FLATS
□ IMPACT AREA

FIRING RANGES:
A. MCCLAUGHLIN
B. 40-90
C. GREZELKA
D. OATES-MCGEE
E. STATLER-NEWTON
F. FIELD FIRE
G. ZERO
H. RECORD
I. HAND GRENADE
J. BIATHLON

MILITARY ACTIVITY AREAS

R2W, T14N—RANGE AND TOWNSHIP
PART III RESULTS AND RECOMMENDATIONS

RESULTS

Cabin #1: Site ANC-263

This deteriorating cabin was located by helicopter in a small manmade clearing about 100 meters east of Tokle Creek on the hillside above Ship Creek. The clearing is about 50 meters in diameter and is surrounded by a dense white spruce and aspen forest. Willows and grasses are growing luxuriously in the clearing.

The cabin was built of horizontally placed round logs with the bark apparently left on (although most has rotted by now). The joints were square notched and a saw was used. The cabin floor has been leveled, but not excavated to any depth, and dirt is piled up around the outside. Moss and wooden slats nailed between the logs were used to chink the cabin. The roof has fallen in but consists of corrugated tin over wood, canvas and tar paper.

Many modern looking nails were used in construction along with a steel door latch. The door, door frame, and window frames are constructed from what seems to be machine sawn lumber.

The doorway of the cabin is oriented almost directly west towards Tokle Creek. There is a window in the east wall. The north side of the cabin has almost totally fallen in.

The cabin may have been partially burned since some of the logs are blackened. There are some 5-foot high spruce trees growing inside so it has been ruined for some time.

The dimensions of the structure are: 4.5 meter north and south walls, 3.8 meter east and west walls. The height of the extant walls was .92 meters at the NW corner.

Near the cabin are at least three rectangular pits (see map), two filled with trash and one empty. Surrounding the cabin and for several meters downslope large quantities of flattened and rusted tin cans could be crunched underfoot. These were already overgrown with vegetation. The number of cans seems to indicate fairly intensive use of the cabin.

An olive oil can labeled "San Antonio," a variety of prepop-top beer cans, a rusted oil drum, and the frying pan section of a mess kit stamped "1943US" and a Folgers coffee can with a 1946 date were noted. Another find was a scrap of newspaper which mentioned the movie "The Informer" which won an academy award in 1935.
About 30 meters north of the cabin was a distinct trail exhibiting two tracks for vehicles. This trail died out about 1/4 mile to the east. To the west it crosses Tokle Creek then turns north and intersects some ski trails (see Figure 12).

**Significance**

On the basis of the recent age of this cabin as evidenced by the nature of the construction material and the date of the trash found there it would seem that this building is not eligible for inclusion in the National Register of Historic Places. It is possible that the cabin is older than the 1930's or 40's and may perhaps be associated with the Iditarod Trail but this is difficult to prove in the absence of historical records (no claims were filed for this land).

Furthermore, this cabin does not seem likely to qualify for the National Register on the basis of its structural qualities or its likelihood of adding to our knowledge of twentieth century European Americans.

**Cabin #2 Site: ANC-264**

This cabin was also first located from the air. It is located just to the east of a faint trail in a cleared area where some of the stumps are old enough to have thick moss growing over them. The surrounding vegetation is typical of inland forest, with grass, dogwood and alder regrowing in the cleared areas. The terrain slopes toward the Eagle River Flats to the NW.

This cabin is small and the floor is subterranean. Dirt is heaped around the outer walls to a height of .5 meters. The gabled roof was constructed of log's split in half, plywood, and tin sheeting covered with sod; it is now collapsed.

The walls were constructed of unpeeled logs. The corners are notched both in the square and saddled fashion.

The floor of the cabin is dirt. Inside were a metal bunkbed, a wooden folding chair, a table constructed from wooded planks, some sheet metal including a stove pipe protector and some new looking pepsi cans. Just outside the door was a strip of wood with a row of coat hangers on it painted institutional green.

The door and windows were on the south wall of the cabin.

The cabin was small and roughly square. Its dimensions were: west wall, 3.53 meters; south wall, 3.85 meters.

