

**Kotzebue to Cape Blossom Road Environmental Document
Cultural Resources Survey
(ADOT&PF PROJECT NO. 76884)**

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April, 2013

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ACRONYMS AND ABBREVIATIONS

AC&W	Aircraft Control and Warning
ACHP	Advisory Council on Historic Preservation
A.D.	Anno Domini
ADCRA	Alaska Division of Community and Regional Affairs
ADOT&PF	Alaska Department of Transportation and Public Facilities
AGL	Above Ground Level
AHRS	Alaska Heritage Resource Survey
ANCSA	Alaska Native Claims Settlement Act
Baker	Michael Baker Jr., Inc.
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
B.P.	Radio Carbon Years Before Present
CEMML	Center for Environmental Management of Military Lands
CES	611th Civil Engineering Squadron
CFR	Code of Federal Regulations
Clarus	Clarus Environmental Services, LLC.
DNR	Alaska Division of Natural Resources
DOE	Determination of Eligibility (for Listing on the National Register of Historic Places)
FHWA	Federal Highway Administration
HABS	Historic America Building Survey
ICRMP	Integrated Cultural Resources Management Plan
KEA	Kotzebue Electric Association
KIC	Kikiktagruk Inupiat Corporation, Inc.
LRRS	Long Range Radar Sites/s
MAR	Minimally Attended Radar
MOA	Memorandum of Agreement
NAGPRA	Native American Graves Protection and Repatriation Act
NANA	NANA Regional Corporation, Inc.
NDE	No determination of eligibility completed
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NIHA	Northwest Iñupiat Housing Authority
NLUR	Northern Land Use Research, Inc.
NPS	National Park Service
NRHP	National Register of Historic Places
NWS	National Weather Service
OHA	State of Alaska Office of History and Archaeology
OHA IBS	State of Alaska Office of History and Archaeology Integrated Business System
PA	Programmatic Agreement
PHS	Public Health Service

SAFETEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users
SHPO	Alaska State Historic Preservation Office
SOW	Scope of Work
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
WACS	White Alice Communication System

1.0 INTRODUCTION

The State of Alaska Department of Transportation and Public Facilities (ADOT&PF) is preparing an environmental document and other related documents or evaluations in support of a Federal permit and authorization decisions necessary for the development of an all season road (Project) from Kotzebue, Alaska to Cape Blossom on the Baldwin Peninsula, Alaska. The environmental document will fully meet requirements of the National Environmental Policy Act (NEPA) (40 CFR Part 230), the regulatory requirements of the Council on Environmental Quality (42 U.S.C. 4321-4730a and 40 CFR 1500), procedures for implementing NEPA (33 CFR 230) and NEPA regulatory requirements of the Federal Highway Administration (FHWA).

ADOT&PF contracted with Michael Baker Jr., Inc (Baker) to provide environmental and engineering services for the Project. Baker contracted with Northern Land Use Research, Inc. (NLUR) to conduct a cultural resources survey of the proposed Kotzebue to Cape Blossom Road. At the time of the survey, the exact route of the road had not been established and there were no engineered drawings for the Project. Specifically, NLUR was tasked with surveying two alternatives for connecting the proposed Kotzebue to Cape Blossom Road to the existing Kotzebue road system (the Alternative A-Upgrade Route, Alternative A-Hillside Route and Alternative A – South Route, which included two alternatives for crossing Sadie Creek) (Figure 1 and Figure 2). The cultural resources survey area (survey area) for the Project was defined as 1,000 ft to either side of the centerline provided by Baker (Figure 2). The survey area crossed lands owned by the Kikiktagruk Iñupiat Corporation, Inc. (KIC), the NANA Regional Corporation, Inc. (NANA) and the U.S. Air Force (USAF). The cultural resources survey was conducted with written permission of the land owners.

Prior to the cultural resources survey, NLUR completed a data gap and archaeological sensitivity analysis for the upper Baldwin Peninsula in the vicinity of the survey area (Blanchard 2012). These analyses resulted in a predictive model, which classified land within the survey area as having either a low (Type A) or high (Type B) potential to contain archaeological sites, features or artifacts. During the cultural resources survey of the Project, low probability areas were subjected to helicopter survey and high probability areas were subjected to helicopter survey, ground survey, and selective subsurface testing.

1.1 Project Background

The purpose of the Kotzebue to Cape Blossom Road Project is to improve access and enhance safety between Kotzebue and the beach on the southwest side of the Baldwin Peninsula, and to comply with Federal legislation and local government resolutions. The Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation advanced the Project. In 2010, the Northwest Arctic Borough and City of Kotzebue Joint Planning Commissions passed Resolution JPC-10-01 supporting development of Cape Blossom Road. Through resolutions, the Northwest Arctic Borough Assembly (03-05), City of Kotzebue (02-19), NANA Regional Corporation Board of Directors (2003-04), and Kikiktagruk Iñupiat Corporation (KIC) (03-23) identified the Kotzebue to Cape Blossom Road as a priority

transportation project. NANA and KIC own most of the surface and subsurface land along the alignment.

The Project would develop a road from Kotzebue to Cape Blossom. The Project would include developing an approximately 11 mile long road and a bridge or multi-culvert crossing of Sadie Creek to a terminus above tideland at Cape Blossom that could support safe and efficient landing for barge traffic.

At this time, the primary access route between Kotzebue, Cape Blossom and nearby communities is along the beach. However, the beach around Cape Blossom point is often too soft to provide safe passage to vehicles. The Project would bypass the soft beach soils and terminate in an area that can accommodate vehicle traffic.

The Project would provide improved access to existing subsistence and recreation areas as well as providing access to public and private land. An all-season road would establish a transportation link to the City of Kotzebue by facilitating freight movement from an area suitable for loading and unloading cargo by barges at Cape Blossom. Deep draft vessels calling on Kotzebue currently anchor approximately 15 miles from shore on the north end of the Baldwin Peninsula in about 30 ft of water and lighter their freight over constantly shifting mudflats on the incoming tide. Waters about one mile off shore at Cape Blossom are about 25 ft deep with no shoaling reported.

1.2 Project Alternatives

ADOT&PF considered four build alternatives (Figure 1). The Eastern Route and the Middle Route (Figure 1) were dismissed from further study prior to the cultural resources survey, because of their higher costs and potential for increased environmental impacts. In accordance with NLUR's Scope of Work (SOW), these routes were not included in the cultural resources background research or survey and are not discussed further below.

1.2.1 Alternative A - Hillside Route

The Alternative A - Hillside Route would involve construction of a new all-season road, beginning at New Hillside Road, to the terminus at a beach access ramp near Cape Blossom. The Hillside Route (Figure 1) would begin two miles east of Air Force Road at an unnamed lake. The road would travel 1.9 miles south to the eastern edge of the KEA wind farm, where it would intersect with the wind farm access road then connect to the Alternative A-South Route. A single stream crossing at June Creek would be required.

1.2.2 Alternative A - Upgrade Route

The Alternative A-Upgrade Route would begin at the intersection of New Hillside Road and Air Force Road, travel along Air Force Road south past the existing landfill through U.S. Air Force property at the Kotzebue Long-Range Radar Site (LRRS) to the KEA wind farm and connect to the Alternative A – South Route. The Upgrade Route alternative would entail widening, realigning, and upgrading 2.7 miles of Air Force Road and the KEA wind farm access road.

1.2.3 Alternative A – South Route

The northern end of the Alternative A - South Route would connect to either the Alternative A-Hillside or Upgrade Route and travel south and east approximately 8.9 miles to end at a beach access ramp. A staging pad would be constructed on the east side of the road about 0.25 miles north of the shoreline.

Two options for crossing Sadie Creek are being studied. The Lower Option includes a single stream crossing of Sadie Creek. The Upper Option, located to the east of the Lower Option includes a crossing of a tributary of Sadie Creek as well as a crossing of the main channel. The Upper and Lower Options converge south of Sadie Creek.

1.3 Project Setting

The locations surveyed for this report are in northwest Alaska, north of the Arctic Circle on the northwestern tip of the Baldwin Peninsula. The survey area consists of a roughly 11.2 mile-long (18 km) 2,000 ft wide (0.61 km) road corridor extending south from Kotzebue to Cape Blossom (Figure 2). The total area of the survey area is approximately 2,715 acres.

Table 1 lists the Township, Range and Sections crossed by the Project, all in the Kateel River Meridian, Alaska.

Table 1. Townships, Ranges and Sections crossed by the Project Survey Area.

Township	Range	Sections
17N	18W	21, 23, 24, 26-29, 35, 36
17N	17W	31, 32
16N	18W	1-3, 11-13
16N	17W	18, 19, 30, 31
15N	17W	6

The Baldwin Peninsula is bordered to the west by Kotzebue Sound and to the east by Hotham Inlet. The nearest community is the City of Kotzebue. Kotzebue Sound is ice-free from July to October; however, there is no deep water port for the City of Kotzebue due to sediment deposition by the Noatak and Kobuk rivers. Large vessels have to anchor several miles from shore. Goods are lightered to shore from the vessels at anchor. No roads connect Kotzebue to the rest of Alaska, and access to the community is primarily by air, with daily flights to and from Anchorage, Fairbanks, and Nome.

According to the Alaska Division of Community and Regional Affairs ((ADCRA) 2012) the City of Kotzebue has a maritime climate characterized by long, cold winters and cool, rainy summers. The average temperature in Kotzebue ranges from –12°F in winter to 58°F in July. Annual precipitation averages 9 inches, and approximately 40 inches of snow falls each year.

The mainland surrounding Hotham Inlet, including the Kobuk River Valley, is characterized by a mixed white spruce and birch forest ecological zone, but the Baldwin Peninsula consists primarily of moist tundra. As a result, the area provides sufficient forage for such large land mammals as caribou, reindeer and musk oxen. Berries and edible greens thrive on the peninsula,

and all of the major rivers emptying into the Kotzebue Sound and Hotham Inlet have runs of all five species of salmon, as well as stocks of arctic char, whitefish and sheefish. Kotzebue Sound also supports a small population of tanner crab, herring, and cod, and is a common location for spotted seal, ringed seal and beluga (Proue and Hays 2009).

Kotzebue is the service and transportation center for villages in the northwest region. It has a healthy cash economy based on both the public and private sector. The majority of income is directly or indirectly related to government employers, such as the school district, Maniilaq Association, the city, the borough as well as State and Federal agencies. Kotzebue is the transfer point between ocean and inland shipping, and is the air transport center for the region. The Cominco Alaska Red Dog Mine is a significant regional employer and commercial fishing for chum salmon provides some seasonal employment ((ADCRA) 2012).

2.0 METHODS

2.1 Research Design

NLUR prepared a Data Gap and Archaeological Sensitivity Analysis for the survey area prior to the cultural resources field survey. The Data Gap showed that the cultural resources of Kotzebue and the upper Baldwin Peninsula have been extensively studied by archaeologists since the 1940s. This research established a cultural chronology for the region and identified numerous historic and prehistoric cultural sites in the vicinity of the survey area. Ninety-nine Alaska Heritage Resource Survey (AHRs) sites are located within three miles of the proposed Kotzebue to Cape Blossom Road. Most of the sites are in and around the modern community of Kotzebue (see Table 3 and Figure 2).

NLUR's 2006 feasibility study for the relocation of the Kotzebue Airport (Williams 2006a) was particularly important in formulating the research design used for the 2012 survey. The 2006 study included a helicopter survey of the entire upper Baldwin Peninsula and included the entire survey area for this Project. The 2006 NLUR survey tested the hypothesis that cultural resource sites on the upper Baldwin Peninsula would be located less than half a mile from the coast. The 2006 survey efforts supported this hypothesis, with the possible exception of the banks of Sadie Creek, which was identified as an access route for interior subsistence activities.

For the Kotzebue to Cape Blossom Road Environmental Document Cultural Resources Survey, NLUR built on the conclusions of the 2006 survey (Williams 2006a) and defined the Type B, high probability area for cultural resources as lands located within half a mile of the shoreline as well as the banks of the main channel of Sadie Creek (Figure 2). However, the majority of known prehistoric and contact era sites are located on well drained gravels in the vicinity of modern day Kotzebue. The sites located outside the residential district of Kotzebue are primarily graveyards, reindeer herding sites and the buildings of the US Air Force AC&W installation. Within this general high probability area, well drained ground was considered to have a higher probability to contain cultural resources than wet/boggy areas.

The Type A, low probability area for cultural resources was defined as lands located more than half a mile from the shoreline, except along the banks of the main channel of Sadie Creek (Figure 2).

Using these criteria, the Alternative A-Hillside Route and almost all of Alternative A-South Route was classified as Type A, low probability (Figure 2). Only the southern tip of the Alternative A-South Route and Lower Option and Upper Option crossings of the main channel of Sadie Creek were classified as Type B, high probability.

The portion of the Alternative A-Upgrade Route located within half a mile of the shore line was classified as high probability. This section included the USAF LRRS, which was the site of numerous historic buildings and structures associated with USAF operations during the Cold War. Most of these resources had previously been determined eligible for listing on the National Register of Historic Places (NRHP) and were included in a NRHP eligible Historic District

(Table 3). Previous studies documented these Cold War structures extensively (Table 2), including a Historic American Building Survey (HABS) Level 3 recording prior to their demolition in the 1990s. Despite this demolition, the Historic District and the demolished sites are still shown on the OHA IBS as eligible for listing on the NRHP. One NRHP building and two NRHP eligible gravel structures remain at the LRRS. Because of this extensive documentation, the surviving three LRRS structures were examined but not recorded in detail during NLUR's 2012 cultural resources survey.

NLUR's 2012 cultural resources research design called for 100 percent helicopter survey coverage of the low probability areas and a combination of helicopter survey, pedestrian survey and discretionary subsurface testing within the high probability areas. The research design allowed for pedestrian survey and subsurface testing of landforms within the low probability area if, in the opinion of the Project Archaeologist they had characteristics that would make them attractive for human occupation. No such sites were identified during the survey.

As previously noted, the survey area was located on lands owned by the Kikiktagruk Iñupiat Corporation, Inc. (KIC), the NANA Regional Corporation, Inc. (NANA) and the U.S. Air Force (USAF). However, there are several Native Allotments that extended into the survey area. NLUR was specifically instructed not to enter these Native Allotments (Figure 4). Since the GIS information on Native Allotment boundaries were not ground verified, NLUR field personnel added a buffer to insure that they did not trespass on Native Allotments. The entire road route was over flown in the helicopter, but pedestrian survey and subsurface testing were confined to those properties for which NLUR had valid rights of entry.

In addition to cultural resources, NLUR was asked to look for paleontological remains, which are known to have been found within the survey area. No such remains were recorded during NLUR's 2012 field efforts.

2.2 Field Survey Methods

The aerial survey methods for the Project generally followed those established by archaeologists working on the North Slope for the past thirty years, including Hall (1976), Hall and Gal (1988), and Lobdell and Lobdell (2000). The basic elements involve low-altitude / low speed helicopter over flight of proposed development areas, with discretionary landing and ground survey at observed high-potential areas. Sites of historic or recent age can generally be located by helicopter survey because surface indications are typically present. However, buried prehistoric sites are more difficult to identify. Criteria for designating high-potential areas for prehistoric cultural remains vary by researcher, but typically consist of one or more of the following conditions:

- well drained / stable landforms
- isolated areas elevated above the surrounding terrain (pingos, sand dunes, etc.)
- areas of disturbed vegetation
- alluvial terrace edges
- river and stream banks, including potential stream crossings with prominent terraces

- elevated thaw lake borders
- isthmuses or other topographic constrictions that may facilitate hunting
- coastal margins in protected bays suitable for landing boats

Characteristics of the lower potential areas generally include:

- low or no topographic relief
- poorly drained (or water saturated) terrain
- a high level of permafrost

Pedestrian surveys within the high probability areas were conducted after a preliminary helicopter survey was completed. Spacing between field crewmembers for the pedestrian survey varied between 10 m and 30 m based on the ground cover and visibility. The vegetation throughout most of the survey area was low tussock, which provided an unobstructed view of the land form. Discretionary subsurface testing was carried out during the pedestrian survey and a second low level helicopter survey was carried out for each high probability area surveyed after the pedestrian survey was completed.

NLUR conducted the survey as a Level II or “Evaluation” survey, as defined by the Alaska Office of History and Archaeology (OHA) (Historic Preservation Series No. 11, revised 2003). As such, the survey was designed to identify historic properties within the Project APE, determine if they are eligible for listing on the NRHP, and assess what, if any, effect the proposed Project will have upon NRHP eligible properties.

3.0 CULTURAL ENVIRONMENT

3.1 Regional Cultural Chronology¹

This section summarizes the existing cultural resource information for the general Project area. Understanding the knowledge base of cultural chronology and area prehistory is important in evaluating site significance, a key element in the Section 106 process. We review here the known prehistory of the region. Terms such as *traditions*, *cultural complex*, etc. generally follow definitions in Giddings and Anderson (1986).

3.1.1 Paleoindian Tradition (11,200 to 8,800 years ago)

The oldest well-documented sites in northern Alaska belong to what some archaeologists refer to as the Paleoindian Tradition, dating to perhaps as old as 11,200 years and as recent as 8,800 years ago (Kunz et al. 2003). These sites are found at various locations in the Brooks Range and Interior Alaska.

