# Archaeological Survey--Chignik-Meshik Rivers Region, AK

**A Report on a 2010 NPS CESU Agreement**

**Task Agreement #J9796100057  Cooperative Agreement #H9911080028**

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# TABLE OF CONTENTS

Page

## LIST OF FIGURES

**Page**

## LIST OF TABLES

**Page**

# Project Description

The University of Alaska Museum of the North (UAMN) entered into a partnership with the National Park Service (NPS) during 2010 to implement an archaeological research project on the Alaska Peninsula. The boundaries for this project include areas within Aniakchak National Monument and Preserve (ANIA) and the Alaska Peninsula National Wildlife Refuge with a specific focus on the Chignik and Meshik River valleys (Figure 1). The cooperative agreement outlining this partnership delineates several goals which include: writing a survey/research design prior to the 2010 field season, conducting fieldwork during 2010 to test and evaluate the survey design, writing a complete field report, and providing recommendations for future research and fieldwork in the region to be completed during 2011, 2012, and possibly 2013.

The survey/research design used to guide the 2010 field season was completed during April and May of 2010. Fieldwork was conducted on the Alaska Peninsula during the month of June 2010. Extensive planning was made during the month of May sorting out logistics and making arrangements for a successful field season. The field crew waxed and waned over the course of June and at its largest there were nine and at its smallest there were five. We spent June 5$^{th}$ through the 12$^{th}$ at Chignik Lake during which time we met with people in the village, tested sites around the lake, flew aerial reconnaissance, and visited promising spots in the project area via helicopter. On June 13$^{th}$ we relocated to a field camp at Black Lake and remained there until June 16$^{th}$ testing three sites on the north shore of the lake. June 17$^{th}$ through the 23$^{rd}$ we camped at Meshik Lake. During this week we primarily conducted pedestrian survey in all directions around Meshik Lake and in the Albert Johnson Creek drainage but we also tested a site near the outlet of Meshik Lake.

The following report details the results of the 2010 field session. This includes basic site type and distribution information, but this report also provides research and management recommendations for each site visited during this project. Recommendations for future fieldwork in the region during 2011, 2012, and possibly 2013 will be made in a separate research design. This document will be written during the late winter and early spring of 2011. The 2010 field crew included: Loukas Barton (NPS), Jeff Rasic (UAMN), Jim Jordon (Antioch University), Linda Chisholm (NPS), Devon Reid (UAMN), Fawn Carter (UAMN), and Scott Shirar (UAMN). We were also joined at different times by Allen Gilliland (NPS pilot), Sam Egli (Egli Air Service pilot), and Chuck Lindsay (NPS helicopter manager).