The cabin is slumping to the SE but is still intact.

In the area around the cabin a mossed over stack of 2 X 6 boards, some sheet metal, part of a military mess kit, plywood boards, and some faint rectangular pits were noted.
Site ANC-263: The ruins of a small cabin.
Unfortunately as a result of torrential rain we were unable to take satisfactory photographs of this cabin or draw an adequate map. To the NE was a raised soil rectangle about 3 feet square with a wooden foundation. This is filled with a dark organic looking soil and may have been the base of an outhouse.

About 15 meters to the west of the cabin was a pile of coal covered with deteriorating canvas and some aviation fuel cans.

Two faint trails lead from the cabin to the south but die out after about 200 meters.

Significance

The quantity of military equipment near this cabin gives the impression that it was used by the military at one point. The cabin itself could predate military usage but it is difficult to judge this without better records. A map of the area in the early 1940's indicates that several homesteads existed south of the Eagle River Flats and records at the Bureau of Land Management indicate the land in this section was claimed by a succession of individuals from the early 1920's on. This cabin may have been associated with a homestead although it seems a bit small and crude for this purpose. In light of its apparent recent age and condition it would not appear to be eligible for the National Register of historical Places.

Structure 3: Site ANC-265

This is the remains of a tent platform or some other sort of structure. It consists of a rectangle of plywood, 3.7 meters by 4.5 meters, which have rotted away to reveal a pit or cellar underneath, about 1 meter deep. The perimeter is bordered by square, rough hewn logs and rotted canvas is scattered around the area.

At the north end of the rectangle is a pile of wood that may have been part of the superstructure. A rotted door and window frame lie on the ground to the south. A pile of illegible, rusted cans is nearby.

The cabin is next to a fairly definite road or trail. Several hundred meters north on the road was a pile of objects including a zinc washtub, large square tin cans, aluminum pot, wood and an old Hill's Brothers coffee can.

Near this pile is some tar paper, a long (ca. 10 feet) wooden plank table, aluminum tea kettle, and stovepipe.

On the east side of the trail across from the structure is a large shaft dug into the gravel. This reaches a depth of about 2 meters and is an inverted cone in shape. Some wooden timbers stick out on the bottom. Next to this pit is a large trash dump. In it was a 1936 patent Hill's Brothers coffee can.
STRUCTURE 3: SITE ANC-265

Schematic Sketch of Tent Platform Location

TENT PLATFORM
FIGURE 14
Significance

This structure may have been a homestead or squatter's "cabin." The number of household goods around the site, the quantity and variety of tin cans and the nonmilitary nature of the goods argue for one of the above interpretations. Records at the Bureau of Land Management show that Thaddeus McGrath filed for a homestead in this section in 1934 then relinquished his claims in 1939. Then William Chambers claimed the land and held it until it became a military withdrawal in 1942. The words "Hot Springs" were appended to both claims. We didn't notice any springs, nor are any noted on the maps. This site does not seem to meet National Register criteria due to its recent age and deteriorated condition.

Eagle River Railroad Bridge: Site ANC-266

Several structures are standing on the banks of Eagle River near the railroad bridge.

#1

On the southeast side of the bridge there is a small cabin like structure, 3 meters by 1.5 meters, constructed from small sapling size birch and alder logs. The structure is not chinked at all, although the corners are saddled notched very nicely.

Based on the condition of the wood the cabin does not seem very old. It may have been a temporary shelter used during military maneuvers.

#2

On the NW side of the bridge are the remains of a large, well constructed cabin. The dimensions are 6.3 meters by 5.2 meters. Soil is banked around the outside of the walls which has preserved the lower two to three log courses. The upper portions of the cabin and the roof have fallen in so it is difficult to know the manner of construction. The cabin is chinked with both moss and lathing. Many nails were used in construction.

Surrounding the cabin was a good deal of junk and trash including rusted cans, glass, tin sheets, and many indeterminate, rusted metal pieces.

About 25 meters to the south is a squarish pit and some fallen boards that seems to be a latrine.

To the southeast is what appears as a raised rectangle in the soil. This is a log foundation with no element of the superstructure remaining.