3.1.2 American Paleoarctic Tradition (10,000 to 7,000 years ago)

Appearing after, or possibly contemporaneous with, the Paleoindian Tradition is the American Paleoarctic Tradition (Anderson 1970), generally thought to date in the Arctic between about 10,000 and at least 7,000 years ago (c.f. discussion on dating these types of sites in Mason, et al. (2001)). Certain stone tool types, especially distinctive cores, blades, and burins found in American Paleoarctic sites are remarkably similar to stone technologies from Northeast Eurasia, suggesting cultural connections across the Bering Land Bridge. American Paleoarctic tool kits are generally thought to have been oriented toward the production of composite antler and stone projectiles, used to dispatch late Pleistocene-early Holocene fauna.

3.1.3 Northern Archaic Tradition (6,000 to 2,000 years ago)

Sometime between about 5,000 and 6,000 years ago, side-notched biface forms begin to appear in northern Alaska archaeological assemblages. This form is a diagnostic item of the Northern Archaic Tradition (Anderson 1968). The Northern Archaic is represented at the Palisades, Cape Krusenstern (Giddings and Anderson 1986), and in well-dated contexts at Onion Portage on the Kobuk River (Anderson 1988). Little is known of the Northern Archaic subsistence economy, although it is presumed that caribou hunting and other hunting and gathering activities were important.

¹ This cultural chronology is adapted from NLUR's 2009 and 2012 reports for the Trio Oil drilling program in the vicinity of Kotzebue, Alaska (Blanchard 2011; Proue and Hays 2009).

3.1.4 Arctic Small Tool Tradition (4,500 years ago to A.D. 1000)

Around 5,500 BP² (Harritt 1998), a new archaeological culture, known as the Arctic Small Tool tradition (ASTt) (Irving 1964) was in use in Alaska. Known for its tiny, finely flaked stone tools, new radiocarbon dates from the Seward Peninsula suggest ASTt presence at around 5,500 BP (Harritt 1998). Over time, the ASTt definition has been expanded to include cultures such as Choris, Norton, and Ipiutak, extending the ASTt time period to about A.D. 1000 (Anderson 1980). This dramatic change in stone tool technology from the earlier Northern Archaic may mark the introduction of the bow and arrow, and is interpreted by many archaeologists as the arrival of the original Eskimo people in Northwest Alaska and the Brooks Range. However, the nature of the continuity and cultural relationship between late ASTt Ipiutak and ancestral Iñupiat people has not been clearly established (Gerlach and Edwin S. Hall 1986). ASTt sites are well documented at Cape Krusenstern (Giddings and Anderson 1986), Onion Portage (Anderson 1988), and elsewhere throughout northern Alaska (Dixon 1975; Gerlach et al. 1997; Hall and Bowers 1987; Kunz 1977). In the Arctic foothills and Brooks Range, ASTt sites are relatively common.

3.1.5 Northern Maritime Tradition: Birnirk, Western Thule, and Late Prehistoric Eskimo (A.D. 400 to 1778)

During the Northern Maritime Tradition (Collins 1964), in the first millennium of the Christian era, prehistoric inhabitants of Northwest Alaska and the Arctic Coast increased their reliance on hunting marine resources. Analysis of detailed excavations at the Cape Krusenstern Archaeological District, the Birnirk and Walakpa sites (Ford 1959; Giddings and Anderson 1986; Stanford 1976) indicate that sea mammal hunting from strategic promontories may have become a preferred subsistence strategy. Birnirk may have co-existed temporally with Ipiutak, but does not appear to have been derived from it. Land mammal hunting, notably caribou, remained important, especially in the foothills regions (Cook 1977a, b; Gerlach and Edwin S. Hall 1986). The so-called Northern Maritime Tradition (Collins 1964) has been further delineated by Giddings and Anderson (1986) who see evidence for separate entities: Birnirk Period, Western Thule Period, and Kotzebue Period.

Around the beginning of the second millennium A.D., the Birnirk culture developed into the Western Thule culture, part of the widespread Thule culture that is clearly ancestral to the present-day Iñupiat people (Stanford 1976). Subsistence was broad-based, with both interior and coastal resource exploitation. Along the coastal areas, whaling became especially important; late prehistoric coastal material culture shows a well-developed and complex technology based on harpooning whales from skin boats.

² Radiocarbon (14C) dates reported here are expressed as "radiocarbon years before present" or simply, "B.P.". Due to a variety of factors that cause fluctuations in amount of radiocarbon at any given time, radiocarbon dates -- especially those from the late Pleistocene epoch -- may differ from actual calendrical equivalents by hundreds or even several thousand years. Calibrated BP (cal BP) ages and calendrical equivalents may be calculated using a calibration program, such as CALIB 5.0 program (Stuiver et al. 2005; see also Reimer et al. 2004).

3.1.6 Historic Period

Historically, the Kauweramiut, Malimiut, and Unalikmiut Eskimo occupied the Bering Strait Region and Seward Peninsula region (Ray 1984). Iñupiaq is the traditional language of the Kauweramiut and Malimiut, while the Unalikmiut spoke a sub-dialect of central Alaskan Yupik (Woodbury 1984). Trade around Northwest Alaska and across the Bering Strait was well-established long before explorers entered the area (VanStone 1984b). The Kauweramiut, Malimiut, and Unalikmiut were said to include groups that specialized in trading; even those who did not specialize certainly participated locally (Oswalt 1967). Kotzebue and Shesalik, on the north coast of Kotzebue Sound, and Point Spencer at Port Clarence, were among the regional trade centers visited by natives from all over Northwestern Alaska and parts of Siberia (Ray 1984; VanStone 1984b). In 1884, approximately 1,400 natives were observed at a trade fair at Kotzebue. Trading partners and kinship ties maintained ties between communities. When members of different groups met under any other circumstances, the encounter was often hostile (Oswalt 1967).

The traditional settlement and subsistence pattern for most Eskimo groups can be described as a Central Based Wandering system (after Beardsley, in Oswalt (1967)). Resources in the Bering Strait region are relatively abundant but they are not uniform (Burch 1984). For the most part, winter was spent in the village and summers spent moving between camps in pursuit of seasonal resources. Of course there was variability in the details of the pattern, both between and within groups and from year to year. There were summer villages where rich and stable resources were located, and some families might visit the same set of seasonal camps year after year while others followed a different pattern each year. Certain families or family members such as the very old and very young might remain in the village year round (Oswalt 1967).

Both permanent houses and seasonal camps were located with regard to availability of subsistence resources, fresh water, boat access and wood sources. The houses or tents would normally be oriented to landform, wind, light, and water. The exception to this was the community/men's house or *qargi* which was generally centrally located, and on high ground if possible (Oswalt 1967). Permanent winter houses were generally dug about 6 ft into the ground with walls and roof of wood, a long entrance tunnel, and an *oogruk*, or gut skylight. A small central fireplace and low sleeping platforms were in the main room and the kitchen was usually separate. In addition to the central hearth, heat and light were provided by pottery lamps (Burch 1984, 1998).

In 1778, Captain James Cook became the first European explorer to penetrate as far north as Kotzebue (Grauman 1977). Kotzebue Sound was discovered and explored in 1816 by Otto Von Kotzebue, while he was looking for the Northwest Passage on behalf of the Russian-American Company (VanStone 1984a). Kotzebue traded with the native people he encountered, and observed that they already had attained some western trade goods and were very savvy regarding trading practices. In 1820, Captains Shishmarev and Visiliev sailed Russian-American Company ships into Kotzebue Sound, and noted American trader Pigot in the region. In 1825, the British Captain Beechey came to Kotzebue Sound in an attempt to meet the first Franklin Expedition as it came across the Arctic coast (Grauman 1977).

The Russian American Company sent a ship annually from St. Michael to Kotzebue Sound starting in 1833 (Ray 1984). By the mid-1800s, Euro-American presence in Northwestern Alaska occurred annually in the summer. Sustained, year-round contact did not begin until the turn of the century. As a result, major impacts to the native culture of Northwest Alaska were felt later than they were in Southwestern or Southeast Alaska where permanent settlements and trading posts were established much earlier. As William Fitzhugh points out in his introduction to Nelson's classic ethnography (Nelson 1983 [1899]), the "trading posts" of the Bering Strait area were ships that went to the people in their traditional locations. Settlement and subsistence patterns, although certainly affected, were not interrupted by the need to transport skins and other items to an arbitrary place built by Europeans.

In 1848, the whaling ship *Superior* out of Sag Harbor, New York, ventured into the Bering Strait; whalers from the already established North Pacific fishery soon followed (Grauman 1977). In 1850 as many as 299 ships may have been whaling in the Arctic Ocean (Williss 1986). Port Clarence, Kotzebue Sound, and Point Hope were favored points to stop to meet with outfitting ships and to carry on the trade that became a back-up to the harvest of whales (Grauman 1977; VanStone 1984b). Between 1849 and the mid-1850s, several British ships wintered in Kotzebue Sound or Port Clarence while searching for survivors from the second Franklin expedition. Members of these crews conducted the first exploration of the interior of the Seward Peninsula by Euro-Americans (Grauman 1977).

In the mid-1860s, Western Union Telegraph Company sent work parties to Alaska to build a telegraph line linking the U.S. and Siberia. One party of 41 men was stationed at Port Clarence with instructions to construct a line across the Seward Peninsula. They suffered through the winter of 1866-67, managed to build 23 miles of line, and were picked up in July of 1867 after the trans-Atlantic cable had successfully been laid. The leader of this group, Daniel B. Libby, had noticed signs of gold in some of the interior creeks on the Seward Peninsula, and when the Klondike Gold Rush began in 1897, he returned to western Alaska to re-locate those finds (Cole and Walsh 1984).

In 1867, the United States purchased Alaska from Russia. The first U.S. government presence in Northwest Alaska was a trip through the Bering Strait by the Revenue Marine ship *Wayanda* in 1868 followed by the *Reliance* in 1870. It was not until 1880, however, that annual patrols of the revenue service were instigated to control trade in guns and liquor, conduct census and scientific studies, and provide aid and rescue service. Among those frequently rescued were the crews of whaling ships who got caught in the ice. Trade became a more significant factor in the economic success of a whaling voyage after the introduction of steam whaling ships in 1879 (Grauman 1977).

The U.S. government sponsored the next major change affecting Northwest Alaska and its native population, partly in response to the success of the commercial whalers. Observing the large numbers of whales and walrus harvested by the commercial ships, and somewhat misinterpreting the effect this was having on the native population, Dr. Sheldon Jackson spearheaded a campaign in 1890 to provide domestic reindeer as a replacement (Grauman 1977; Simon 1998). Jackson was the Agent for Education in Alaska and also a Presbyterian missionary. As a result, reindeer

herds were almost all associated with missions and mission schools. The influence of the missions, hospitals, and schools often associated with reindeer herds impacted seasonal mobility, as well as language, society, and culture (Grauman 1977; Simon 1998; Williss 1986). It is likely that interior populations moved to the coast to be closer to the missions, biasing the interior population numbers recorded by turn of the century accounts. Northwest Alaskans have come to value education in particular, and a high percentage of students finish high school and continue on to higher education (VanStone 1984a).

The influence of reindeer herding on the Native economy and culture were just beginning to be felt when the Klondike Gold Rush of 1897 occurred, guaranteeing that Euro-American presence in Alaska was a permanent fact. Prospecting had been going on in various places around the Seward Peninsula prior to 1897, based out of centers such as the trading post at Golovin Bay and the reindeer stations. Before the Klondike Gold Rush, there were relatively few miners in Alaska, though there had been small rushes on the Turnagain Arm, the upper Yukon and other places. The Nome Gold Rush of 1898 -1899 triggered an influx of thousands to the Seward Peninsula and established the first large scale Euro-American Settlements. The arrival of so many people severely impacted Native culture, especially in the vicinity of white settlements (Cole and Walsh 1984).

The community of Kotzebue has been the site of Native settlement for at least 600 years. Known as *Kikiktagruk* at the time of contact, the community was a summer fish camp and a major trading site. It became a permanent settlement in 1897, when a reindeer station was established. The community was renamed Kotzebue in 1899, when a post office was established; the city was incorporated in 1958 ((ADCRA) 2012).

In 1948, the USAF Alaska Air Command chose a 676-acre site south of Kotzebue as a temporary AC&W site and the facility became operational in 1950. The temporary station included housing and operational radar and communications facilities. In 1955, the decision was made to upgrade Kotzebue to a permanent station and construction began on new buildings and facilities. Kotzebue became an operational ground control intercept station in February 1958. Controllers at Kotzebue could direct fighters launched from forward operating bases, such as Galena and King Salmon to intercept Soviet aircraft detected by the installation's radar. During its period of operation, Kotzebue received upgraded radar and communications equipment, which required new buildings and support infrastructure ((CEMML) 2010).

Communications for the site were initially provided by the White Alice Communication System (WACS), which bounced radio waves off the troposphere. The WACS went on line in May of 1957 and continued in operation until May 1979, when it was replaced by commercially owned and operated satellite system ((CEMML) 2010).

During the early days of operation, supplies for the Kotzebue AC&W station were air dropped. Subsequently, the station was supplied by sea lift. Since the construction of an airport in Kotzebue, personnel and critical cargo have been delivered to the site by air. Non-perishable items are still transported to the site by barge in the summer ((CEMML) 2010).

By the 1970s, the AC&W was obsolete and expensive to maintain. Following a series of studies, the Air Force undertook a modernization program (Figure 6). In 1977, a site support contract was signed with RCA, to reduce military personnel at the site and cut costs. In 1982, a system was installed that allowed radar information to be transmitted to a Regional Operations Control Center at Elmendorf Air Force Base. In 1983, all military personnel were withdrawn from the Alaskan AC&W sites (including Kotzebue), leaving them entirely civilian contractor operated and maintained. The sites, redesignated Long Range Radar Sites (LRRS) were upgraded to Minimally Attended Radars (MAR) in June of 1984. The withdrawal of military personnel and the installation of the MAR led to the abandonment of the majority of buildings at the Kotzebue AC&W / LRRS and White Alice sites. Left untended, the buildings fell into disrepair and suffered from vandalism. In the mid 1980s and late 1990s, studies were undertaken to assess the eligibility of the AC&W / LRRS and White Alice buildings at Kotzebue for listing on the NRHP (Figure 7). All but one of the buildings at the Kotzebue AC&W / LRRS facility were demolished by the USAF between 1996 and 1999. The personnel who currently maintain the Kotzebue MAR facility live in the City of Kotzebue ((CEMML) 2010).

4.0 CULTURAL RESOURCES IN THE VICINITY OF THE SURVEY AREA

4.1 History of Cultural Resources Research in the Vicinity of Kotzebue

The City of Kotzebue is built on a spit that has been the site of human occupation for thousands of years. The entire spit has been proposed as an archaeological district (KTZ-00036) encompassing several prehistoric sites and the historic village of Kotzebue (Gal 1986), but field research in the area has been sporadic. The locations of early work are difficult to tie into modern landmarks and the presence of recent developments and fill make subsurface testing difficult today. Table 2 summarizes the literature available on Kotzebue archaeological studies. Figure 2 depicts and Table 3 lists the AHRS sites within three miles of the proposed Kotzebue to Cape Blossom Road route.

In 1940, Giddings traveled to Kotzebue after excavating at several sites in the region. While hiking south of the village, Giddings discovered an estimated 100 housepits on a gravel beach ridge approximately three miles from town (Giddings 1967). Giddings returned in 1941 and excavated at four different sites located near the village (Giddings 1952). However, he did not publish a site map, thus making the exact location of his research uncertain (see below). The northern boundary of the Old Kotzebue site (KTZ-00031) began within the southern limit of the village (in 1941) and extended to the south. The site was estimated to contain over 200 housepit features (Giddings 1952; VanStone 1955), and was considered the earliest. The Intermediate Kotzebue site (KTZ-00030) is located approximately two miles south of the Old Kotzebue site, and contained 30 housepit features.

Giddings also excavated one housepit at his site #38, located between the Old and Intermediate Kotzebue sites (Giddings 1952). Although it was apparently originally included in AHRS site KTZ-00001 (Williams 2006a), it is not historic and is included in KTZ-00031. Robert Gal plotted the areas tested by Giddings in his Bureau of Land Management nomination for the Kotzebue Archaeological District (KTZ-00036) (Gal 1986). Gal's locations are based on a comparison of Giddings' location descriptions with contemporary maps of the City of Kotzebue and on Gal's own intimate knowledge of the area, and are considered the most accurate information available.

Although Giddings excavated housepits in each of the three sites, the majority of his data originated from the Old and Intermediate Kotzebue Sites. The occupants of both sites practiced a mixed land and sea subsistence economy, with the residents of the Old Kotzebue site using implements that more closely resembled Western Thule tools, and the Intermediate tool kits more closely resembling those used into historic times (Gal 1986). Using dendrochronology, Giddings dated the sites as being occupied approximately 150 years apart, with Old Kotzebue occupied in A.D. 1400, and Intermediate in A.D. 1550 (Giddings 1952). Giddings also marked the difference between the two by the presence of jade processing tools, sleds, both ceramic and stone lamps, and plate armor in the Intermediate assemblage.