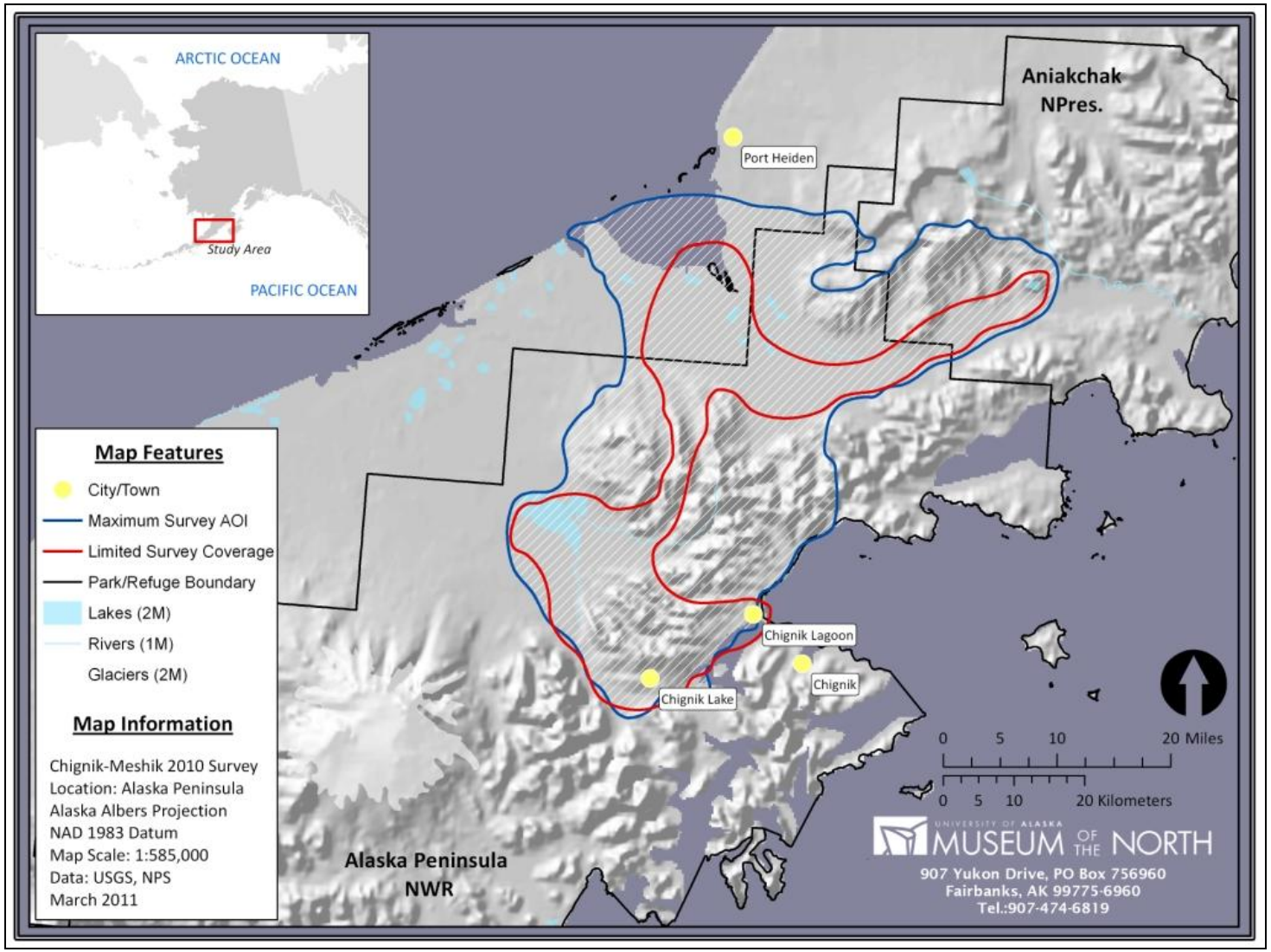


Figure 1: Map outlining the project area on the Alaska Peninsula between Chignik villages and Port Heiden

## Regional Review

The central Alaska Peninsula has experienced waves of cultural influence in different regions throughout time, creating a complex archaeological record. The prominent Aleutian Range separates the Bering Sea coast from the Pacific coast of the peninsula and acted as a natural barrier for different cultural groups, which isolated human interaction between the two areas until the late prehistoric period (Yesner 1985; Dumond 1974; McCartney 1974). In the Chignik and Meshik Rivers region the peninsula is only about 50km wide and the two rivers, along with their tributaries, form a natural travel corridor across the Aleutian Range. Numerous prehistoric volcanic events are hypothesized as mechanisms for human migrations on the peninsula and have likely played a key role in cultural development there (VanderHoek 2009). The abundance and distribution of humans in the region likely parallels the history of biotic response to these volcanic events (e.g. Heusser 1983).

Between 4000 and 3400 BP there were three major, caldera-forming volcanic events in the Chignik and Meshik Rivers region (Reihle et al. 1998). Black Peak, to the north of Chignik Lake sent more than 10km$^3$ of ejecta into the air sometime just before 3700 BP; Veniaminof, the peninsula-spanning massif to the south of Chignik Lake experienced a major (>50km$^3$ of ejecta) eruption ca. 3700 BP; and the Aniakchak II caldera-forming event, sent between 70 and 150km$^3$ of debris into the air ca. 3400 BP (Miller and Smith 1987, Riehle et al 1998, VanderHoek 2009). Precise ecological impacts of these eruptions are unknown, but it is probable that all levels of the resource chain, including humans, were affected for varying periods of time (see VanderHoek 2009).

In the Chignik region, archaeological surveys for sanitation and village infrastructure projects comprise much of the work that has been done so far (Meinhardt et al. 2008; Parmelee et al. 1995; Cultural Heritage Studies 2003; Steele 1982; Pittenger and Thomas 1980; Pipken 1999, 2001, 2002). However, a 1994 excavation of the Mud Bay Village Site (CHK-00042) was performed by the U.S. Fish and Wildlife Service. This excavation revealed at least two occupations at the site which include a prehistoric and historic component. The lower, earlier component yielded radiocarbon dates ranging between AD 70 and AD 80 (Corbett 1994). The U.S. Fish and Wildlife Service also conducted excavations at the Chignik Lake Village Site (CHK-00031) in the early to mid-1990s. Radiocarbon dates from different parts of this site reveal occupations between 2600 BP and 2800 BP (Corbett 1995).