The entire river terrace surrounding the bridge shows a good deal of evidence of past human activity. Trees, stumps, cleared areas, and trails indicate vegetation disturbances that have not totally regrown. Old telephone poles lie on the ground near the new telephone poles.
The area around the Eagle River Railroad bridge is particularly interesting because there are some historical records illustrating past usage (see Part I).

It is known that at various times in the past 80 years a roadhouse, workers camp, and railroad section house were located near the bridge. Old photographs from the early days of the railroad show a number of structures near the bridge. It is possible that remnants of these could be located by a more thorough scrutiny of the area but they are no longer standing and obviously were not built on very substantial foundations. The land surrounding the bridge was filed as a headquarters site in 1920 but was never patented. There are no further entries for the specific area on file at the Bureau of Land Management until the military withdrew the land in the 1940's.

Significance

The construction of the Alaska Railroad can be included in "events that have made a significant contribution to the broad patterns of our history" (CFR 800.10 National Register Criteria), yet these particular remains no longer possess "integrity of location, design, setting, materials, workmanship, feeling and association" in that they are in very poor condition. Therefore, they do not appear to be eligible for inclusion to the National Register of Historic Places.

Other Structures and Features

Several other structures were found during the course of the survey but it was possible to associate these with recent activities, i.e., girl scout and boy scout camps, an abandoned warmup shack for a ski lift, and buildings used by the Army.

Glimpses were caught of two other structures that may be of more interest. One was a dilapidated log frame located near cabin #1 in a small clearing on the hillside above Ship Creek. We sighted this ruin from the air but were never able to relocate it. The other structure was a building that was noticed in the woods to the south of the railroad track at mile 124 of the railroad. This was sighted at the end of a long hard day at the end of the field season; it was never investigated further, but should be in the future.

In many places on the installation there were clearings as a result of cutting down trees, but no sign as to why the trees were cut. The Otter Lake and Knik Arm bluff areas in particular showed signs of cutting. Whether this is related to native activities, homesteading, firewood procurement, or military maneuvers is difficult to say.

Similarly, in the lowland areas of the base many faint, overgrown trails and roads can be found. Some of these might date to the early part of the century but it is difficult to ascertain their age in the absence of artifacts. An effort was made to locate the trails indicated on the BLM cadastral survey maps from the early part of the century but
we were not able to identify them in the maze of trails found on the
post. It is also very probable that old trails would be overgrown after
years of disuse and virtually impossible to relocate.

Military

As mentioned previously, military activities have greatly impacted
many areas of the post. Certain areas are contaminated firing ranges and
were totally closed to archaeological survey (see Figure 11). This was
particularly unfortunate in terms of the Eagle River Flats where back­
ground research has indicated the likelihood of finding sites. From the
bluffs on the north side of the Eagle River Flats three old wooden plat­
forms could be seen standing in the marsh. Several constructions recog­
nizable as "duck blinds" could be seen in the flats as well. These could
be related to historic Tanaina use of the area, but this could not be
established without going into the impact area.

The greatest impact, however, is probably in the cantonment area
where a good deal of the land has been graded, filled, topsoiled, paved
or built upon. Test pits were excavated here to confirm the impressions
of the surface reconnaissance and indicated that a great deal of land
disturbance had indeed occurred (see Appendix 2).

The third sort of impact is that related to Army training activities
and can be found in all areas of the post. Hundreds of foxholes, leantos
and other temporary structures have been constructed since the beginning
of military activities in the Fort Richardson area. As might be expected
these shelters are generally found on raised, well drained vantage
points; exactly the same sort of places where it has been argued that
sites would be located. In one sense the placement of foxholes could
potentially disturb archaeological or historical remains, yet in another
sense the foxholes and other associated ground disturbances provide a
large "window" on the subsurface. In this survey the walls of foxholes
and other pits were scrutinized for indications of artifacts and other
cultural indications such as charcoal. Frequently the walls of such
holes were scraped by trowel to get a clearer look at the soil.

Military hardware was also found scattered throughout the post
including the remains of a radioplane, several vehicle parts, targets,
oil barrels, tires, etc.