Table 2. Previous Cultural Resource research in the vicinity of Kotzebue, on the Upper Baldwin Peninsula, Alaska

Year	Reference	Sites/Area Investigated	Findings/Comments
1940-41, '47, '58	(Giddings 1952, 1957, 1958, 1961, 1967)	KTZ-00030, 00031	~50 housepits (5 excavated) at KTZ-00030; 1 housepit excavated at Giddings Site 38 (included in KTZ-00031 by KTZ MOA); ~200 housepits (3 excavated) at Old Kotzebue (KTZ-00031). Pits faintly visible on the surface.
1951	(VanStone 1953, 1955)	KTZ-00031	8 housepits excavated in area adjacent to Giddings work. Pits faintly visible on the surface.
1975	Craig, unpublished	Unknown if applicable to Project area	Elders' conference to inventory ANCSA 14(h)(1) sites. Proceedings were to be published
1976	(Stern and Newell 1976)	KTZ-00030 and KTZ-00031	2 housepits by Rurik Way included in KTZ-00031 by KTZ MOA. Burials observed in KTZ-00030; physical anthropologist excavation recommended (see Scott 1976 and Scott et al. 1978).
1976	(Scott 1976a; Scott et al. 1978)	KTZ-00030 and KTZ-00031	3 housepits by Rurik Way (KTZ-00031), two may be the same as observed by Stern and Newell 1976. Excavated "whalebone burial": a mass grave of 14 intact individuals and numerous human remains in secondary context; bones reburied on "a small knoll... about 1 mile south."
1976	(Williams 2006a)	KTZ-00031	Burial exposed and removed while blading E edge of Third Ave. (very near surface). *This has happened more than once but locations of other occurrences are not recorded (see Stern 1982:141).
1977	(Bacon 1977)	Near Grayling/Salmon Streets intersection	Negative tests for Community Center (40 centimeters (cm) max depth of test pits; disturbed ground).
1978	(Smith 1978)	KTZ-00030	Survey for gravel pit revealed KTZ-00030 features north of impact area; disturbance to site along road has been ongoing since 1976.
1981	(Stern 1982)	KTZ-00001, 00030, and 00031	Survey for various street improvements around town. No subsurface testing but extensive interviews on known locations of cultural materials. Human remains exposed by grader at Fourth and Mission.
1982	(Wiersum 1982)	KTZ-00030	Survey of gravel pit expansion near KTZ-00030 revealed partial burial in old pit wall, testing north and south of the site was negative.
1983	(Wiersum 1984b)	Grizzly Way	Negative Results on Grizzly Way ("limited subsurface testing", wet and disturbed).
1984	(Crozier 1984)	1 mile E of Kotzebue	Negative survey of allotment.
1984	(Schley 1984)	3 miles S of Kotzebue	Negative survey of allotment.
1984	(Wiersum 1984a)	Near 3rd/Garden intersection	Negative tests at National Guard Armory (no depth mentioned).
1985	(Crozier 1985)	Lot 5, Block 1, Tract 9 of USS 2645	Negative survey of townsite lot, no subsurface testing

Year	Reference	Sites/Area Investigated	Findings/Comments
1985	(Desson 1985)	Beach in front of town	Negative tests on beach in front of town (average depth: 40 cm).
1986	Gannon and Wiersum 1986, unpublished see Yarborough (1994)	Mission-Grizzly, Fifth-Seventh Streets	Negative survey in lot for hospital.
1986	(Gal 1986)	KTZ-00031	Housepit near Hanson's Store entrance (Gal, pers. comm., 2006) included in KTZ-00031 by KTZ MOA. Observed during foundation excavation.
1986	(Gannon 1987)	KTZ-00030	Survey and test pits for proposed shore road; KTZ-00030 mapped, alternate road location proposed to lower direct impacts but further study would be required.
1988	(Navarre et al. 1988a)	KTZ-00031	Negative survey of 1 townsite lot on Front St., subsurface testing not specified.
1988	(Navarre et al. 1988c)	KTZ-00031	Negative survey of 1 townsite lot on Front St., subsurface testing not specified.
1988	(Navarre et al. 1988d)	KTZ-00031	Negative survey of 1 townsite lot on Front St., subsurface testing not specified.
1988	(Navarre et al. 1988b)	Lot 7, Block 7, Tract A, USS 4498	Negative survey of 1 townsite lot on Fourth St., subsurface testing not specified.
1988	(Navarre et al. 1988e)	Lot 10, Block 14, Tract A, USS 4498	Negative survey of 1 townsite lot on Sixth St., subsurface testing not specified.
1988	(Zimmerman and Street 1988)	KTZ-00031	Negative survey of 1 townsite lot on Front St., subsurface testing not specified.
1988	(Reynolds 1988a, b)	KTZ-00037	Historical overview and inventory of the White Alice Communication System. Included the facility in Kotzebue.
1989	(Navarre et al. 1989c)	In townsite	Negative survey of 1 townsite lot on Front St., subsurface testing not specified.
1989	(Navarre et al. 1989b)	4 miles S of Kotzebue	Negative survey of allotment.
1989	(Navarre et al. 1989a)	Pipe Spit	Negative survey of allotment. There is a native cemetery on separate lot within allotment boundary.
1989	(Gal 1989, 1991)	KTZ-00031	Four possible positive results (included in KTZ-00031 by KTZ MOA), 10 negative tests in town. 10 of 14 lots had test pits dug (no depth mentioned).
1989 & 1990	(Smith 1989, 1991; Smith 1990)	KTZ-00031	Cache and house room excavated; rest of housepit under street. Sod I ~20 cm below surface.
1990	(Hoff and Thorsen 1990a)	KTZ-00234, 1.5 miles S of Kotzebue	Negative survey of allotment. Cold Storage facility (KTZ-00234) considered not significant.

Year	Reference	Sites/Area Investigated	Findings/Comments
1990	(Hoff and Thorsen 1990c)	Lot 13, Block 19, Tract B, USS 4498	Negative survey of 1 townsite lot at Otter and Turf Streets, subsurface testing not specified.
1990	(Hoff and Thorsen 1990b)	5 miles S of Kotzebue	Negative survey of allotment. KTZ-00158 mentioned to south of survey.
1991	(Hoff and Zimmerman 1991)	5 miles S of Kotzebue	Negative survey of allotment.
1992	((BIA) n.d.) ca. 1992	KTZ-00038 (KTZ-00031)	Included in KTZ-00031 by KTZ MOA. On surface.
1993	(Groethe 1993b)	1 in KTZ-00031	Negative survey of 3 townsite lots: Front St., Garden and Third, Otter and Turf Streets, 1 shovel test.
1993	(Groethe 1993a)	Pipe Spit	Negative allotment survey; “recent” graves are present.
1993	(Yarborough 1994)	Partly in KTZ-00031	Negative survey of sewer and water connections and new housing construction lots; extensive subsurface testing.
1993	(Gillispie 1993)	13.5 miles southeast of Kotzebue	Negative survey of allotment
1994	(Harritt 1994a, b)	KTZ-00031	Positive results at House 2601 and 2616. 12 and 48 cm deep, respectively.
1994	(Tyler 1995)	Kotzebue bluff	Cultural resource survey for road on bluff behind Kotzebue; no resources were found but KTZ-00037 was noted and the western end of the bluff was considered to be archaeologically sensitive.
1994	(Manchester and Sheehan 1996)	In townsite	Negative survey of 8 townsite lots (see map), no subsurface testing.
1994	(Reynolds 1994)	Most in KTZ-00031	Negative survey of 25 townsite lots (see C1), some subsurface tests dug, some to beach gravel.
1994	(Groethe 1994)	In townsite	Negative survey of 2 townsite lots (Third and Garden, E end of Caribou Dr.), no subsurface testing, some exposures examined.
1994	(Denfield 1994)	US Air Force installation at Kotzebue	Management plan for Cold War site in Alaska, including the Kotzebue White Alice Communication facility.
1995	(Pipkin 1995b)	Lot 5, Block 3, Tract A, USS 4498	Negative survey of 1 townsite lot near Minnie St., no subsurface testing.
1995	(Pipkin 1995a)	Nimiuk Point (~15 miles SE of Kotzebue)	Negative survey of allotment.
1996	(DePew 1996)	Lot 8, Block 1, Tract 7, USS 2083	Negative survey of 1 townsite lot on Front St., subsurface tests did not penetrate fill.
1997	((SHPO) 1997)	US Air Force installation at Kotzebue	MOA regarding the demolition of nineteen installations in the White Alice Communications System, Alaska
1998	((SHPO) 1998)	US Air Force installation at Kotzebue	PA regarding archaeological properties on Air Force sites, including the Kotzebue LRRS site.
1998	((CES) 1998)	US Air Force installation at	Historic building inventory of Aircraft Control and Warning (AC&W)

Year	Reference	Sites/Area Investigated	Findings/Comments
		Kotzebue	site near Kotzebue.
1999	((CES) 1999)	US Air Force installation at Kotzebue	Management plan for Aircraft Control and Warning (AC&W) site near Kotzebue.
1999	(Nonaka 1999)	Inventory and Evaluation of the Gravel Structures of the DEW and AC&W Systems	DOEs for gravel structures associated with DEW and AC&W sites in Alaska including KTZ-00231 and KTZ-00232 in Kotzebue. These two sites were recommended as NRHP eligible, SHPO concurred.
1999	(Biddle 1999)	2 miles S of Kotzebue	Negative survey of allotment.
2000	(McIntosh and Bowers 2000)	KTZ-00031	One negative (H210), 2 positive results at Houses 723 and 726 (included in KTZ-00031 by KTZ MOA). 2 test pits failed to reach bottom of fill at 70 cm to 1 m in depth. All cultural material in fill.
2001	(DeVore 2001)	2.5 miles S of Kotzebue	SHPO opinion of No Historic Properties Affected for OTZ Telephone Cooperative, Inc. antenna near June Creek.
2001	(DePew and Buzzell 2002)	KTZ-00031	Positive tests along Front Street (included in KTZ-00031 by KTZ MOA). Test depths 65-104 cm.
2001	(Buzzell and Breiby 2003)	KTZ-00250 (KTZ-00001)	Proposed Historic District on Front Street KTZ-00250 (included in KTZ-00001 by KTZ MOA).
2001	(Williams et al. 2001)	Airport safety area	Negative cultural resource survey in and adjacent to runway approach; cemetery proximity noted.
2001	(Hoffecker et al. 2001a)	US Air Force installation at Kotzebue	Inventory of archaeological sites and historic structures on the US Air Force installation at Kotzebue
2002	(DePew and Buzzell 2002)	Airport Apron Improvements	Negative survey, no test pits.
2002	((NPS) 2002b)	KTZ-00031	Negative test trenches and pits at Fifth Avenue and Mission Street.
2002	((NPS) 2002a)	KTZ-00031	Positive tests on NANA Museum Property: First and Second Avenues; human remains and artifacts in fill.
2002	(Weaver 2003)	Weather Service facilities (at airport)	Negative survey; no subsurface testing.
2003	(Wightman 2003)	Airport building construction	Negative survey- old results applied to new project.
2003	(Reuther and Bowers 2003)	KTZ-00031	Positive results at House 725 (included in KTZ-00031 by this report). Artifacts in disturbed context 30-60 cm deep observed during trenching.
2004	((NPS) 2004b)	KTZ-00031	Positive monitoring of water line repair at Second Avenue and Lake Street. Cultural material in previously disturbed context.
2004	((NPS) 2004a)	KTZ-00031	Negative monitoring of 780 ft of pipeline corridor at Fifth Avenue and Mission Street.

Year	Reference	Sites/Area Investigated	Findings/Comments
2004	(Brown 2004)	KTZ-00031	Positive monitoring of water trench at 112 Second Ave.; ground surface, prehistoric cache, and 2 posts documented in primary context, artifacts collected.
2005	(Williams and Slaughter 2005)	Lake/Fourth area; Ptarmigan-Caribou-Sixth-Alice Streets area	Negative monitoring of trenches 50 cm to 3 m deep. Some undisturbed beach gravels observed but no cultural resources.
2005	(Gilbert-Young 2005)	KTZ-00031	Negative testing program on Second Avenue (Bldg 160) parking area (test pits up to 150 cmbs)
2005	((NPS) 2005b)	KTZ-00031	Positive tests on Second Avenue (Bldg 152) lot: house pit side room (house pit still exists under street)
2005	((NPS) 2005a)	KTZ-00031	Positive observations during monitoring of NANA Museum demolition at First and Second Avenues, multiple artifacts from secondary context.
2005	((Clarus) 2005)	National Guard Armory, Kotzebue, Fourth Avenue.	Negative. No subsurface testing. SHPO issued a finding of “No Historic Properties Effected.”
2005	(Young 2005a)	NPS Building 152	Positive. Archeological testing prior to demolition (test pits up to 135 cmbs). Recommended monitoring for future excavation activities on site. SHPO issued a finding of “No Historic Properties Effected.”
2005	(Young 2005b)	First/Second Avenues	Positive observations during monitoring of demolition of NANA Museum and initial construction of the National Park Service heritage center..
2006	(Williams 2006b)	KTZ-00001, 00031	Opinion of No Historic Properties Affected for offshore dredging at N end of Kotzebue. No survey.
2006	(Williams and Cassell 2006)	KTZ-00001, 00031, 00250	Positive observations during monitoring of sewer and water line trenches in the vicinity of Rurik Way, 5cm to 2m deep. At least two pre/proto historic and one historic feature encountered.
2006	(Williams 2006a)	Baldwin Peninsula north of the neck.	Kotzebue Airport relocation feasibility study. Helicopter survey and interviews. Concluded coast of Baldwin Peninsula had high and interior low potential to contain cultural resources.
2007	(Williams 2007)	Kotzebue Water System Improvements	Negative observations during monitoring of excavation for improvements to the Kotzebue Water System.
2008	(Mobley 2008)	Kotzebue Water System Improvements	Positive observations during monitoring of excavation for improvements to the Kotzebue Water System. Recommended not to be of culturally significant.
2009	(Clarus Technologies 2009)	Federal Scout Readiness Center, Kotzebue	Cold War Historical Survey for Federal Scout Readiness Center Located in Kotzebue, Alaska. No subsurface testing. Recommended

Year	Reference	Sites/Area Investigated	Findings/Comments
			not eligible for listing on NRHP.
2009	(Cassell et al. 2010)	Kotzebue Safe Water Project	Positive observations during monitoring of excavation for improvements to the Kotzebue Water System. 3568 artifacts collected, two new AHRS sites identified (KTZ-00314, KTZ-00315), recommended not eligible for listing on NRHP.
2009	(Mason 2010)	Analysis of Artifacts recovered during the 2009 Kotzebue Safe Water Project	Analysis of six artifacts recovered during 2009 monitoring of improvements to the Kotzebue water system.
2010	((CEMML) 2010)	Integrated Cultural Resources Management Plan: Aircraft Control and Warning System, Alaska	Document includes a chapter on the history of the Kotzebue installation, a list of archaeological and Cold War resources, traditional cultural properties and recommendations for managing the site.
2011	((DOT&PF) 2011)	Kotzebue to Cape Blossom Road Reconnaissance Study	Evaluation of the preliminary road alignment options for the Kotzebue to Cape Blossom Road.
(1) Exact dates are listed for projects when known.			
(2) Project Names are summarized from report titles, or authors' descriptions.			
(3) Results are summarized from available reports.			
(4) The primary source of information only is listed. Subsequent reports may provide additional information. These are listed in the References Cited section.			
Sources: Compiled by NLUR (2012) from cited reports and publications.			

James VanStone excavated an additional eight housepits at the Old Kotzebue site in 1951 (VanStone 1955). Like Giddings, VanStone did not publish a site map identifying the location of his excavations within the site, but Gal (1986) plotted VanStone's excavation area adjacent to Giddings' section of KTZ-00031. Radiocarbon dates for the various houses spanned the 150 year gap ascertained by Giddings, resulting in the assertion by VanStone that the occupation at Kotzebue could not be divided into Old and Intermediate phase. VanStone's research also allowed him to reconstruct the prehistoric seasonal round of the inhabitants of Kotzebue using the archaeological record. Spring was spent netting salmon that migrated near the shore after the ice went out. Fishing was continued into summer, along with caribou hunting, using bow and arrow and lances, birds, with spears and blunt arrows, and the harpooning of seals and beluga. VanStone also assumed that berries, edible plants, and bird's eggs were gathered during the summer, although there are no definitive artifacts or remains to substantiate the claim. Wintertime was spent fishing for pickerel, sheefish, whitefish, and tomcod using a specialized hook or gorge and line technique. Finally, VanStone asserted that the people who lived at Kotzebue most likely resided there year-round, leaving only for short periods of time throughout the year (VanStone 1955). Central to this theory is the assertion that caribou ventured to the coast in the summer in order to get away from mosquitoes, thus allowing the inhabitants to hunt the animals near the village.

Since 1951, no further research-oriented excavations have taken place in and around Kotzebue. All subsequent archaeology was carried out in conjunction with various construction projects that threatened the destruction of known archaeological sites or were necessary as part of the Section 106 process (Gal 1986). All of these projects that could be identified are listed in Table 2 and the most significant are described briefly here.