In 1975 Don E. Dumond conducted surveys in several different areas throughout the central Alaska Peninsula. During this work he tested ten different sites around the Chignik River, around Chignik Lagoon, and at the abandoned historic village of Unangashik. The ten sites visited by Dumond in 1975 include: CHK-00005, CHK-00007, CHK-00008, CHK-00009, CHK-00010, CHK-00011, CHK-00012, CHK-00013, CHK-00014, and CHK-00015. Excavations at these ten sites produced several radiocarbon dates but none older than 2200 BP. During 1975 Dumond also accepted the donation of a blade core reminiscent of those found at Paleoarctic and Northern Archaic sites in other areas of the Alaska Peninsula. This artifact was collected from the ground surface and cannot be reliably dated, but potentially represents a human presence in the Chignik region between 9,000 and 5,000 BP (Dumond 1992:97).

In 1978, a survey team from the Alaska Office of History and Archaeology investigated a site (CHK-00011) on the Chignik River immediately across from an Alaska Department of Fish and Game fish weir along the lower section of the river between Chignik Lake and Chignik Lagoon (Holmes and Dixon 1978). Dumond conducted limited excavations at this site in 1975 and radiocarbon dated the site to approximately AD 1400. Work conducted at CHK-00011 in 1978 reinforced the AD 1400 date for the site but significantly expanded the site boundaries and showed that the site was stratigraphically more complex than Dumond had originally thought.

Based off of this previous work, the Chignik archaeological record is a relatively recent one. Presently, the oldest known site is the Chignik Lake Village Site (CHK-00031) which dates to 2800 BP (Corbett 1995) and indicates that the region was habitable within a thousand years of the Veniaminof and Black Peak volcanic eruptions. The next oldest known site in the region is CHK-00007 which dates to approximately 2200 BP and is located on the lower Chignik River (Dumond 1992:92). To date no systematic survey has been conducted in the Chignik area and future work in the region will help to better understand the prehistory of the central Alaska Peninsula including questions pertaining to volcanology and whether people inhabited the region prior to the early (~3700 BP) volcanic eruptions there.

Archaeological investigations in the Meshik River region began with a short aerial survey conducted by Don E. Dumond in 1975. During reconnaissance of the area Dumond found that much of the terrain was unlikely to contain sites due to low elevation and wet ground. Despite these conditions, one village site (CHK-00035) was found during fieldwork in 1975 (Dumond 1992:95). Two radiocarbon dates were derived from material collected from CHK-00035 and these samples dated to 1240 BP and 1220 BP (Dumond 1992:95).

In 1981 David Yesner surveyed in and around Port Heiden and found two sites: the Meshik Village Site (CHK-028) and the North River (Reindeer Creek) Site (XBB-002). The Meshik Village Site contained diagnostic artifacts he attributed to the Thule tradition. The North River Site contained a house depression which was tested and subsequently radiocarbon dated to 450 BP (Yesner 1981). A linear survey was conducted in 1986 by a Cultural Resources Management firm contracted by the U.S. Fish and Wildlife Service (Dumond 1992:95). A relatively narrow corridor was surveyed by helicopter between Port Heiden and Kujulik Bay and five new archaeological sites were found including SUT-00003 and CHK-00036 (Dumond 1987:129-132, 1992:95).

Archaeological research in the Aniakchak National Monument and Preserve has a recent history. In 1987, the National Park Service performed a one-day survey and found both historic late prehistoric materials (Harritt and Faulkner 1987). In 1996, the National Park Service began a four year project in the park which included the first ever extensive survey in Aniakchak as well as several site excavations (VanderHoek 2009; VanderHoek and Myron 2004). This four year endeavor resulted in 40 found sites: 14 were historic, 20 were prehistoric with dates ranging between 2000 BP and 375 BP, and 6 sites had both historic and prehistoric components. At least six of these sites were villages with a total number of house features ranging between 14 and 45. Subsequent excavations have been conducted by the National Park Service and Hamline University at the South Aniakchak Village Site (SUT-00016), a multi-component site located near the mouth of the Aniakchak River and first recorded in 1997 (VanderHoek 2009; VanderHoek and Myron 2004: 70-74).