Archaeological Results and Evaluation

No archaeological remains were located as a result of this survey in
either the systematic interval sample or in the predicted high prob­
ability strata.

In all, over 200 shovel test pits were sunk, all in the lowland
province of the fort, and all sterile. Detailed notes were kept on these
including exact location, but since nothing was found these will not be
discussed further here.
The dearth of finds suggests a low probability of recovering archaeological remains in the area of Fort Richardson we were allowed to sample. Extrapolating from the sample, a grand total of zero sites is predicted for the fort. It is necessary to warn that due to the low sampling fraction in the probabilistic portion of the survey (less than 4 percent surface coverage) the precision of our estimates about the total population of sites on Fort Richardson is not great, yet the confidence level would be even broader if the sample had been selected in a biased manner. However, the lack of finds in the predicted high probability strata substantiates this extrapolation. A further caution is that sites may be located beyond our testing abilities, i.e., they are too deeply buried, located under present buildings or roads, or under water. If this is so they will not be subjected to further adverse impact in most cases.

It is not adequate to merely state that no sites were located by this survey; if the goal is understanding prehistoric settlement and subsistence patterns within an environmental framework it is necessary to attempt to explain negative as well as positive evidence. The first set of explanations for the lack of cultural remains in the study area addresses natural and cultural processes that might obliterate evidence of past human activity.

1. The mouth of Eagle River is possibly the most likely area on the installation in terms of finding cultural resources; however, this area has already been impacted by military activities and is off limits to further investigation.

2. Vegetation is quite dense in the areas below tree line and makes it difficult to discern such features as house pits or hearths, much less recover artifacts. It may be necessary to implement a much more intensive program of subsurface testing to locate cultural remains in this area. Furthermore, this study did not rely greatly on geological data. A greater emphasis on understanding the geological history of the area might help in defining areas with high potential of site recovery.

3. The shoreline of Knik Arm was predicted to be a high probability area on the basis of background research. Unfortunately for the archaeologist, the bluff area is highly unstable geologically and is involved in a constant erosion process wherein sites may be sloughed off down the cliff. It is difficult to know the rate of backcutting under normal circumstances but it is likely that large sections of cliff fall off during earthquakes. Clearly, cultural remains near the bluff edge have probably been destroyed.

4. Evidence from other Tanaina and Eskimo areas seems to indicate most major settlements are located near large water bodies or near the mouths of rivers and streams. Resources located further inland are utilized, but such activities do not result in anything more than temporary encampments of small groups or even single individuals. Many sorts of activities do not leave many, or any, indications in the archaeological record. However, as we continue to refine our predictions about past resource utilization a better understanding of the entire settlement system can be obtained.
Despite the fact that the factors outlined above may be operating at Fort Richardson and hindering the recovery of cultural remains, it is still fair to say that the area does not seem particularly rich in cultural resources.

We know from ethnohistoric accounts that the area was exploited, but it appears human occupation was never especially dense along this particular section of Knik Arm. Presently the western side of Knik Arm is a more favorable habitat for seal and beluga (Metrek 1978:2-48) suggesting it may have been a more favorable locale for humans in the past if conditions were similar.

Travel and access may have been particularly difficult in this densely wooded area before trails and roads were cut, making it unattractive for human utilization.

Furthermore, much recent research indicates that Athapaskan settlements were located in places which provided access to a wide variety of resources at all seasons of the year (Van Stone 1974; Nelson 1973). It is difficult to assess the scale at which such factors become important, but most of the lowland area of Fort Richardson consists of relatively undifferentiated stretches of interior forest which may not have provided the range of hunting opportunities that other areas could provide.

Still, the Fort Richardson area was probably used sporadically by small mobile parties of hunters who would leave little indication of their passage. Relatively permanent settlements were undoubtably located in places where marine and riverine resources were more abundant yet also provided other resources to fall back upon during lean years or seasons.

Only portions of the Eagle River Valley were surveyed (see Figure 10). Once again, vegetation and steep banks impeded this investigation, but survey should be further pursued in this valley before any negative conclusions can be legitimately reached.