In 1976, a cultural resources survey was conducted for the Public Health Service (PHS) due to construction of a new water main and sewage lagoon expansion (Stern and Newell 1976). Work had already begun on the project, and two housepits were identified (one disturbed by the construction, one intact) under Rurik Way near the northern end of town, and six other sites were located within the area of sewage lagoon expansion. It was the recommendation of the archaeologists that a "whale bone burial" in the lagoon area be excavated, and that further work in the Rurik Way area be monitored. The excavation of the burial occurred later that summer, and was found to be a mass burial area as opposed to a single grave. In total, the burial contained the remains of over 42 individuals, 14 of whom were intentionally buried and the remainder apparently the result of the secondary interment of bones from traditional above ground burials (Scott 1976b; Scott et al. 1978). On Rurik Way, three housepits were observed during trench monitoring, one of which may be the same as one identified by Stern and Newell (1976).

In 1976, a human burial was exposed by a road grader widening Third Avenue near the southwest corner of the Third Avenue and Lake Street intersection (Williams 2006a). The bones were given to the resident Bureau of Land Management (BLM) archaeologist Howard Smith, who found that, at that time there was little local or professional interest in the find, and they were eventually re-interred in a local cemetery. A survey of a lot for construction of a Senior Center was carried out in 1977 with negative results (Bacon 1977), including test pits dug to 40

cm depth. A portion of the lot had been used as a gravel source. In 1981, ADOT&PF proposed upgrading several streets in Kotzebue. Archaeologist Richard Stern assessed the potential for discovering cultural resources in the proposed project areas. Stern and Steve Klingler conducted a surface survey of the area of effect, but did not have permission to dig subsurface tests on private land. The surface examination was supplemented by information from knowledgeable local residents concerning the location of known burials and archaeological sites. As a result of this research, Stern identified several areas with high potential to yield cultural resources. He also observed more/thicker fill at the east end of town than the west (Stern 1982).

An archaeological testing program was conducted in 1985 along the beach opposite Shore Avenue/Front Street in conjunction with a proposed erosion control project. No cultural resources were located in a series of ~40 cm deep test pits dug near the top of the beach (Desson 1985). In 1986, the entire spit on which the village of Kotzebue is located was proposed as an archaeological district (Gal 1986). The Kotzebue Archaeological District (KTZ-00036) includes Historic Kotzebue (KTZ-00001), Old Kotzebue (KTZ-00031), Intermediate Kotzebue (KTZ-00030), KTZ-00038, and Giddings Site 38 (considered part of KTZ-00031 by this report). These sites have yielded significant information concerning the history and prehistory of the region, and retain the potential to yield information in the future. It is possible that new subsurface information may change the current site boundaries and add new sites to the district, as the Kotzebue area has never been systematically surveyed. For these reasons, the Kotzebue Archaeological District was deemed eligible for inclusion to the National Register of Historic Places by the Alaska State Historic Preservation Office. It has not been formally placed on the National Register of Historic Places ((OHA) 2012).

Bureau of Indian Affairs (BIA) archaeologists have carried out many small surveys on Native Allotments and townsite lots (Biddle 1999; DePew 1996; Groethe 1993a, c, 1994 ; Hoff and Thorsen 1990a, b, c; Hoff and Zimmerman 1991; Navarre et al. 1989a, b, c; Navarre et al. 1988a, b, c, d, e; Pipkin 1995b; Zimmerman and Street 1988). Almost all of these had negative results. An archaeological survey was conducted for the Northwest Iñupiat Housing Authority (NIHA) in 1989, prior to the construction of several new houses within the city limits. At that time, two of the house lots were found to contain prehistoric materials (Gal 1991), and two others were considered to be of high potential. Test pits of unspecified depth were dug on 10 of the 14 lots. In the same year, National Park Service (NPS) archaeologists conducted a survey in the proposed parking area for their new employee residence complex in the southwest part of town (Smith 1991). The survey resulted in the identification of a semi subterranean housepit on the north edge of the lot, across the street from one of the archaeologically positive NIHA lots surveyed by Gal (1991). The NPS excavated the housepit in 1990 (Smith 1991), recovering material from as shallow as 20 cm below the surface.

An undated BIA Site Survey Record (probably from about 1992) describes the results of a townsite lot survey that resulted in definition of KTZ-00038. This is a pre- or proto-historic house wall, apparently exposed on the surface. Most of the feature has been destroyed by erosion ((BIA) n.d.). Both sewer and water connections to existing houses and lot surveys for proposed new housing were carried out by Yarborough in 1993 (Yarborough 1994). He dug many subsurface tests (unspecified depths) but did not find any intact cultural deposits. In 1994,

Roger Harritt, a consulting archaeologist for the NIHA, surveyed and monitored water and sewer service connections for two houses in Kotzebue, and discovered cultural materials on both lots, at 12 and 48 cm depths (Harritt 1994a, b). He also recorded an oral account of two burials and a prehistoric house discovered during water line installations in the 1960s (Harritt 1994a:4). A 1996 survey conducted by SJS Archaeological Services for NIHA cleared eight townsite lots for sewer and water service lines without any subsurface testing because most services were being replaced in the same trenches (Manchester 1996).

The U.S. Army Corps of Engineers (USACE) conducted survey and testing on 256 lots where gravel was to be spread for new construction (Reynolds 1994). Some subsurface tests were dug that reached beach gravel; no significant deposits were located. NLUR conducted several small survey and monitoring projects in connection with service lines to homes in Kotzebue. In 2000, Stacie McIntosh observed several artifacts in secondary deposits that included modern debris on two different house lots (McIntosh and Bowers 2000). Test pits dug by hand on to depths of up to 1 meter failed to find cultural material. A 2001 survey to assess possible impacts of proposed airport safety improvements did not overlap with the current project area (Williams et al. 2001). In 2003, Josh Reuther found prehistoric and historic artifacts 30-60 cm below surface in disturbed context at the house connection trench he monitored (Reuther and Bowers 2003). Under “emergency” agreements with AKSHPO and the Kotzebue Tribe, NLUR monitored the first phase of the Kotzebue Water and Sewer Improvements project in the fall of 2005 (Williams and Slaughter 2005). Sections of Lagoon Loop (Lake Street and Fourth Avenue area) and the Uptown/Central Water Loop (Ptarmigan-Caribou-Sixth-Alice Streets area) were monitored while trenches for new water mains were dug between 50 cm and 3 meters deep. Although areas of apparently undisturbed beach gravels were observed, no cultural resources were found. A formal MOA was drafted in early 2006 (MOA 2006) and monitoring continued in summer 2006. Isolated artifacts and several possible features were recorded in the Rurik Way area of town (Williams and Cassell 2006). Additional monitoring and research associated with upgrades to the Kotzebue water system was carried out in 2007, 2008 and 2009 (Cassell et al. 2010; Mason 2010; Mobley 2008; Williams 2007). These efforts recorded thousands of artifacts and identified several new AHRS sites. However, as of this writing, none of the sites identified have been determined eligible for listing on the NRHP.

In 2002, State of Alaska Division of Natural Resources (DNR), Office of History and Archaeology (OHA) conducted work in Kotzebue on behalf of ADOT&PF for the Front Street Improvements Project. Archaeologist Alan DePew directed an archaeological testing program, and Historians Rolfe Buzzell and John Breiby investigated historic structures in the project area: Front Street from Lake Street on the south to Rurik Way on the north. Twenty-five of twenty-seven archaeological tests between 65 and 104 cm deep, all placed within the Front Street right of way, were positive for cultural resources. Materials recovered indicate at least two archaeological components are present. The historic analysis resulted in the proposal of a Historic District for Kotzebue, extending roughly from Tundra Street to northeast of Ocean Way (Buzzell and Breiby 2003; DePew and Buzzell 2002).

The National Park Service carried out several testing and monitoring projects between 2002 and 2005 ((NPS) 2002a, b, 2004a, b, 2005a, b; Gilbert-Young 2005). Two testing programs on NPS

lots and one pipeline installation monitoring revealed no cultural resources. Work at the former NANA Museum property (2 projects), another NPS lot, and monitoring during water line repair produced both disturbed and intact cultural material. Another house connection line along Second Avenue was monitored in 2004

In 2006, NLUR carried out a cultural resources analysis as part of a feasibility study for the relocation of the Kotzebue Airport. No specific airport location was identified for the project, but three Study Areas (Study Area 1, 2 and 3) were defined. This study is of particular relevance to the current Project as the three Study Areas covered all of the Baldwin Peninsula north of the neck (south of Cape Blossom), including the entire route of the proposed Kotzebue to Cape Blossom Road. Based on their literature review, NLUR determined that potential to find cultural resources was high along the coast and low in the interior. In order to confirm or refute this model, they conducted informal interviews with residents of Kotzebue and conducted helicopter surveys of the three Study Areas (Williams 2006a).

NLUR's 2006 Study Area 1 included the entire tip of the Baldwin Peninsula. NLUR's 2006 literature review showed that the majority of the known cultural resources on the Baldwin Peninsula were in the vicinity of Kotzebue. Outside the community of Kotzebue, NLUR's 2006 interviews and helicopter survey identified several isolated sites and activity areas, including two graves along the coast, a small frame cabin northeast of Devil's Lake and a possible reindeer corral (Williams 2006a). In 2006, the area between Kotzebue and Devil's Lake was the source of Kotzebue's water supply and was heavily used for subsistence resource gathering. There were seasonal fish camps along the shoreline in the bay west of Pipe Spit and grave markers were observed in several places behind the camps on high ground. Graves were also noted at Pipe Spit; these are referred to in BIA surveys of allotments in this area (Groethe 1993a; Navarre et al. 1989a).

One of several active cemeteries (the others are within the city) was located on the bluff east of Kotzebue immediately north of the approach path to the primary east-west runway (runway 27-09). A hydraulic "excavation" was carried out within the approach area to improve the safety clearance of the approach in the early 1970s (Williams et al. 2001). This artificial drainage is immediately south of the cemetery. The only observed cultural resource in Area 1 located more than one-half mile from the coast and Kotzebue Bluff that is considered to have potential significance was a possible reindeer corral (Williams 2006a).

The northern half of the two Kotzebue to Cape Blossom Road alternate routes covered by this report is located in the region NLUR designated Study Area 2. NLUR's 2006 literature review identified several sites within Study Area 2, including the White Alice station, a cabin on the USGS map that was not reinvestigated and may not be extant, a historic site (KTZ-00230), and two sites on the south side of the mouth of Sadie Creek. One of the Sadie Creek sites was a reindeer corral (KTZ-00303). All these sites were on the western shore of the Baldwin Peninsula, within 1 mile of the shoreline. No new sites were observed in this area during the 2006 helicopter over flight and the interior land was described as "very low and wet" (Williams 2006:15). Sadie Creek was reported as a focus of subsistence resource gathering and an access corridor to the interior of the peninsula. For this reason, NLUR concluded that the banks of

Sadie Creek had somewhat higher potential for cultural resources than the surrounding area (Williams 2006a).

The southern half of the proposed Kotzebue to Cape Blossom Road route is located in the area NLUR designated Area 3. NLUR observed two features in this Study Area during their 2006 helicopter survey; a grave and fairly recent frame structure near Cape Blossom, and a drill hole depicted on the USGS map in the eastern part of the Study Area. The grave was very near the shoreline and the drill hole was not considered to have an historic significance. Local resident Roy Mendenhall stated that the grave was that of his grandmother (Williams 2006a).

The western alternative of the proposed Kotzebue Cape Blossom Road (Figure 2) passes over a 676 acre US Air Force installation (US Survey 10393 Lot 1) ((CEMML) 2010). At the time of this report, this property, with the exception of a 400 x 400 ft reserve around the buildings still in use by the Air Force as a Minimally Attended Radar (MAR), has been selected by the KIC as part of its Alaska Native Claims Settlement Act (ANCSA) lands, but the parcel has not yet been conveyed.

Air Force occupation of the site began in 1948. It was intended as a temporary part of the Air Force Aircraft Control and Warning (AC&W) System in Alaska. The original facility included housing and operational radar and communications facilities. The Kotzebue facility was eventually made permanent and underwent technical upgrades. For example, the site was originally served by the White Alice Communication System, which bounced radio waves off the troposphere, but this system was replaced in 1979 by commercial satellite communications. The Kotzebue facility continued in operation until 1983, when operations were consolidated at the Elmendorf Regional Operations Control Center. When this happened, the site became one of the Air Force's Alaskan LRRSs ((CEMML) 2010).

The cultural resources on this property have been extensively studied. In 1988, an inventory was carried out for Cold War White Alice Communication System sites in Alaska, including the facility in Kotzebue (Reynolds 1988b). This work resulted in a National Register nomination for selected White Alice Sites, including the Kotzebue Station (Reynolds 1988a). Although the Kotzebue White Alice Communication System (WACS) Station Historic District has been determined eligible for listing on the NRHP, it has not yet been listed. The Final Historic Building Inventory and Evaluation for Aircraft Control and Warning (AC&W) Sites ((CES) 1998) included a description and recommendation of eligibility for all the remaining structures at the Kotzebue LRRS facility. A 1998 survey within the boundaries of the LRRS facility identified a single archaeological site (KTZ-00250), which was determined not eligible for listing on the NRHP (Hoffecker et al. 2001b). The historic AC&W facility at Kotzebue was recommended as eligible for listing on the NRHP under Criteria A for its association with events important in the history of the Cold War and of the development of Alaska ((CES) 1998). In accordance with an MOA signed October 1997, the buildings and structures were documented to Historic American Buildings Survey (HABS) Level 3 recordation standards. The White Alice buildings were demolished in 1996. All but one of the buildings at the Kotzebue LRRS were demolished in 1999 as part of environmental restoration activities. Three remaining structures at the Kotzebue LRRS are considered eligible for listing on the NRHP ((CES) 1998). In 2010, an

Integrated Cultural Resources Management Plan (ICRMP) was written for the AC&W system in Alaska ((CEMML) 2010).

4.2 Known Cultural Resources Within Three Miles of the Kotzebue to Cape Blossom Road Cultural Resources Survey Area

An examination of the AHRS database shows 99 AHRS sites within 3 miles of the survey area for the proposed Kotzebue to Cape Blossom Road (Table 3, Figure 2). Of these, 34 have had no formal determination of eligibility (DOE) and 36 have been determined not to be eligible for listing on the NRHP. Twenty-two sites have been determined to be eligible for listing on the NRHP and seven others are contributing elements to two national register eligible districts (KTZ-00036 and KTZ-00037). Of the 99 previously identified sites, 65 are located between 2 and 3 miles away from the survey area, within or adjacent to the modern community of Kotzebue; 5 are located between 1 and 2 miles from the survey area; and, 29 are between 0 and 1 mile away from the survey area.

The Kotzebue White Alice Communication System Historic District (HD) (KTZ-00037) has been determined eligible for listing on the NRHP under Criterion A. There are 22 sites associated with this HD that have been determined eligible for listing on the NRHP and two others that are contributing elements (Table 3). However, these determinations of eligibility were made as part of an MOA between the USAF, the SHPO and the Advisory Council on Historic Preservation (ACHP) to document the structures before their destruction as part of an environmental cleanup of the site. Only one building associated with the LRRS, the Radome Tower Building (KTZ-00190) remains standing and is still eligible for listing on the NRHP.

Two other structures associated with the AC&W / LRRS, the Kotzebue LRRS Road System (KTZ-00231) and the Kotzebue LRRS Gravel Pad System (KTZ-00232) are listed as NRHP eligible on the OHA Integrate Business System (OHA IBS) and in the 2010 AC&W ICRIMP (CEMML). However, there is some question concerning the NRHP eligibility of these sites. They were not specifically addressed in the final building inventory for the Kotzebue LRRS ((CES) 1998) and their DOEs were not completed until 1999, after the mitigation and demolition of Cold War structures at the Kotzebue LRRS. The DOEs do not list the aspects of integrity that made them eligible for listing on the NRHP and state that gravel structures were not especially characteristic of sites on the AC&W system (Leeper 1999). In addition, USAF, Cultural Resources Program Manager, Karlene Leeper (personal communication 2012) stated that the Kotzebue LRRS Road System (KTZ-00231) and Kotzebue LRRS Gravel Pads (KTZ-00232) were sufficiently mitigated during the research conducted by the USAF prior to the destruction of the buildings at the Kotzebue AC&W / LRRS facility. She wrote that “it seems reasonable that the gravel pad/road/airfield features [including the Kotzebue LRRS Road System (KTZ-00231) and Kotzebue Gravel Pad (KTZ-00232)] lack integrity without the rest of the AC&W buildings, which we demolished years ago.”

The FHWA, the ACHP, the ADOT&PF, and the SHPO completed a Programmatic Agreement (PA) to develop historic contexts and guidance for determining NRHP eligibility for Alaskan Roads (SHPO 2010). Under this PA, the ADOT&PF does not have to comply with Section 106

for undertakings that affect certain Alaskan roads under specific conditions. Stipulation 2.A.3 states that the Section 106 waiver granted by the PA does not apply to Adverse Effects on roads that are listed or previously determined eligible for listing on the NRHP, like the Kotzebue LRSS Road System (KTZ-00231).