Like the archaeological record in the Chignik region, sites in Aniakchak and the surrounding region are relatively recent, with no sites found predating 2000 BP (VanderHoek 2009). In 2004, VanderHoek and Myron published an extensive work detailing the archaeology of Aniakchak National Monument and Preserve and the relationship between these sites and the complex eruptive history of the region. Despite the extensive work accomplished during the 1990s and 2000s, the archaeological record of the Chignik-Meshik region remains limited. Whether sites simply have yet to be found or if sites have been destroyed and/or deeply buried by volcanic eruptions; the impacts of volcanism on human populations are currently difficult to evaluate. What does seem clear now is that cultures north of the Aniakchak volcano and south of the Veniaminof volcano diverge at approximately the same time eruptions decimated the surrounding landscape (see VanderHoek 2009). It is therefore likely that abrupt demographic

change and migration in the wake of this volcanism played a substantial role in cultural and linguistic diversification in southwest Alaska.

## Survey Strategy

Our survey strategy for the first field season was written during April and May 2010 and culminated in a document titled "2010 Chignik Survey Plan." This plan guided our survey efforts and this section of the field report is based off of this document. In many ways, the areas surveyed during Year 1 of this project were largely determined by where we could go (i.e. where we could land a plane or a helicopter or where we could take a boat). Where we spent our time during the 2010 field season was largely decided once the crew was assembled at Chignik Lake and after three days of fixed-wing air reconnaissance was completed between June 7th and June 9th. That being said, we did delineate spots that looked productive prior to actual field reconnaissance of the project area.

Several potential areas within the Chignik-Meshik region were initially targeted for survey and the four locales that we were able to visit on the ground are outlined below. This discussion includes a brief summarization of the work that was completed in each subregion and the strategies employed while working in each. The mode(s) of travel available to access and work within each subregion are also included at the end of each paragraph. A more in-depth discussion of the work accomplished in each subregion is presented in the "2010 Survey Results" section of this report.

### Black Lake, Chignik Lake, and Chignik Lagoon

This subregion is the most accessible within the Chignik-Meshik region (see Figure 1) and was visited and worked in between June 5th and June 16th of the 2010 field session. We spent time visiting and testing previously recorded sites and surveying around Chignik Lake utilizing a motorized boat and pedestrian survey while staying at a lodge on the north shore of Chignik Lake. Four days were spent in a remote field camp at Black Lake and during this time we conducted pedestrian survey of the north shore of the lake and recorded and tested three previously undocumented sites. During our eleven days in this subregion we learned that it is feasible to travel between Black Lake, Chignik Lake, and Chignik Lagoon with a motor boat but that it is best done with the appropriate craft and with a skilled pilot.

## Uplands to the East of Black Lake

The region to the east of Black Lake (see Figure 1) is an area that was also visited during the 2010 field season. While based out of the lodge at Chignik Lake, field crews were dropped off for day trips via helicopter in specific spots to survey for and/or test sites. Prior to fieldwork this area was identified as a spot that could produce older sites due to the combination of promontory type landforms and the possibility that this area may have escaped destruction during the Aniakchak II volcanic event and could be less deeply buried than other similar landforms in the project area (see pyroclastic flow map in VanderHoek and Myron 2004:149). No sites were found while testing these overlook landforms but we did find relatively shallow bedrock in several of our test pits which is promising. Most landforms and sites in this area will have to be accessed via helicopter, although there are some spots that could be surveyed near the outlet to Black Lake during a float trip survey

## Meshik Lake and Meshik River Valley

Meshik Lake is an accessible spot within the study area (see Figure 1) and was visited during the 2010 field season. We were dropped off via float plane and then set up a base camp at Meshik Lake to conducted pedestrian survey and test known sites in the surrounding area between June 17$^{th}$ and June 23$^{rd}$. The Meshik River was also accessed via Meshik Lake and would be the ideal place to start a float trip in future years. One day was spent surveying the uplands and higher terraces along the Meshik River just below the Meshik Lake outlet stream. Outside of Meshik Lake, this is a relatively inaccessible area. The Meshik River in its entire length can be accessed with an inflatable boat via float plane to Meshik Lake. The upper portions of the Meshik River can be reached on foot from Meshik Lake and isolated landforms in the Meshik River Valley could be accessed via helicopter.