Ship Creek was surveyed quite intensively with negative results. Especially in the lowland area near the cantonment there is a good deal of evidence of land leveling near the creek and even rechannelization; therefore, the potential for site recovery has been adversely affected. Upstream, in the mountainous area of the post, there is still the potential for finding indications of trail cutting or materials associated with the Indian-Ship Creek Trail.

The Fossil Creek drainage was crossed several times in the course of the survey but should be investigated further. Drainage is minimal at present, but the banks and terraces associated with this feature indicate it was once a much larger stream, possibly a channel of Eagle River, and might be a likely place for recovering evidence of past human activity.

Elmendorf Moraine should also be surveyed further in the future. High ground like this has a good potential for finding signs of human utilization.
The above areas seem particularly sensitive and may yet yield cultural resources, while other areas removed from these features have a lower potential in terms of past use; however, this comment should not be construed as a clearance of the rest of the installation. These comments are meant as guidance for planning purposes. Even though some areas are judged as having low probability in terms of cultural resources they still need to be cleared in advance of ground disturbing activities.
RECOMMENDATIONS

1. An ongoing plan of survey should be developed for Fort Richardson so the Army can comply with Executive Order 11593 and inventory all properties potentially eligible for the National Register under its jurisdiction. The surveys should be done within the framework of a problem oriented research design in order to further regional archaeological studies and provide guidance for future decision making about land use. The work should be conducted in a manner which will allow continual refinement and utilization of data collected during all phases of the effort, thus, assuring judicious use of resources.

2. In advance of any potential land disturbing activities a professional archaeologist should test the area for cultural remains. The previous section provides evaluation of areas of the fort in terms of the likelihood of finding cultural remains. These evaluations should be useful in planning future development in that high probability areas can be avoided if possible. However, this report should not be construed as a clearance of any areas not directly surveyed.

3. Helicopter reconnaissance was found to be very useful and expedient in locating historic remains. A systematic aerial survey of the installation for the purpose of finding such remains should be implemented. I would recommend that such a survey be conducted in spring or fall when the foliage does not offer quite the impediment to sight as it does in the summer. This sort of reconnaissance does not replace the need for on-ground coverage of an area, but supplements it in an expedient fashion.

4. At this time no further study is recommended for the four sites discussed above except that determinations of eligibility should be sought from the Secretary of Interior as outlined in 36CFR63. This process will require coordination with the State Historic Preservation Office.

5. Further study of the portions of the Iditarod Trail that cross Fort Richardson is recommended in order to preserve any remnants of this National Historic Trail that may still exist. If the trail could be located and posted with interpretive signs it could prove to be of interest to Army personnel and the general public.
Ship Creek valley looking east. A branch of the Iditarod trail ran along the creek from Knik Arm to Indian in the early part of the century.
This photograph spans most of the physiographic and vegetational divisions of Fort Richardson. In the foreground is the alpine tundra of the Chugach foothills, surrounding the Glenn Highway in the middle distance is interior forest, and in the distance is the marsh which delineates the mouth of Eagle River.
Photograph illustrates typical dense, grassy ground cover near the bluffs bordering Knik Arm.
Tundra bog area typical of the northwestern section of Fort Richardson. Photograph also illustrates crew spacing on transect survey.
Dense growths of alders are found in many areas of the fort, particularly in disturbed areas and in the transition zone between forest and tundra.
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APPENDIX ONE: PREVIOUSLY KNOWN SITES IN STUDY AREA

ARCHAEOLOGICAL AND HISTORICAL SITES OF STUDY AREA
CATEGORY CODE FOR ARCHAEOLOGICAL AND HISTORICAL SITES

General Resource Nature

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<td>Protohistoric</td>
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<td>T</td>
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Specific Resource Nature

1 District - a geographically definable area, urban or rural, possessing a significant concentration, linkage or continuity of sites, buildings, structures, or objects unified by past events or aesthetically by plan or physical development

2 Site - the locus of an event, building, structure or object

3 Building - a structure created to shelter any form of human activity

4 Structure - a work constructed by man (bridge canal locks, etc.)

5 Object - a material thing of functional, aesthetic, cultural, historical, or scientific value that is usually, by nature or design, movable (ship, locomotive)