Table 3. AHRS sites within three miles of the Kotzebue to Cape Blossom Road Cultural Resources Survey Area.

AHRS Number	Site Name and Description	Approximate distance from Survey Area	NRHP Eligibility
KTZ-00001	Historic Kotzebue, the modern village of Kotzebue	2-3 miles	Contributing property within NRHP eligible district (KTZ-00036)
KTZ-00030	Intermediate Kotzebue, 30 prehistoric / historic house pits	1-2 Miles	Contributing property within NRHP eligible district (KTZ-00036)
KTZ-00031	Old Kotzebue, approximately 200 prehistoric house pits	2-3 miles	Contributing property within NRHP eligible district (KTZ-00036)
KTZ-00036	Kotzebue Archaeological District, prehistoric / historic	2-3 miles	Historic District eligible for listing on the NRHP
KTZ-00037	Kotzebue White Alice Communication System (WACS) station, historic district (military)	0-1 mile	Historic District eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00038	KTZ-00038, historic cabin remains	2-3 miles	NDE
KTZ-00158	Fletcher Gregg Spit Site, several house pits, historic	1-2 miles	NDE
KTZ-00172	Building 100, Segregated Magazine Storage	0-1 miles	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00173	Building 101, Supply and Equipment Warehouse, Historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00174	Building 102, Supply and Equipment Warehouse, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00175	Building 103, Dormitory Composite Building, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00176	Building 104, Waste Treatment Building, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00177	Building 105, Supply and Equipment Warehouse, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00178	Building 106, Solid Waste Disposal Facility, historic military structure	0-1 mile	Not eligible for listing on the NRHP
KTZ-00179	Building 107, Fuel Pump Station, historic military structure	0-1 mile	Contributing property within an eligible Historic District (KTZ-00037) Mitigated & Demolished*

AHRS Number	Site Name and Description	Approximate distance from Survey Area	NHRP Eligibility
KTZ-00180	Building 108, Water Supply Building Water Pump Station, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00181	Building 109, Fuel Pump Station, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00182	Building 110, Water Supply Building, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00183	Building 111, Deactivated Fueling Station, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00184	Building 112, Fuel Pump Station, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00185	Building 114, Base Engineer Maintenance Shop, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00186	Building 115, Hazardous Storage, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00187	Building 200/404, Aircom Transmitter	0-1 mile	Contributing property within an eligible Historic District (KTZ-00037) Mitigated & Demolished*
KTZ-00188	Building 201, Supply and Equipment Warehouse / Radar Tower Building, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00189	Building 202, Supply and Equipment warehouse / Radar Tower Building, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00190	Building 203, Radome Tower Building, historic military structure	0-1 mile	Eligible for listing on the NRHP
KTZ-00191	Building 204, Radome Tower Building, historic military structure	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00192	Building 205, Gymnasium	0-1 mile	Eligible for listing on the NRHP Mitigated & Demolished*
KTZ-00193	Building 206, Electric Power Station, historic military structure	0-1 mile	Not eligible for listing on the NRHP
KTZ-00194	Building 1001, White Alice Communications Facility, historic military structure	0-1 mile	Contributing property within an eligible Historic District (KTZ-00037) Mitigated & Demolished*

AHRS Number	Site Name and Description	Approximate distance from Survey Area	NHRP Eligibility
KTZ-00195	Building 1015, Vehicle Operations Heated Parking, historic military structure	0-1 mile	Contributing property within an eligible Historic District (KTZ-00037) Mitigated & Demolished*
KTZ-00229	Burials, two human burials	2-3 miles	NDE
KTZ-00230	Historic Site (no details in IBS)	0-1 mile	NDE
KTZ-00231	Kotzebue LRRS Road System, historic military roads	0-1 mile	Eligible for listing on the NRHP
KTZ-00232	Kotzebue LRRS Gravel Pad System, historic military gravel structures	0-1 mile	Eligible for listing on the NRHP
KTZ-00233	NANA Museum, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00234	Meat Cache in Kotzebue, historic structure	0-1 mile	NDE
KTZ-00249	NWS Kotzebue Upper Air Facility, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00250	Kotzebue Front Street Historic District	2-3 miles	Not eligible for listing on the NRHP
KTZ-00251	Sarah Evak House, historic structure	2-3 miles	NDE
KTZ-00252	Willy Hensley Sr. House, historic structure	2-3 miles	NDE
KTZ-00253	Ipalook House, historic structure	2-3 miles	NDE
KTZ-00254	Art Field's House, historic structure	2-3 miles	NDE
KTZ-00255	Cooperative Cannery Dock, historic structure	2-3 miles	NDE
KTZ-00256	First Baptist Church, historic structure	2-3 miles	NDE
KTZ-00257	Flood House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00258	Ruth Sandvik Residence, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00259	John Schaeffer Log House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00260	Rotman's Store, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00261	Rotman's Store Annex, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00262	Ipalook House / Arctic Club, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00263	Kotzebue Fur Trading / Walker Liquor Store, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00264	Taylor House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00265	Old National Guard Armory, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00266	Rotman's Warehouse, historic structure	2-3 miles	Not eligible for listing on the NRHP

AHRS Number	Site Name and Description	Approximate distance from Survey Area	NHRP Eligibility
KTZ-00267	Acumak Jessup House, historic home site	2-3 miles	NDE
KTZ-00268	Jessup House Ruins, historic structure	2-3 miles	NDE
KTZ-00269	Coppock House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00270	Kenneth Mills Riverboat, historic boat	2-3 miles	NDE
KTZ-00271	Okaylak Abraham Lincoln's Log Cabin, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00272	Abraham Ito House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00273	Alaska Airlines Office/Garage, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00274	Abraham Lincoln's Storage Cache, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00275	Leslie Williams House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00276	Elwood Hunnicutt House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00277	Lester Gallahorn House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00278	Gallahorn House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00279	John Gallahorn House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00280	Robert Gallahorn House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00281	Fred Kowunna House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00282	John Gregg House, historic structure	2-3 miles	NDE
KTZ-00283	John Gregg / Ada Ward House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00284	Lena Norton House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00285	Jerry Coppock House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00286	Esther Norton House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00287	Esther Norton's Fishrack, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00288	Lockhardt Trading Post, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00289	Dick Norton House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00290	Lockhardt House, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00291	Enoch Kenworthy House, historic structure	2-3 miles	NDE

AHRS Number	Site Name and Description	Approximate distance from Survey Area	NHRP Eligibility
KTZ-00293	Yiyuk, historic structure	2-3 miles	NDE
KTZ-00294	Dan and Easter Henry House, historic structure	2-3 miles	NDE
KTZ-00295	Daniel Snyder House, historic structure	2-3 miles	NDE
KTZ-00296	Flight Service Station, Building 400, historic structure	2-3 miles	Not eligible for listing on the NRHP
KTZ-00303	Sadie Creek Reindeer Coral	0-1 mile	NDE
KTZ-00305	Building 312, Kotzebue Old Hospital Site, historic structure	2-3 miles	NDE
KTZ-00306	Building 312, Kotzebue Old Hospital Site, historic structure	2-3 miles	NDE
KTZ-00307	Kotzebue Historic City Cemetery, historic	1-2 miles	NDE
KTZ-00310	Kotzebue-Noatak Trail, historic trail	2-3 miles	NDE
KTZ-00312	Single grave, Roy Mendenhall's great grandmother	1-2 miles	NDE
KTZ-00314	Barryman Historic Midden,	2-3 miles	NDE
KTZ-00315	KTZ-00315, human burial, pre 1897	2-3 miles	NDE
KTZ-00322	Jacobson Cranium, isolate	1-2 miles	NDE
KTZ-00336	100 Shore Avenue, historic structure	2-3 miles	NDE
KTZ-00337	101 Shore Avenue, historic structure	2-3 miles	NDE
KTZ-00338	110 Shore Avenue, historic structure	2-3 miles	NDE
KTZ-00339	113 Shore Avenue, historic structure	2-3 miles	NDE
KTZ-00341	119 Shore Avenue, historic structure	2-3 miles	NDE
KTZ-00342	120 Shore Avenue, historic structure	2-3 miles	NDE

Source: OHA IBS System, accessed August 18, 2012.

NDE= No determination of eligibility completed.

* These sites are listed on the OHA IBS as NRHP eligible but no longer retain the integrity needed to be eligible for listing on the NRHP.

5.0 SURVEY RESULTS

NLUR Project Archaeologist Morgan Blanchard and Archaeological Technician Adam Russell conducted a cultural resources survey between August 25 and 27, 2012. The aerial survey was conducted in a Bering Air Robinson R44 helicopter piloted by Russell Rowe, of Nome, Alaska. The route centerline, survey area boundaries and (unverified) boundaries of the Native Allotments were programmed into both a Garmin GPSmap 76cx and a Trimble GeoXT. Because the Trimble was too sensitive to work well in the helicopter, the Garmin was used to guide the helicopter survey. Ground points were taken with both the Garmin and the Trimble. All points were taken using the NAD84 datum. Neither the proposed road centerline nor the survey boundaries were marked at the time of the survey.

Based on the Project probability model developed for the research design, the survey used two different survey methodologies in the two different probability areas. Low probability areas were subjected to helicopter survey with discretionary pedestrian survey and subsurface testing. The low probability portions of the survey area were located more than half a mile from the coast on poorly-drained and sometimes water saturated terrain, covered primarily by tussock tundra vegetation (Figure 2). There were a number of low hills, small streams, ponds and lakes within the low probability area, particularly north of Sadie Creek, but the majority of the survey area consisted of relatively low wet ground.

Helicopter surveys of the low probability sections of Upgrade Route and Hillside Route were conducted between 100 and 300 ft above ground level (AGL). In areas of particular interest, such as prominent land forms, low speed passes were made at less than 50 ft. Ground visibility was excellent during the helicopter survey.

High probability areas were subjected to a combination of helicopter and pedestrian survey and discretionary subsurface testing. There were four high probability areas identified prior to the survey: the Alternative A- Upgrade Route within half a mile of Kotzebue Sound (Figure 2 and Figure 5); the Lower Option crossing of Sadie Creek (Figure 2 and Figure 13); the Upper Option crossing of the main channel of Sadie Creek (Figure 2 and Figure 16); and, the southern tip of Alternative A-South Route, within half a mile of Kotzebue Sound (Figure 2 and Figure 20).

5.1 Alternative A- Upgrade Route

5.1.1 Alternative A-Upgrade Route (Low Probability Area)

The low probability portion of the Alternative A- Upgrade Route (that portion more than half a mile from the shoreline of Kotzebue Sound) included the road through the KEA wind farm and the junction of the Alternative A-South Route (Figure 2). Multiple helicopter passes were made along the Upgrade Route. This survey identified road and infrastructure associated with wind farm operations but since the wind farm was opened in 1997, these were all modern (Heimbuch 2012). No new sites, features or artifacts potentially eligible for listing on the NRHP were recorded during the 2012 cultural resources survey of the low probability area of the Alternative A- Upgrade Route.

5.1.2 Alternative A - Upgrade Route (High Probability Area)

The northern portion of the Alternative A-Upgrade Route along Air Force Road, south of Hillside Road and less than half a mile from Kotzebue Sound was classified as a high probability area (Figure 2 and Figure 5). Air Force Road runs along the top of a coastal bluff, which drops off steeply to the beach and Kotzebue Sound to the west (Figure 10). To the east, the terrain falls away into a valley. The Kotzebue Landfill is located on the east side of Air Force Road in the northern section of the Upgrade Route (Figure 11). The landfill is located on a former Air Force facility, which was demolished prior to the opening of the Landfill. The vegetation within the high probability section of the Upgrade Route was primarily tussock tundra with isolated patches of alder.

A pedestrian survey was carried out 300 ft to either side of proposed centerline within the high probability area the Upgrade Route. Low level helicopter surveys were carried out within the high probability area both before and after the pedestrian survey, to cover the full 1,000 ft survey area on either side of the centerline. This survey strategy was adopted due to the steep terrain along the western side of the bluff and the very boggy nature of the ground throughout most of the survey area. A single sterile 50 cm x 50 cm test unit was excavated within the high probability section of the Upgrade Route to a depth of 50 cm to examine the soil stratigraphy (Figure 5).

Both the pedestrian and aerial survey confirmed that all the buildings associated with the AC&W / LRRS and Kotzebue White Alice Communication System Historic District (KTZ-00037), with the exception of the Radome Tower Building (KTZ-00190) had been demolished (Figure 8, Figure 9 and Figure 10). As noted in Sections 3.3.6 and 4.2, these buildings were mitigated by architectural recordation and demolished between 1996 and 1999 during environmental restoration activities. The remaining Radome Tower Building (KTZ-00190) is still individually eligible for listing on the NRHP ((CES) 1998). The Radome Tower Building is still in operation as a MAR site and was photographed, but not recorded in detail during the Survey.

The Kotzebue LRRS Road System (KTZ-00231) is described on the OHA IBS as a 21,630 ft x 12 ft gravel roadbed raised 5.5 ft above the surrounding elevation, with a 2:1 slope and culverts 2 ft high and 30 ft long. Known as Air Force Road, the LRRS Road System (KTZ-00231) was still in use at the time of the survey and had been altered by the addition of a road to the KEA wind farm, which connects to the historic road on the eastern side of the Kotzebue LRRS Gravel Pad System (KTZ-00232) (Figure 8). In addition to the wind farm access road, Air Force Road showed signs of modification as a result of use and maintenance. Most of Air Force Road between Hillside Road and the Kotzebue LRRS Radome facility (KTZ-00190) is wider than the 12 ft listed in the OHA IBS description. This is particularly true along the northern end of the road which handles truck traffic to and from the Kotzebue land fill. No records on this maintenance and modification have been located.

The NRHP eligible Kotzebue LRRS Gravel Pad System (KTZ-00232) is described on the OHA IBS as about 560 ft x 460 ft and generally rectangular in shape. NLUR's 2012 survey recorded depressions in the Gravel Pad System around the building foundations that were left by the

1990s demolition. These depressions were full of water at the time of the survey (Figure 8 and Figure 9).

Both the helicopter and pedestrian survey revealed a significant amount of modern trash within the high probability section of the Upgrade Route. The Kotzebue Landfill is located within the northern section of the survey area, east of Air Force Road. Some of the trash in the survey area may have been blown out of the Landfill. However, it appears that Air Force Road is also a popular location for disposal outside the designated landfill, as large items including appliances and snow machines were found dumped along the roadside. This presumably unauthorized dumping is most intense in the vicinity of the Landfill (Figure 11 and Figure 12).

No new sites, features, or artifacts eligible for listing on the NRHP were recorded during the 2012 survey of the high probability section of the Upgrade Route.

5.2 Alternative A-Hillside Route

The entire Alternative A-Hillside Route was classified as a low probability area. The Data Gap and Archaeological Sensitivity Analyses conducted before the survey did not identify June Creek as a high probability area for cultural resources. The banks of June Creek were classified as low probability.

In keeping with the research design, the Alternative A-Hillside Route was subjected to a helicopter survey. Multiple transects were flown over the entire route; low level passes were made over prominent land forms within the survey area.

No sites, features or artifacts potentially eligible for listing on the NRHP were recorded during the 2012 cultural resources survey of the low probability area of the Alternative A-Hillside Route.

5.3 Alternative A-South Route

5.3.1 Alternative –South Route (Low Probability Area)

The majority of the Alternative A-South Route was classified as low probability (Figure 2). Only the two crossings of the main channel of Sadie Creek and the southern tip of Alternative A-South Route within half a mile of Kotzebue Sound were classified as high probability.

The entire Alternative A-South Route was subjected to a helicopter survey. Multiple transects were flown over the entire route; low level passes were made over prominent land forms within the survey area. The helicopter survey did reveal traces of modern transportation along the Alternative A-South Route in the form of the Kotzebue-Buckland Trail, which crosses the proposed route south of Sadie Creek (Figure 18 and Figure 19). This is a winter trail maintained by the Northwest Arctic Borough and marked with tripods approximately every 100 ft. In addition, much of the survey area was covered with four-wheeler tracks (Figure 19 and Figure

22). At the time of the survey, there were a number of individuals using four-wheelers to access berry patches north of Sadie Creek.

No sites, features or artifacts potentially eligible for listing on the NRHP were recorded during the 2012 cultural resources survey of the low probability area of the Alternative A-South Route.

5.3.2 Alternative –South Route (High Probability Area)

The high probability areas of the Alternative A-South Route include the Lower Sadie Creek Option, the Upper Sadie Creek Option and the southern tip of the Alternative A-South Route within half a mile of Kotzebue Sound (Figure 2, Figure 13, Figure 16 and Figure 20).

5.3.2.1 Lower Sadie Creek Option

For the purposes of the cultural resources survey, the high probability section of the Lower Option for crossing Sadie Creek was defined as 1,000 ft to either side of the provided route centerline and 400 ft from the waterline on both sides of the creek (Figure 13 and Figure 14). The vegetation in the area was primarily tussock tundra with patches of short willow in the draws and near the creek. The water was high at the time of the survey due to recent heavy rains.