## Cinder Blows, Upper Meshik River and Albert Johnson Creek

Cinder blows in the upper Meshik River and Albert Johnson Creek drainages (see Figure 1) were also surveyed via the Meshik Lake field camp during the 2010 field season. In order to access the far eastern portion of the Albert Johnson Creek drainage (near the Aniakchak River confluence) a one night, two person spike camp was set up. Initially we thought a larger cinder blow would be a good place to have a base camp set up during future field work, but the lack of

archaeological sites in this region makes this a bad idea. The uplands that separate Albert Johnson Creek from the coast have been noted as a high potential area for finding sites although many of these ridge tops are not reasonably accessible on foot and would require a helicopter (Barton et al 2009). One of these high ridges was visited via helicopter in 2010 but test pits excavated in a possible rock shelter site were negative.

## Preliminary Research Questions

A second goal of the "2010 Chignik Survey Plan" was to identify a preliminary set of research questions that would help us in choosing which subregions to visit and that would dictate the type of work to conduct in each. These research objectives not only guided our first summer of fieldwork but will also form the basis of a formal research design to be written between January and April 2011 (i.e. "2011 Chignik Survey Plan"). The work we accomplished during the first year in the field will allow us to make recommendations for future survey work and will help us provide a more comprehensive research design to guide Year 2 and Year 3 efforts. Presently we don't have the information necessary to fully address the research questions that have been identified, but our goal is to continue collecting the necessary data over the next two summers. A brief summary for each of the research question identified and outlined in the "Chignik Survey Plan" is presented below.

### Characterize the distribution of archaeological sites and the range of site types present in the region.

The potential of distributional or settlement studies is probably limited in this region because of the widespread destruction or deep burial of much of the region's archaeological record. At best we might hope to find a very limited (perhaps misleadingly so) window into the regional distribution of sites. Nonetheless we will strive to find during this initial phase of research as wide a range of site types as possible and in a wide range of environmental or geographic settings. Toward these ends we plan to allocate at least some survey effort to different topographic and environmental settings, such as upland, coastal, riverine, and lakeside locales. It may be in the end that visibility and landscape preservation severely restrict where we can productively do archaeology, but we aim to start the project open to a wide range of outcomes.

## How can we refine our understanding of the timing and nature of prehistoric volcanic events that occurred in the central portion of the Alaska Peninsula?

Volcanism defines the ecology and landscape of the Alaskan Peninsula and knowledge of the nature and timing of these processes is critical to understanding and interpreting the archaeological record and human history of the region. The history of volcanism is relevant to studies of prehistoric human activity because of the profound ecological effects of volcanic processes, which surely influenced human subsistence and land use. Additionally, volcanic deposits also offer great promise as stratigraphic and chronological markers useful for understanding diachronic change in human economies and settlement.

The period between 4000 and 3400 BP was a particularly active time for volcanism in the study region which witnessed major eruptions of Aniakchak and Veniaminof volcanoes and a smaller eruption of Black Peak (Miller and Smith 1977, 1987; VanderHoek and Myron 2004). Many other, smaller eruptions within the larger region have also occurred since the late Pleistocene, but are not well understood, in part because recent volcanic events have been of such magnitude that they have obscured or destroyed records of earlier events.

Objectives of work in 2010 in regard to volcanism are reconnaissance in nature. Two important stratigraphic exposures, Cabin Bluff and Drumlin Creek, were discovered in 1999 in Aniakchak National Monument (VanderHoek and Myron 2004). The Cabin Bluff exposure has been instrumental in outlining the sequence of volcanic events since deglaciation of the area about 10700 BP, but has poor resolution after the Aniakchak II event at ca. 3500 BP. Another key stratigraphic profile at Drumlin Creek, however, contains an expanded late Holocene (post 3500 BP) record, and together these two exposures provide a good first approximation of Holocene volcanic activities for the region. The issue remains that these are but two exposures, and at least some of the record at these two locations is likely to reflect local rather than regional signatures. The Drumlin Creek locality, for example, is at a low elevation near the intertidal zone and reflects, in part, intertidal environments.

## Did people occupy the central portion of the Alaska Peninsula prior to the crater forming volcanic eruption (i.e. before ~4000 BP)?