### ARCHAEOLICAL AND HISTORICAL SITES
#### FORT RICHARDSON STUDY AREA

**A. ARCHAEOLICAL SITES (▲)**

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**B. HISTORICAL SITES (●)**

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<td>Old St. Nicholas Church</td>
<td>ANC004</td>
<td>H-3</td>
<td>1870's Russian Orthodox Church (On National Register of Historic Places)</td>
</tr>
<tr>
<td>5</td>
<td>Eklutna Village</td>
<td>ANC008</td>
<td>H-2</td>
<td>1800's Village Site</td>
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<td>6</td>
<td>Eklutna Station</td>
<td>ANC091</td>
<td>H-2</td>
<td>1917 Station on the Alaska Railroad</td>
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</table>
### B. HISTORICAL SITES (●)*
(Continued)

<table>
<thead>
<tr>
<th>NO.</th>
<th>SITE NAME</th>
<th>SITE I.D.**</th>
<th>CATEGORY***</th>
<th>COMMENT</th>
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<tbody>
<tr>
<td>7</td>
<td>Eklutna River Bridge</td>
<td>ANC080</td>
<td>H-4</td>
<td>1927 Bridge</td>
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<tr>
<td>8</td>
<td>Peters Creek Bridge</td>
<td>ANC079</td>
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</tr>
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<td>9</td>
<td>Birchwood</td>
<td>ANC077</td>
<td>H-2</td>
<td>Early Alaska Railroad Depot, Mile 136.3</td>
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<td>10</td>
<td>Eagle River</td>
<td>ANC076</td>
<td>H-2</td>
<td>Alaska Railroad Mile 126.6, 1917 Station</td>
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<td>11</td>
<td>Eagle River Bridge</td>
<td>ANC099</td>
<td>H</td>
<td>1924 Bridge</td>
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<td>12</td>
<td>Ft. Richardson Cemetery</td>
<td>ANCO13</td>
<td>H-2</td>
<td>1941 Cemetery</td>
</tr>
<tr>
<td>13</td>
<td>Monument Corner</td>
<td>ANC014</td>
<td>H-5</td>
<td>1935 Monument Commemorating Opening of Anchorage-Matanuska Valley Highway</td>
</tr>
<tr>
<td>14</td>
<td>Whitney Station</td>
<td>ANC044</td>
<td>H-3</td>
<td>1917 Section House On Alaska Railroad</td>
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<tr>
<td>15</td>
<td>Alaskan Chateau</td>
<td>ANC042</td>
<td>H-3</td>
<td>Frame Building Used as Quarters For Visiting Dignitaries</td>
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<tr>
<td>16</td>
<td>CINC Quarters</td>
<td>ANC043</td>
<td>H-3</td>
<td>Quarters Of Commander-In-Chief, Alaska; Used In 1971 For Meeting of President Nixon and Emperor Hirohito</td>
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<td>17</td>
<td>AFC Cottage</td>
<td>ANC045</td>
<td>H-3</td>
<td>1915 Structure</td>
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### B. HISTORICAL SITES (●)*
(Continued)

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<tr>
<td>18</td>
<td>AFC Cottage</td>
<td>ANC046</td>
<td>H-3</td>
<td>1915 Structure</td>
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<tr>
<td>19</td>
<td>Quonset Huts</td>
<td>ANC047</td>
<td>H-3</td>
<td>1940 Military Buildings</td>
</tr>
<tr>
<td>20</td>
<td>Federal Houses</td>
<td>ANC049</td>
<td>H-3</td>
<td>1945 Military Housing</td>
</tr>
<tr>
<td>21</td>
<td>U.S. Army Engineer's House</td>
<td>ANC048</td>
<td>H-3</td>
<td>1941 Military House</td>
</tr>
<tr>
<td>22</td>
<td>Anchorage Historic District</td>
<td>ANC081</td>
<td>H-1</td>
<td>70-Block Area Of Anchorage's Original Residential &amp; Business District</td>
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<tr>
<td>23</td>
<td>Oscar Anderson House</td>
<td>ANC098</td>
<td>H</td>
<td>1915 Bungalow; One Of First Permanent Residences In Anchorage</td>
</tr>
<tr>
<td>24</td>
<td>St. Innocent Church</td>
<td>ANC021</td>
<td>H-3</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Earthquake Park</td>
<td>ANC001</td>
<td>H-2</td>
<td>Park Showing Effects Of 1964 Good Friday Earthquake</td>
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<tr>
<td>26</td>
<td>Douglas DC-3(N-99)</td>
<td>ANC121</td>
<td>H-5</td>
<td>1945 Aircraft Used By FAA And Predecessor Agencies</td>
</tr>
<tr>
<td>27</td>
<td>Campbell Station</td>
<td>ANC011</td>
<td>H-3</td>
<td>1917 Station On Alaskan Railroad</td>
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</tbody>
</table>