Both pedestrian and low level helicopter surveys were conducted within the high probability area of the Lower Option. Two culturally sterile 50 cm x 50 cm test units were excavated on prominent, relatively well drained land forms on each side of the creek. These units were excavated to a depth of 40 cm and were closed out on permafrost. The soil was a fine, silty loess.

The pedestrian survey of the Lower Sadie Creek Option revealed evidence of recent land use in the form of modern trash including beverage cans, jerky and candy wrappers, a whiskey bottle, shotgun shells and shotgun shell boxes (Figure 15). There were also pieces of milled wood and plywood below the high water mark of the creek, which appeared to have been washed downstream. The helicopter pilot, Russell Rowe, stated that in the vicinity of the Lower Sadie Creek Option, Sadie Creek is deep and straight enough to land a float plane and he knows pilots who land there for recreation. The area is also accessible from Kotzebue Sound by boat and, when the water is not high, by four-wheeler along the sand bars.

There were a number of stakes within the survey area, some of which appeared to correspond with the proposed road centerline but they were not clearly marked. As a result, a Garmin GPSmap76cx was used to identify the survey area boundaries.

No sites, features or artifacts potentially eligible for listing on the NRHP were recorded during the 2012 cultural resources survey of the high probability area of the Lower Sadie Creek Option.

5.3.2.2 Upper Sadie Creek Option

For the purposes of the survey, the high probability area of the Upper Sadie Creek Option for crossing the main channel of Sadie Creek was defined as 1,000 ft to either side of the provided route centerline and 400 ft from the waterline on both sides of the creek (Figure 16 and Figure 17). The vegetation in the area was primarily sedge tussock tundra with patches of short diamond leaf willow in the draws and near the creek. The water was high at the time of the survey due to recent heavy rains.

The Upper Sadie Creek Option includes a second crossing near the head of a small tributary of Sadie Creek, north of the main channel (Figure 1), which was classified as low probability and surveyed accordingly (see Section 5.2.1).

Pedestrian and low level helicopter surveys were conducted within the high probability area of the Upper Sadie Creek Option. Two culturally sterile 50 cm x 50 cm test units were excavated on prominent, relatively well drained land forms on each side of the creek. These units were excavated to a depth of 40 cm and were closed out on permafrost; the soil was fine, silty loess.

The pedestrian survey of the high probability area of the Upper Sadie Creek Option revealed limited evidence of recent land use in the form of two modern Coca-Cola cans and a Mug Root Beer can. No sites, features or artifacts potentially eligible for listing on the NRHP were recorded during the 2012 survey of the high probability area of the Upper Sadie Creek Option.

5.3.2.3 Southern tip of Alternative A-South Route

For the purposes of the survey, the southern tip of Alternative A-South Route within half a mile of Kotzebue Sound was classified as a high probability area (Figure 20). At the time of the pedestrian survey, the terrain was flat, waterlogged and covered with tussock tundra (Figure 21). The only features noted during the helicopter and pedestrian survey of the high probability area at the southern tip of Alternative A were the BLM boundary markers for the adjacent Native Allotment. NLUR personnel were careful not to enter this allotment. A large number of four-wheeler tracks were visible from the air and on the ground (Figure 22). Due to the low relief and waterlogged nature of the ground, no subsurface testing was conducted within the portion of the high probability area at the southern tip of Alternative A-South Route surveyed in 2012.

The proposed beach access ramp and staging pad were not defined or surveyed in 2012. Although these project elements are located within half a mile of the shoreline and therefore classified as high probability, observations made during the helicopter survey of the southern tip of the Alternative A-South Route (as defined at the time of the survey) indicate that the vegetation on the plateau above the shoreline in the vicinity of the beach access ramp and staging area was predominantly waterlogged tussock tundra.

No sites, features or artifacts potentially eligible for listing on the NRHP were recorded on the lands surveyed within the high probability area at the southern tip of the Alternative A-South Route surveyed in 2012.

6.0 SUMMARY AND RECOMMENDATIONS

6.1 Summary

Between August 25 and 27, 2012, NLUR Project Archaeologist Morgan Blanchard and Archaeological Technician Adam Russell conducted helicopter surveys, pedestrian surveys, and limited subsurface testing within the survey area of Alternative A – Upgrade, Hillside and South Routes, including the Lower and Upper Sadie Creek Crossing Options. One Historic District and twenty-four previously identified NRHP eligible sites were located along Air Force Road within the high probability section of the Alternative A - Upgrade Route study area. No new sites features or artifacts potentially eligible for listing on the NRHP were recorded during the survey or subsurface testing.

6.2 Recommendations

6.2.1 Alternative A - Upgrade Route

The Alternative A - Upgrade Route of the proposed Kotzebue to Cape Blossom Road would upgrade the NRHP eligible Kotzebue LRRS Road System (KTZ-00231) right-of-way along Air Force Road between Hillside Road and the NRHP eligible Kotzebue LRRS Gravel Pad System (KTZ-00232). This route would pass through the NRHP eligible Kotzebue White Alice Communication System Station Historic District (KTZ-00037) which includes 23 contributing elements (see Table 3).

All but one of the contributing elements of the Kotzebue White Alice Communication System Station Historic District (KTZ-00037) were mitigated and demolished under a PA during the 1990s. As such, it is NLUR's professional opinion that the Kotzebue White Alice Communication System Station Historic District (KTZ-00037) and 22 of its contributing elements (KTZ-00172, KTZ-00173, KTZ-00174, KTZ-00175, KTZ-00176, KTZ-00177, KTZ-00179, KTZ-00180, KTZ-00181, KTZ-00182, KTZ-00183, KTZ-00184, KTZ-00185, KTZ-00186, KTZ-00187, KTZ-00188, KTZ-00189, KTZ-00190, KTZ-00191, KTZ-00192, KTZ-00194 and KTZ-00195) no longer retain the integrity required for listing on the NRHP. Only the Kotzebue Radome Tower (KTZ-00190) is still standing and remains individually eligible for listing on the NRHP under Criterion A.

The demolition of the structures associated with the Kotzebue White Alice Communication System Station Historic District (KTZ-00037) has adversely affected the integrity of setting, feeling and association for the Kotzebue LRRS Road System (KTZ-00231) and Kotzebue LRRS Gravel Pad System (KTZ-00232). In addition, maintenance and modification have decreased these sites integrity of design and materials, particularly for the LRRS road system. As a result of these changes, it is NLUR's professional opinion that Kotzebue LRRS Road System (KTZ-00231) and Kotzebue LRRS Gravel Pad System (KTZ-00232) no longer retain the integrity required to be eligible for listing on the NRHP.

The Alternative A - Upgrade Route would have an indirect visual effect on the NRHP Eligible Radome Tower Building (KTZ-00190). It is NLUR's professional opinion that this would not rise to the level of an "**Adverse Effect**" as defined by 36 CFR Part 800.5 (d)(2).

Based on the results of NLUR's literature review and 2012 field observations, there is no reason to believe that the Alternative A - Upgrade Route of the proposed Kotzebue to Cape Blossom Road warrants additional archaeological field survey.

6.2.2 Alternative A – Hillside Route

No previously identified NRHP eligible historic properties are known to exist within the survey area for the Alternative A – Hillside Route from New Hillside Road to the northern end of the Alternative A-South Route.

The Alternative A- Hillside Route would pass approximately a mile southwest of the Kotzebue Radome Tower Building (KTZ-00190) and would have an indirect visual effect on this property. It is NLUR's professional opinion that this indirect effect would not rise to the level of an "**Adverse Effect**" as defined by 36 CFR Part 800.5 (d)(2).

Based on the results of NLUR's literature review and 2012 field observations, there is no reason to believe the Alternative A – Hillside Route of the proposed Kotzebue to Cape Blossom Road warrants additional archaeological field survey.

6.2.3 Alternative A-South Route

No previously identified NRHP eligible historic properties are known to exist within the survey area for the Alternative A-South route from New Hillside Road to the southern terminus (including both the Lower and Upper Options for crossing Sadie Creek).

The survey of the Alternative A-South Route terminated just under half a mile from the shoreline (Figure 2 and Figure 20) and did not include the beach access ramp or staging pad. Although the beach access ramp and staging pad would be located within half a mile of the shoreline and therefore classified as high probability, observations made during the helicopter survey at the southern end of the South Route indicate that the vegetation on the plateau above the shoreline in the vicinity of the beach access ramp and staging area is predominantly waterlogged tussock tundra, which was considered to have a lower potential to contain cultural resources. The closest AHRS site (KTZ-00312) is located between one and two miles west of the proposed terminus of Alternative A-South Route.

It is NLUR's professional opinion that construction of the Alternative A-South Route would have no direct or indirect effect on historic properties eligible for listing on the NRHP, for the lands surveyed in 2012.

Based on the results of NLUR's literature review and 2012 field observations, there is no reason to believe the Alternative A – South Route of the proposed Kotzebue to Cape Blossom Road surveyed in 2012 warrants additional archaeological field survey.

6.2.4 Project Recommendations

To continue the Section 106 process, the results of NLUR's findings should be forwarded to the Alaska State Historic Preservation Officer (SHPO). NLUR recommends a finding of "**No Adverse Effect**" (36 CFR Part 800.5 (d)(1)) for the Alternative A - Upgrade Route and Hillside Route and the South Route study areas for the proposed Kotzebue to Cape Blossom Road surveyed in 2012. ADOT&PF should request concurrence with this finding and recommendation.

6.3 Human Remains

Because archaeological materials, features, and other potentially significant cultural remains are commonly buried, they may not be identifiable from the surface or revealed in limited subsurface sampling. Should indications of additional potentially significant cultural resources be encountered during ground-disturbing activities, all work in that area should cease until the discovery can be fully evaluated by a qualified archaeologist, and the landowner and Alaska SHPO notified. In the event that human remains are found, all Project activity in the vicinity must be halted and the Alaska State Troopers, the lead agency for the Project, the SHPO and local officials must be contacted. If the remains are on Federal or tribal lands, the protocol established under the Native American Graves Protection and Repatriation Act (NAGPRA) must be followed. Immediate steps should be taken to secure and protect human remains and cultural items, including stabilization or covering, as appropriate. The Project Manager should immediately notify the SHPO, the USAF (if on USAF property) and the local Native American organizations likely to be culturally affiliated with the discovered remains (see Table 4 below).

6.4 Limitations

This Project was carried out, and this report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of Michael Baker Jr., Inc. (Baker), the Alaska Department of Transportation and Public Facilities (ADOT&PF), the Kikiktagruk Inupiat Corporation, Inc. (KIC), the NANA Regional Corporation, Inc. (NANA), the U.S. Air Force (USAF), the Alaska State Historic Preservation Office (SHPO), and other appropriate permitting agencies and Native Alaskan organizations only. It should be noted that NLUR relied upon written information and/or verbal accounts provided by the agencies and individuals indicated in the report. NLUR can only relay this information and cannot be responsible for its accuracy or completeness. This report is not meant to represent a legal opinion.

We do not warrant that we have identified all potentially significant cultural resources present at the sites surveyed for the Kotzebue to Cape Blossom Road Project, as these may be hidden in such a way that only extensive excavations, use of remote sensing equipment (e.g., ground penetrating radar, magnetometer), or other technologies/methods not included in our scope of work will reveal them. No other warranty, expressed or implied, is made. Any questions regarding our work and this report, the presentation of the information, and the interpretation of the data are welcome. They should be referred to Project Archaeologist Morgan R. Blanchard in

NLUR's Anchorage office (907) 345-2457), NLUR Project Manager Burr J. Neely, or NLUR Principal Investigator- Peter M. Bowers in NLUR's Fairbanks office (907) 474-9684.

Table 4. Contact information for government agencies, Native Alaskan and municipal organizations.

SHPO and Air Force Contact Information:	Native Alaskan and Municipal Organizations:
Judith Bittner State Historic Preservation Officer Alaska Department of Natural Resources Office of History and Archaeology 550 West 7 th Ave., Suite 1310 Anchorage, Alaska 99501-3565 Phone:(907) 269-8715 or 269-8720	NANA Regional Corporation PO Box 49 Kotzebue, AK 99752 Phone: (907) 442-3301 Fax: (907) 442-4161
Karlene Leeper Cultural Resources Manager and Tribal Liaison USAF 611 Air Support Group 10471 20th Street, Suite 302 Elmendorf AFB, AK 99506 Phone: (907) 552-5057 Email: Karlene.Leeper@elmendorf.af.mil	Kikiktagruk Inupiat Corporation P.O. Box 1050 Kotzebue, AK 99752 Phone: (907) 442-3165 Fax: (907) 442-2165
	Native Village of Kotzebue / Kotzebue IRA P.O. Box 296 Kotzebue, AK 99752 Phone: (907) 442-3467 Fax: 442-2162
	City of Kotzebue 258A Third Avenue Kotzebue, AK 99752 Phone: (907) 442-3401

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FIGURES



Figure 1. Kotzebue to Cape Blossom Road Route Alternatives (courtesy of Baker).

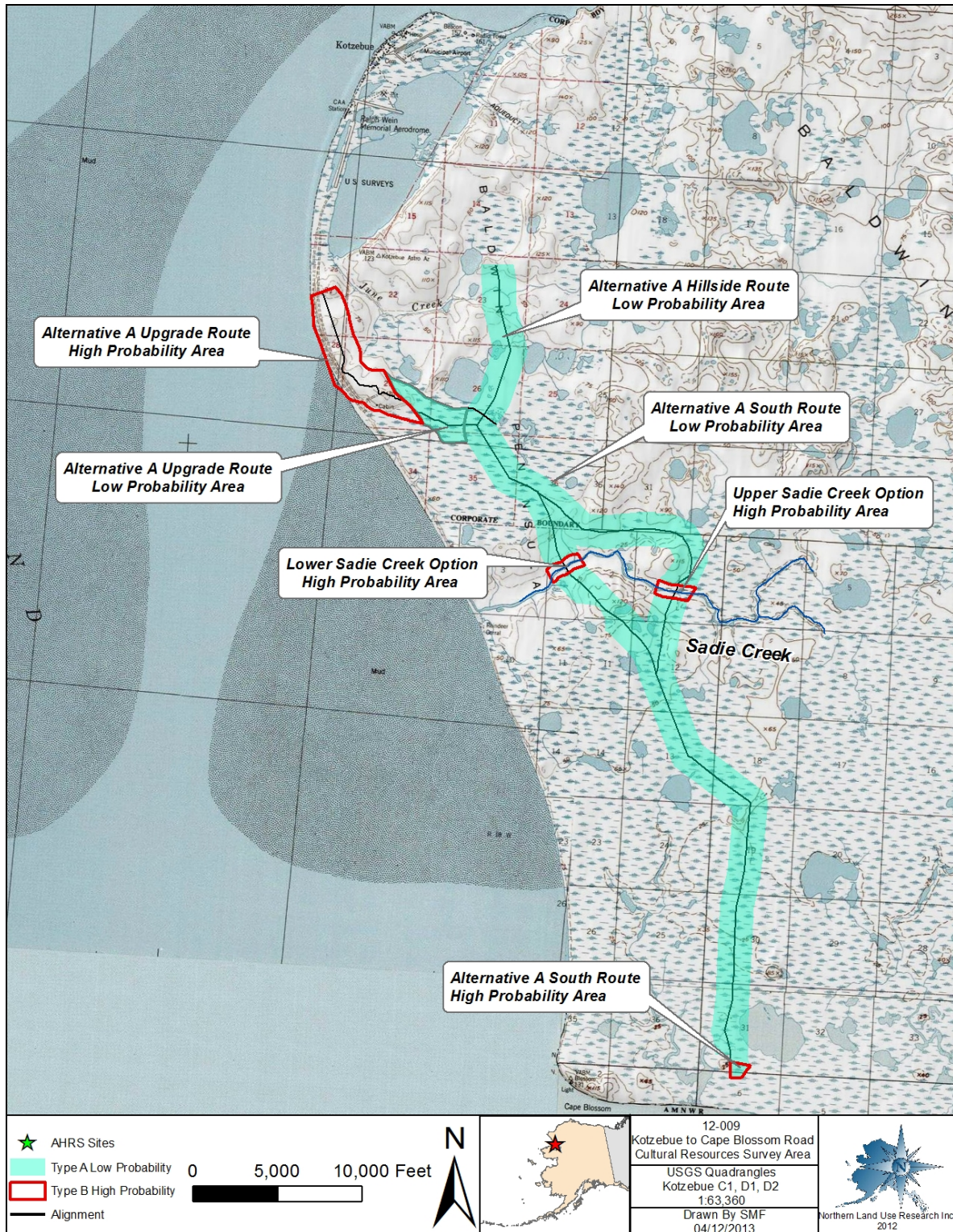


Figure 2. Project location map showing the proposed Kotzebue to Cape Blossom Road centerline provided NLUR by Baker, the cultural resources survey area, AHRs sites within three miles of the survey area, high and low probability areas for cultural resources. AHRs location information for this map was derived from the OHA IBS.