In this region that has been so dramatically altered by volcanic activity and other geomorphological processes, there is a twofold challenge to finding intact portions of the archaeological record. Much of the prehistoric record will simply have been obliterated and one objective will be to locate those, perhaps small, portions of the landscape that have been preserved. Much of those intact lands are expected to be deeply buried and so the second challenge will be to identify those landforms that can be realistically tested for archaeological deposits.

An overriding theme of the research design that will be established for this project is related to this second research question. In order to address this question effectively, identifying middle Holocene, early Holocene, and/or late Pleistocene aged landforms which can then be tested for archaeological remains is a priority. This portion of the research project is important because the oldest site in the Chignik-Meshik Rivers region is radiocarbon dated to approximately 2800 BP (VanderHoek and Myron 2004:34). Archaeologists should expect to see a middle Holocene/late Holocene hiatus of human occupation in the region due to catastrophic volcanic eruptions that took place during this interval.

However, there are at least three lines of evidence suggesting the Chignik-Meshik region was occupied by humans prior to these eruptions. First is the fact that there are early and middle Holocene archaeological sites documented on the Alaska Peninsula in areas adjacent to the study region both to the north and south. Second, a blade core has been found at a site in the Chignik region which is a type of stone tool technology that many believe represent cultures that were present in the area between 9000 and 5000 BP (VanderHoek and Myron 2004:34). Third, there is clear evidence, such as is seen at the “cabin bluff” exposure in Aniakchak Bay, that the region has been deglaciated since approximately 10700 BP, and this indicates the region was habitable during earlier time periods (VanderHoek and Myron 2004).

## How did volcanic eruptions affect salmon runs in the region (specifically in the Chignik River which is a highly productive salmon fishery)?

How volcanic activity has affected plants and animals in the Chignik-Meshik Rivers region is an important question pertaining to the human occupation of the Alaska Peninsula (VanderHoek and Myron 2004). It is generally accepted that prehistoric volcanic eruptions in the region would have had a devastating impact on local plants and animals, which also would have drastically affected humans living there, but the question remains: How long did it take for the ecology in this region to recover from a given volcanic eruption? The answer to this question likely depends on the nature and intensity of each volcanic event, but one way to address this research question is by studying the history of salmon runs in the Chignik River. Similar studies tracking the intensity of salmon returns over time have been conducted in the Bristol Bay and Kodiak Island regions and could serve as a model for a Chignik Lake study (see Finney et al. 2000, 2002).

This research has shown nitrogen levels in lake sediments to be a good proxy for the relative size of salmon runs, since a major source of nitrogen in lake sediments derives from the decayed bodies of salmon that have reached the lakes to spawn. Fluctuations in the strength of salmon runs over time can then be compared to climate and other environmental data (such as volcanic tephras) to form and test hypotheses about the cause and effect relationships among these variables. It is hypothesized that stream ecology, and in turn, salmon reproductive cycles, would be affected by ashfalls and volcanic activity. Low nitrogen levels are expected to correspond with periods of volcanic activity. Mapping the intensity of salmon runs in the Chignik River over time could also provide a proxy for potential fluctuations in human occupation of the central Alaska Peninsula. This lake core study could also be supplemented by intensive lake shore surveys to look for archaeological occupations that might fall in line with salmon and volcanic patterning.

## Field Methods

An important aspect of this project was aerial reconnaissance and survey not only to familiarize the crew with the project area but also to identify high priority areas and to get a sense of the possibilities for setting up remote field camps. A systematic approach (such as flying transects) was not employed during aerial survey but we did cover the entire project area several times over between Aniakchak National Monument and Preserve and the Chignik River valley (Figure 2). Every crew member was able to spend time in the air and several points of interest were marked as spots to try and get back to on the ground. Most of these points of interest consisted of interesting geological formations (e.g. caves or ancient coastline), landforms with high archaeological potential (e.g. promontories or river confluences), or logical areas for setting up a field base camp (e.g. wherever we could land a plane or a helicopter). Several large village sites, previously unrecorded, were also recognized and recorded during these reconnaissance flights.

Once on the ground in a given subregion our survey methods differed depending on the situation. In areas where there were known sites that we wanted to test, like at Chignik and Black Lakes, we conducted little to no pedestrian survey and focused on test excavations. All excavations at known sites consisted of controlled 50x50cm square test units that were dug in 10cm arbitrary levels with all soil screened through ¼" mesh. We never spent more than one day testing at a site and the number of test units excavated at each depended on the site and crew size and ranged anywhere from one to six test units.