* Symbol in parentheses and map number are coding system used to identify sites on Figure 2-16.
** Site I.D. from Alaska Archaeological/Historical Survey Record Cards; three letters identify U.S.G.S. 1:250,000-scale quadrangle (ANC-Anchorage quad). Numbers are sequentially assigned as sites are reported.
*** Category Code - See Table H-2

APPENDIX TWO

FUTURE DEVELOPMENT PLAN - CANTONMENT AREA, FORT RICHARDSON

On July 12, 1979 a crew of four archeologists, including project supervisor, Julia L. Steele, travelled to areas indicated as being sites of future development in the cantonment area of Fort Richardson. These locations were obtained from a map entitled Fort Richardson, Anchorage, Alaska, Master Plan, Basic Information Maps, Building Area Plan prepared for the Alaska District, U.S. Army Corps of Engineers.

The following proposed building sites were evaluated for cultural resource potential:

1. Pest Control and Herbicide Building.
   This area is totally impacted at present and was impossible to test. It is presently covered with a level, built-up gravel pad.

2. Airfield Fire and Rescue.
   This proposed building will be located near the edge of Bryant Airfield. The area is graded, disturbed, and covered with scattered gravel. No testing was done due to lack of soil cover. Cultural remains are deemed very unlikely.

3. Child Care Center Addition.
   This area is now a playground located behind the present Child Care Center. It is graded and sod-covered now - a situation in which we usually found imported organic soil. We were unable to test because the area had a locked fence around it.

4. AVN Armaments Shop.
   This was on a disturbed area near Bryant Airfield. Two test pits were excavated but results were negative.

5. Youth Center.
   This building is to be placed in a cleared area in the middle of many other buildings. The area has been graded flat so no tests were done.

   This area is probably disturbed but we tested with negative results.

7. NCO Academy.
   We excavated two test pits here but found no cultural remains.
8. Religious and Army Education Center.

No test pits were placed here because this is in a low lying brushy area at the base of a hill. Site potential was deemed low.

9. Training Audiovisual Center.

This is to be placed on a graveled parking lot; site potential is considered low.

10. Main Post Library.

This is to be situated in a cleared grassy area. We dug a test pit and found introduced topsoil on top of gravel.


Two test pits were excavated but nothing was found.


On gravel near Bryant Airstrip. The soil has either been stripped or gravel placed down. No cultural remains were noted but no pits were dug.

13. BE C-E Equipment Storage.

This area is under a built-up gravel pad. No test pits were excavated.

14. NBC School.

This area is also under a gravel pad. No pit dug.

15. Medical Logistics Building.

One pit excavated but nothing was found. Unlikely area.

16. Field Print/Publication Center

In the midst of many buildings. The area was obviously graded and otherwise impacted so no pits were dug.

17. Vehicle Wash Shed.

Area covered by a thick gravel pad. Testing not feasible.


The area is totally graded. In fact, a grader was working on it while we were there. Low probability of cultural remains.
CONCLUSIONS.

The likelihood of uncovering cultural remains in the locations discussed above seems low. All areas that were not already impacted by grading, filling, or recent structures were tested and the results were negative.

In general, the cantonment area of Fort Richardson has been so impacted by roads, buildings, and other activities that any cultural remains that may have been there are probably destroyed or obscured. I would recommend that these areas be cleared for the specified future construction activities. Should any cultural remains be found in the future the appropriate office should be consulted.