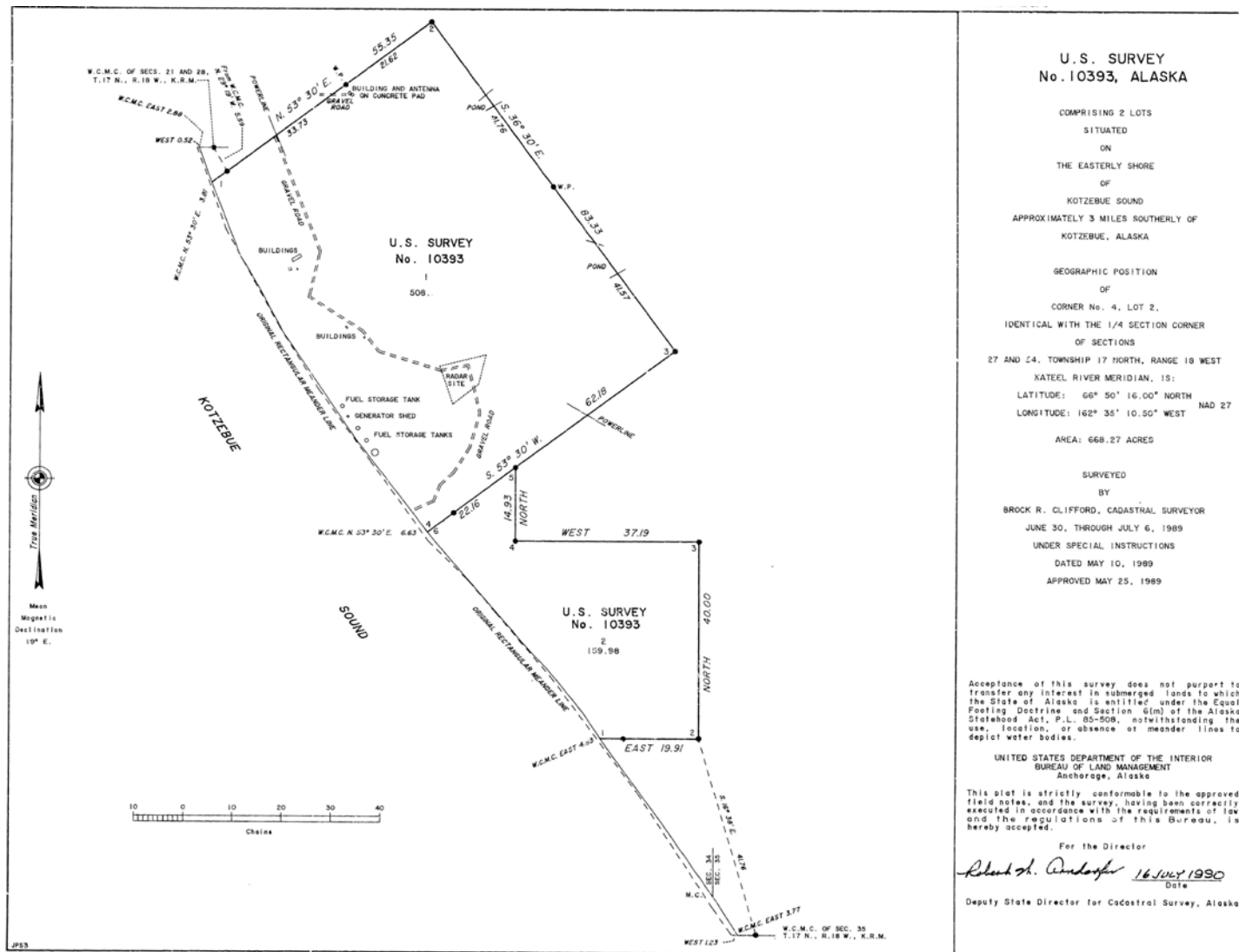


Figure 3. Plat of US Survey No. 10393 Lot 1, US Air Force Kotzebue LRRS. The high probability area of the Wind Farm Upgrade Route of the proposed Kotzebue to Cape Blossom Road route would pass across this parcel on or near the Kotzebue LRRS Road System (KTZ-00231), which is shown as a road on this map.

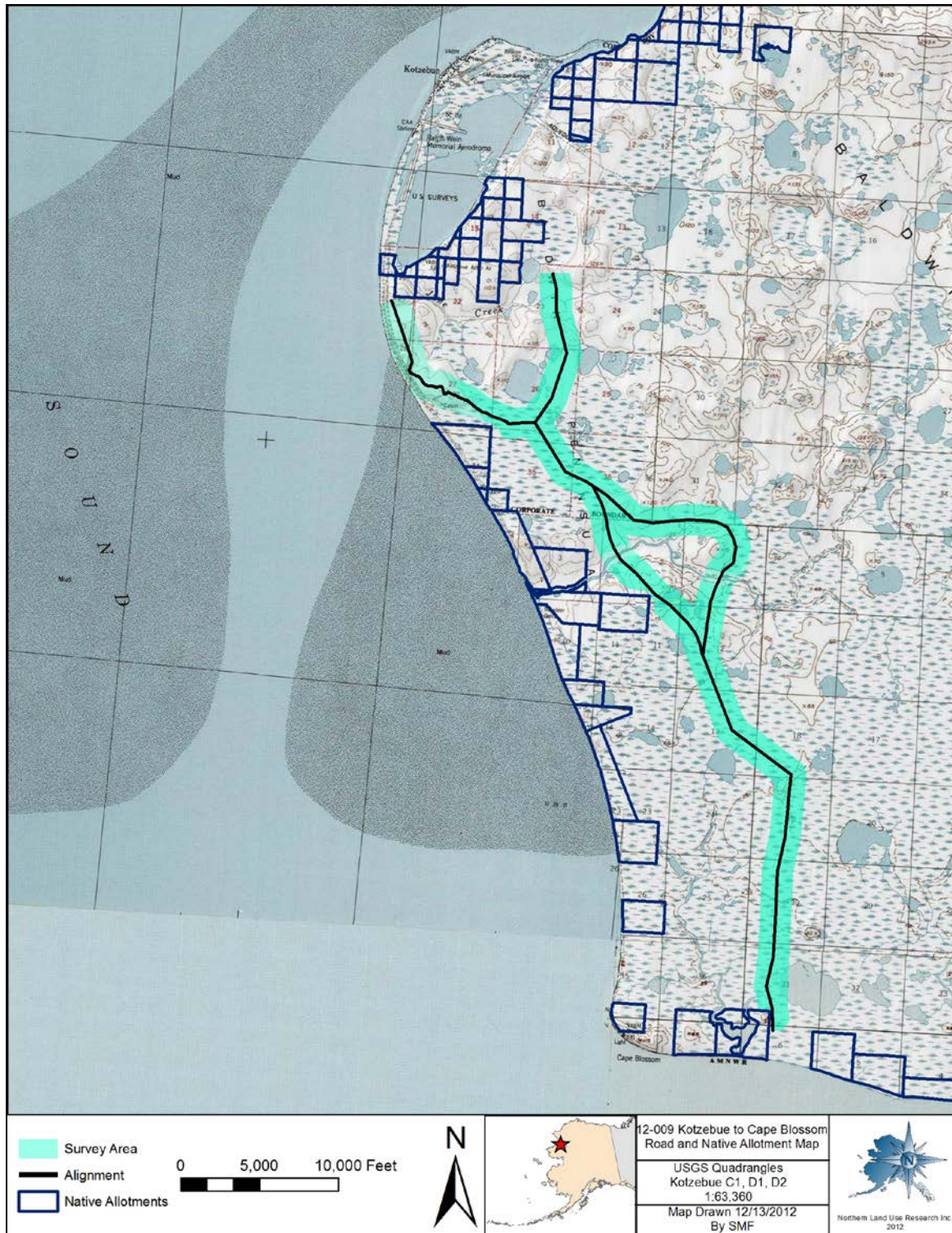


Figure 4. 2012 Cultural resources survey area and Native Allotments. Shape files of the Native Allotments were provided to NLUR by Baker.

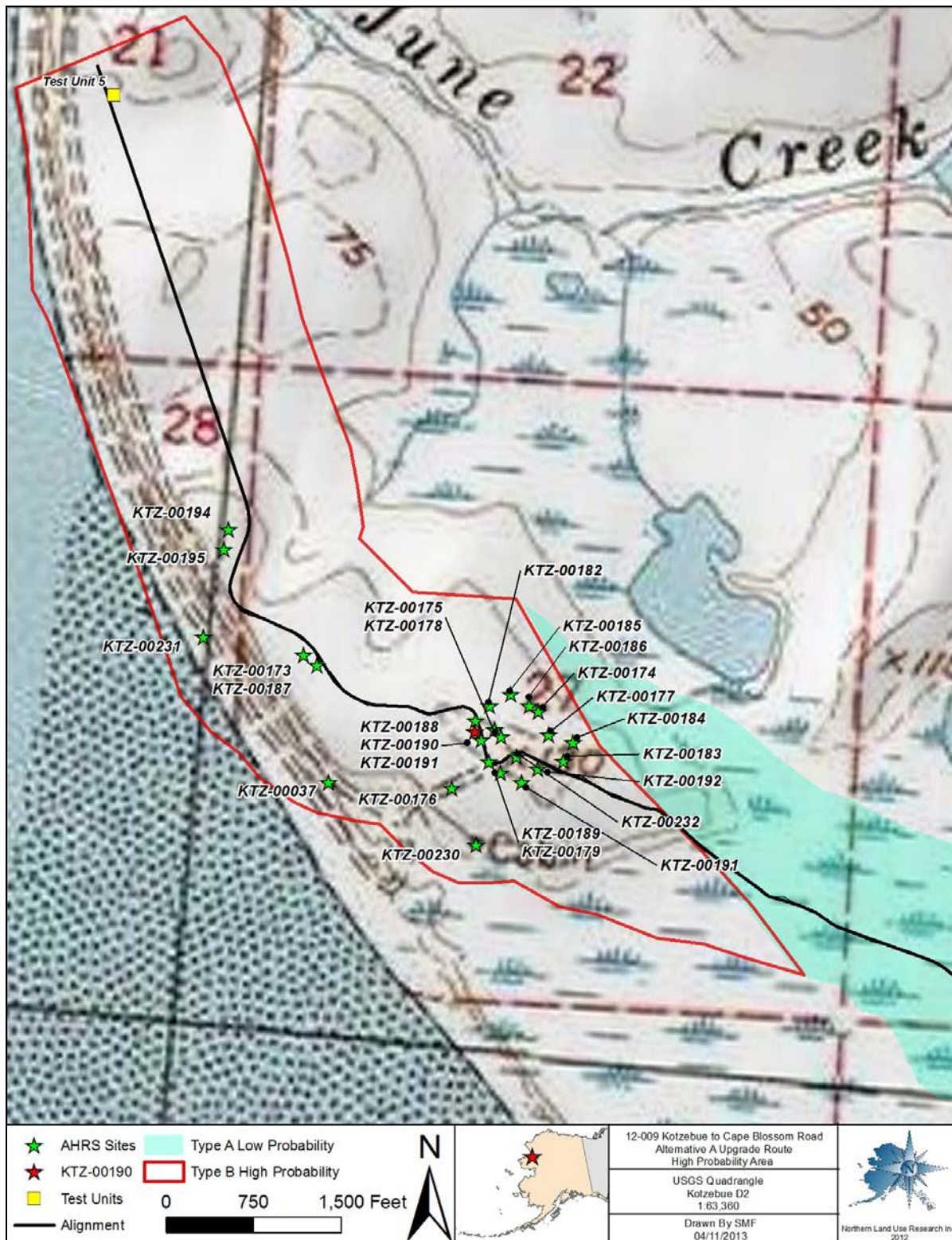


Figure 5. High probability area of the Alternative A- Upgrade Route, showing AHRs Sites within the survey area and test pit. KTZ-00190, the Radome Tower Building is the only building associated with the LRRS still standing.



Figure 6. Aerial photograph of the Kotzebue LRRS, June 1974 showing the facility, part of the LRRS Road System (KTZ-00231), the LRRS Gravel Pad (KTZ-00232) (USAF photo). Up is roughly west in this photograph.



Figure 7. Detail of buildings at the Kotzebue LRRS, July 23, 1993 (USAF photo). The surviving Radome Tower Building (KTZ-00190) is in the top right corner of the facility. Up is roughly west in this photograph. The LRRS Gravel Pad (KTZ-00232) is clearly visible. Compare this photograph with Figure 8.



Figure 8. Aerial view looking west at the Radome Tower Building (KTZ-00190) within the high probability area of the Alternative A- Upgrade Route (NLUR photo). The LRRS Gravel Pad (KTZ-00232) is visible in the center. A portion of the LRRS Road System / Air Force Road (KTZ-00231) passes from left to right across the Gravel Pad. The road to the Kotzebue wind farm is visible as the lower road on the left of the photograph.



Figure 9. Foundation remains southeast of the Radome Tower Building (NLUR photo). These are included in Figure 8 and demonstrate the extent of the demolition carried out by the USAF on the buildings at the Kotzebue LRRS.



Figure 10. Aerial photograph looking southeast within high probability area of the Alternative A-Upgrade Route, showing the remains of the White Alice buildings (KTZ-00194 and KTZ-00195) which were demolished in 1996. The LRRS Road System /Air Force Road (KTZ-00231) and the Radome Tower Building (KTZ-00190) are visible in the background (NLUR photo).



Figure 11. Aerial photograph, showing the entrance of the Kotzebue Landfill from Air Force Road, within the high probability area of the Alternative A- Upgrade Route (NLUR photo). A portion of the Landfill is visible in the top left corner. In the foreground is a sample of the modern garbage that surrounds the Landfill. There is also a plume of lighter, possibly wind borne garbage in the vicinity of the Landfill.



Figure 12. Sample of the modern trash dumped on the west side of Air Force Road near the Kotzebue Landfill, within the high probability area of the Alternative A- Upgrade Route (NLUR photo).

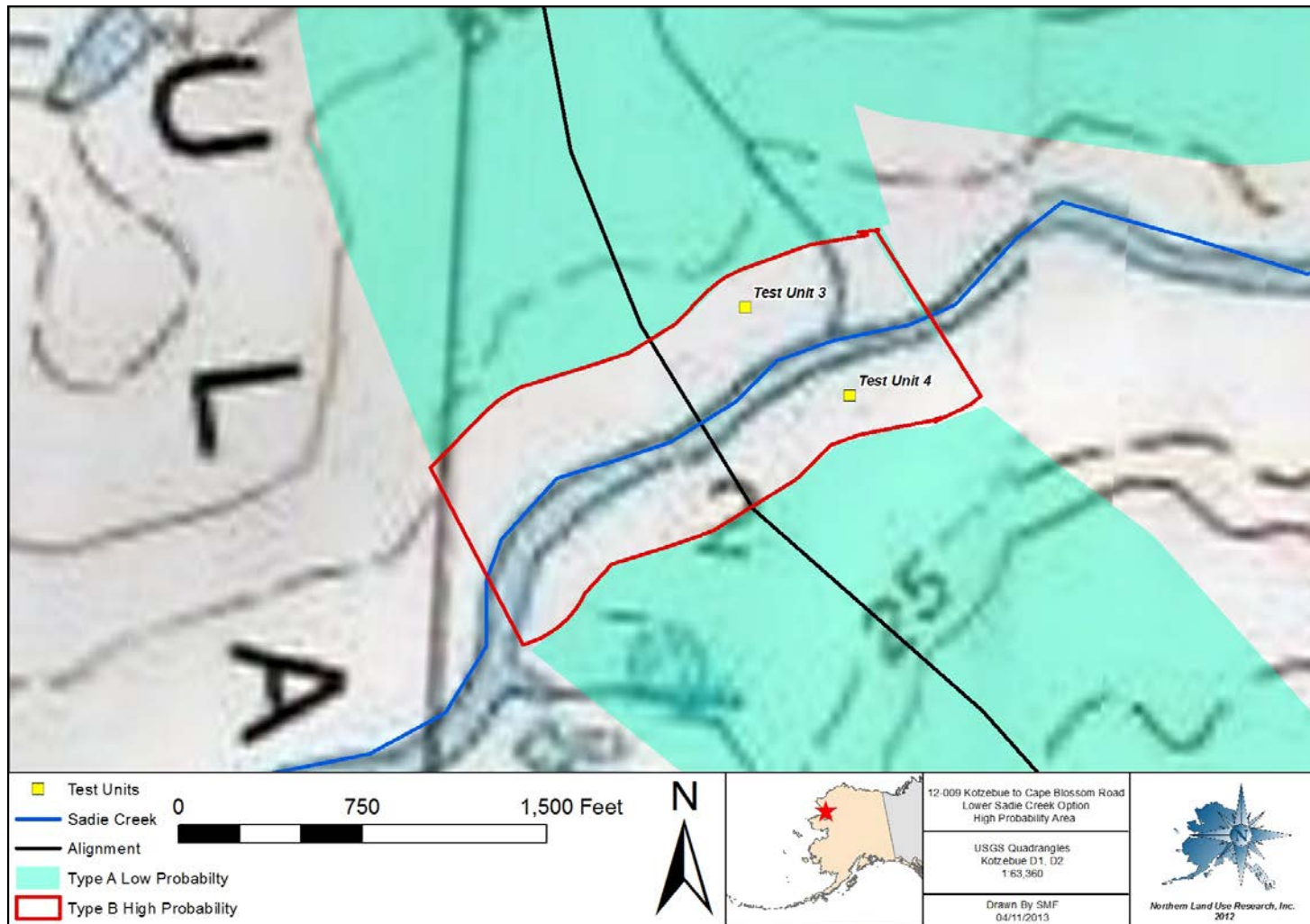


Figure 13. High probability area of the Lower Sadie Creek Option, showing test units.