While we were at Meshik Lake, where there are few known sites, we spent most of our time conducting pedestrian survey. Most days during pedestrian survey we split into two crews so we could visit as many different areas as possible. During survey we generally walked transects spaced 20-30m apart, excavating shovel test pits on vegetated landforms where there was little to no surface visibility. The terrain around Meshik Lake is unique because there are numerous cinder blows where the ground surface consists of exposed gravels and pumice over large areas. Outside of these cinder blows the ground surface is generally well vegetated and shovel testing is necessary. Shovel tests excavated during pedestrian survey were informal compared to those dug during testing at known sites. Informal shovel test pits generally consisted of round, 30cm in diameter shovel probes excavated as deeply as possible and using screens equipped with ¼" mesh.

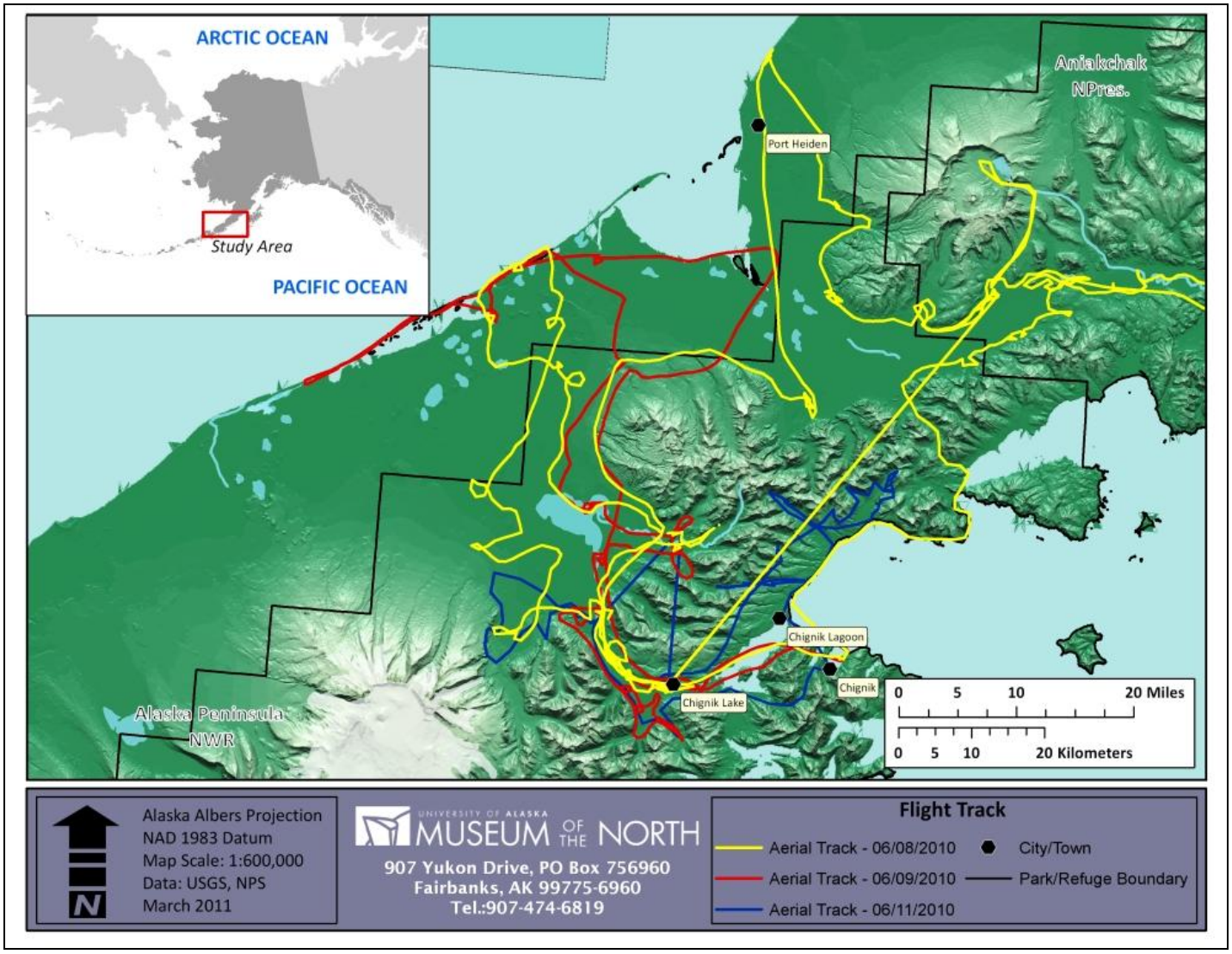


Figure 2: Map showing the aerial survey coverage from 2010

# 2010 Results (by Geographic Subregion)

Fieldwork was conducted between June 5th and June 23rd and took place in several different spots throughout the roughly 450 $km^2$ project area. This section, which summarizes the fieldwork results, is broken down into different sub-sections based on geography (i.e. Chignik Lake, Black Lake, and Meshik Lake). This organizational strategy is also roughly chronological beginning with the earliest area visited (i.e. Chignik Lake) although areas outside of the Chignik Lake area were visited while we had the