Figure 14. Composite photograph of the high probability area of the Lower Sadie Creek Option, looking south across Sadie Creek within the survey area (NLUR photo).



Figure 15. Sample of modern trash found within the high probability area of the Lower Sadie Creek Option, including Jack Links brand jerky wrappers, Mountain Dew and Powerade bottles and 12ga. shotgun shells (NLUR photo).

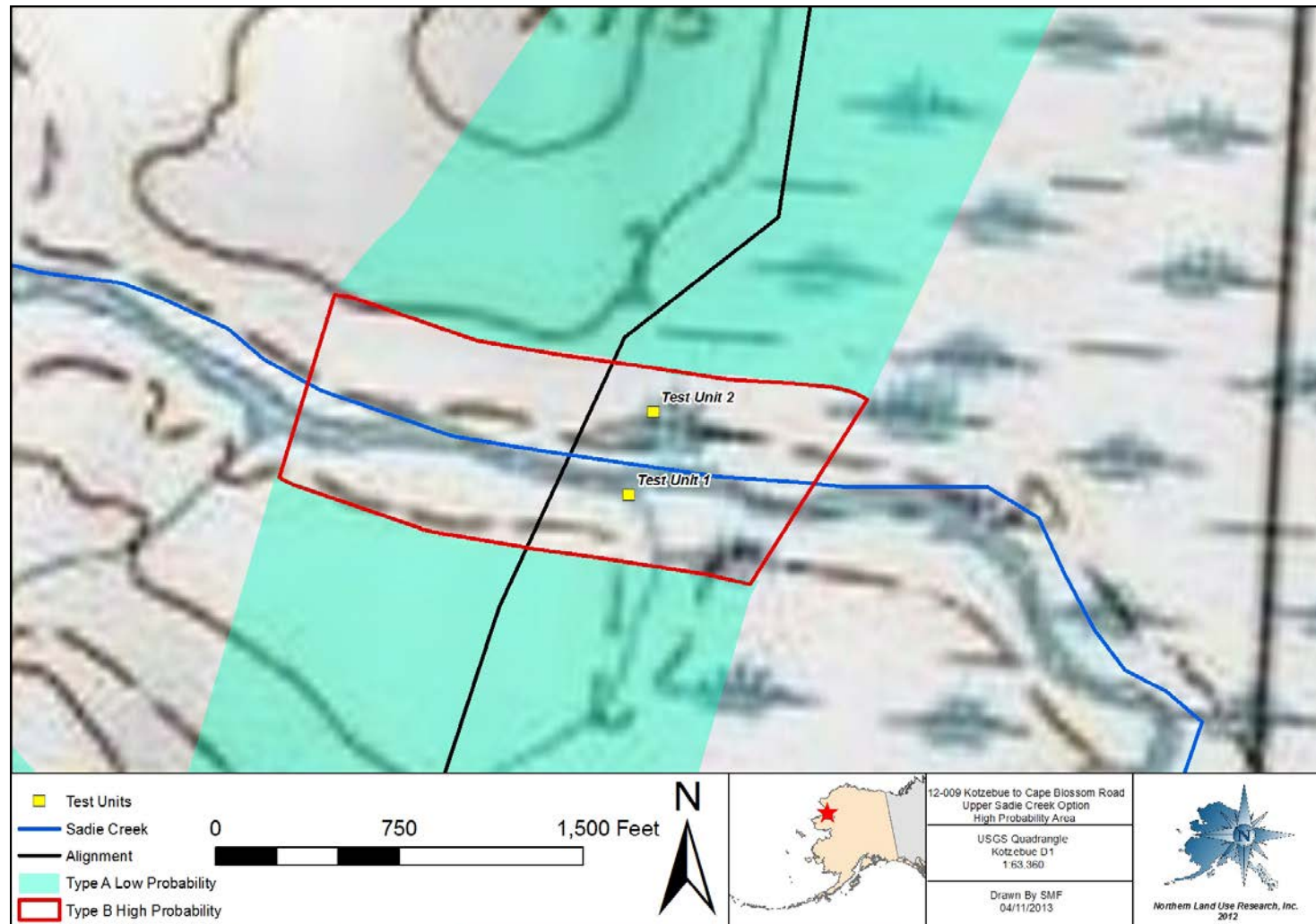


Figure 16. High probability area of the Upper Sadie Creek Option, showing test units.



Figure 17. Composite photograph showing high probability area of the Upper Sadie Creek Option from the southeast corner, looking north / northwest, showing the banks of the main channel of Sadie Creek. Note that the water was abnormally high on the day of the survey due to recent heavy rains in the area (NLUR photo).



Figure 18. Portion of a map produced by the Northwest Arctic Borough map entitled “Northwest Arctic Borough Winter Trails & Shelter Cabins 2010” showing the trail from Kotzebue to Buckland. The trail passes over the proposed Alternative A-South Route of the Kotzebue to Cape Blossom Road between Kotzebue and the “Riley Wreck” shelter cabin.

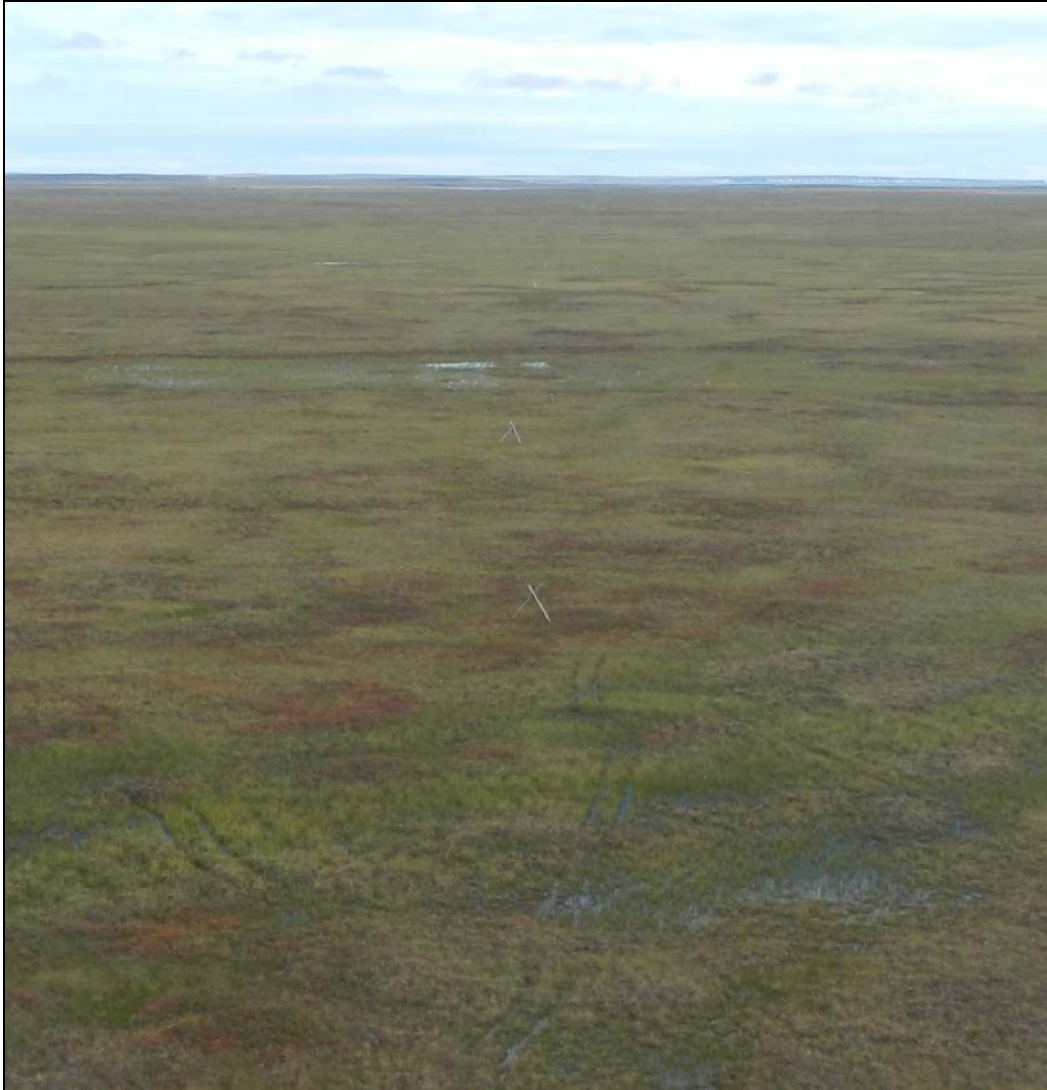


Figure 19. Looking southeast along the Kotzebue-Buckland Trail towards Alternative A-South Route of the Kotzebue to Cape Blossom Road, south of Sadie Creek showing the tripod trail markers (NLUR photo). Note four-wheeler tracks in the foreground.

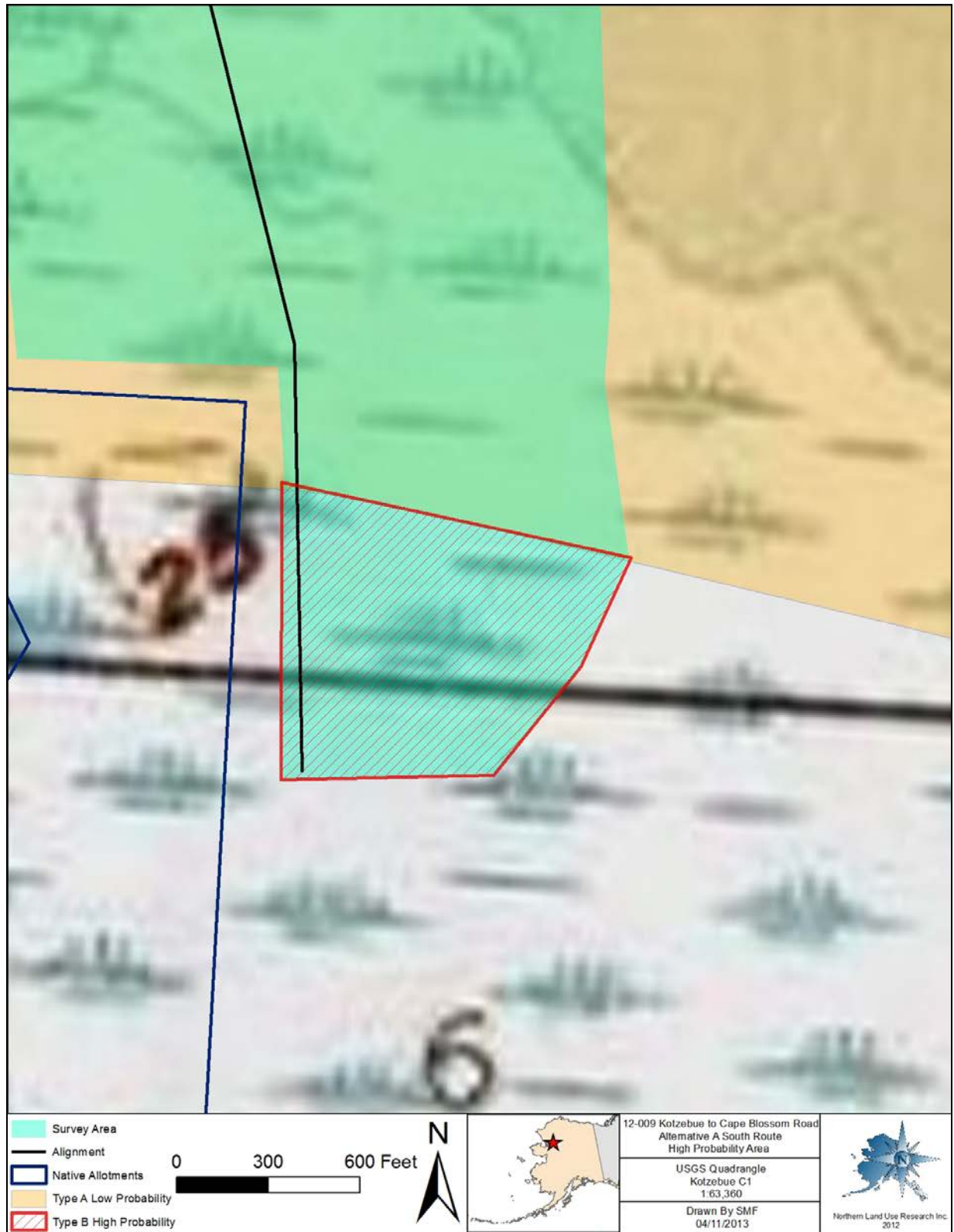


Figure 20. The high probability area surveyed at the southern tip of the Alternative A-South Route.



Figure 21. View northwest from the southern tip of Alternative A-South Route, showing the high probability area, the flat tundra covered terrain and the Robinson R44 helicopter used to conduct the aerial survey (NLUR photo).

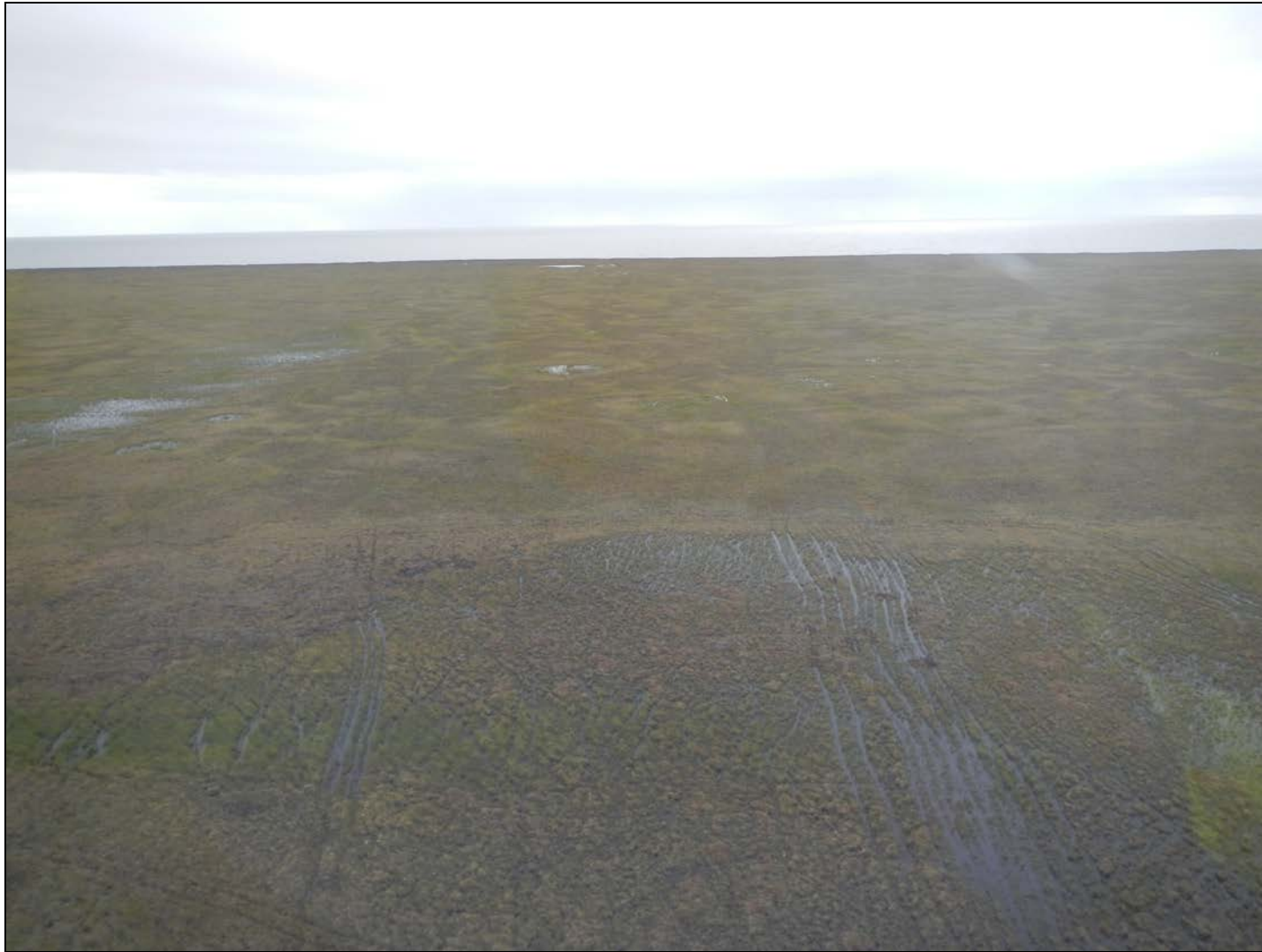


Figure 22. Aerial photograph, looking south towards high probability at the southern tip of the Alternative A-South Route, showing four-wheeler tracks in the tundra (NLUR photo). Similar marks were visible throughout much of the cultural resources survey area.