airplane and helicopter. For example CHK-00112 was located north of Black Peak via helicopter while the crew was stationed at Chignik Lake. Extensive survey was not completed in the area where CHK-00112 was found so for organizational purposes this site is included in the "Chignik Lake" section of this report even though the site is actually located north of Black Peak.

## Chignik Lake

Our field season began with organizing gear and finalizing our logistics in King Salmon on June 3rd and June 4th. On June 5th Barton, Shirar, Chisholm, Carter, and Reid flew to the village of Chignik Lake (Figure 3) and got established at Lindholm Lodge (Figure 4) where we will be staging our activities until June 12th. In addition to settling in we continued to try and resolve some of our more challenging logistical issues (i.e. aircraft refueling and land access). On June 6th we conducted boat reconnaissance of Chignik Lake and stopped in the village and spoke with Roger Lind and Harry Kalmakoff Jr. about the project. During the morning of June 7th Barton met with Harry Kalmakoff Jr. to discuss our project more formally (and to ask for permission to visit and record sites on village corporation land) while Chisholm, Carter, Reid, and Shirar mapped CHK-00005 with the Trimble GPS unit. During the afternoon of June 7th we headed down river to visit the Alaska Department of Fish and Game weir located on the lower Chignik River (Figure 5).

Figure 3: View of Chignik Lake Village from Lindholm Lodge

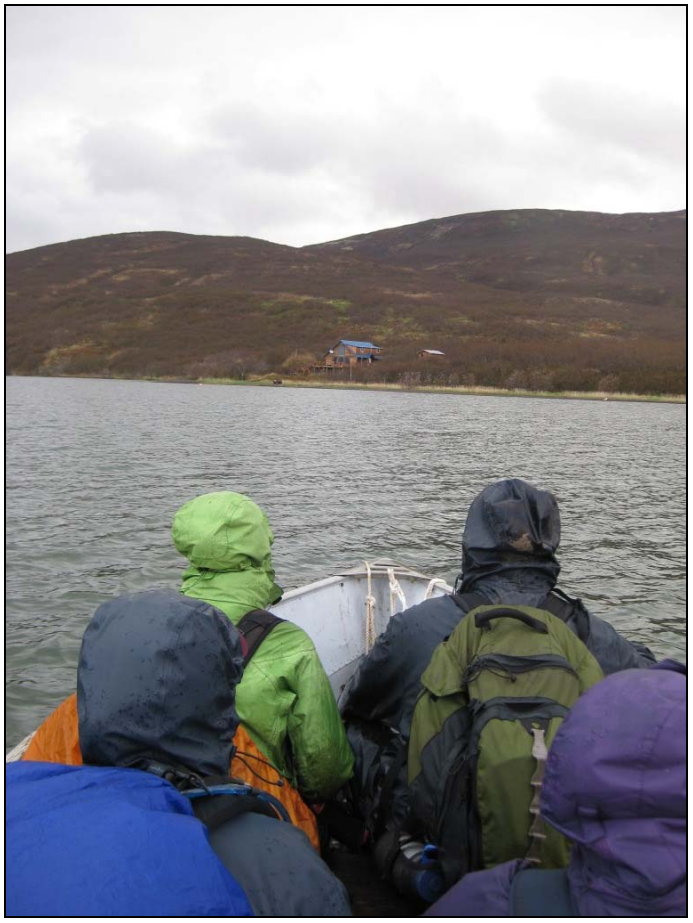

Figure 4: Photograph of Lindholm Lodge at Chignik Lake

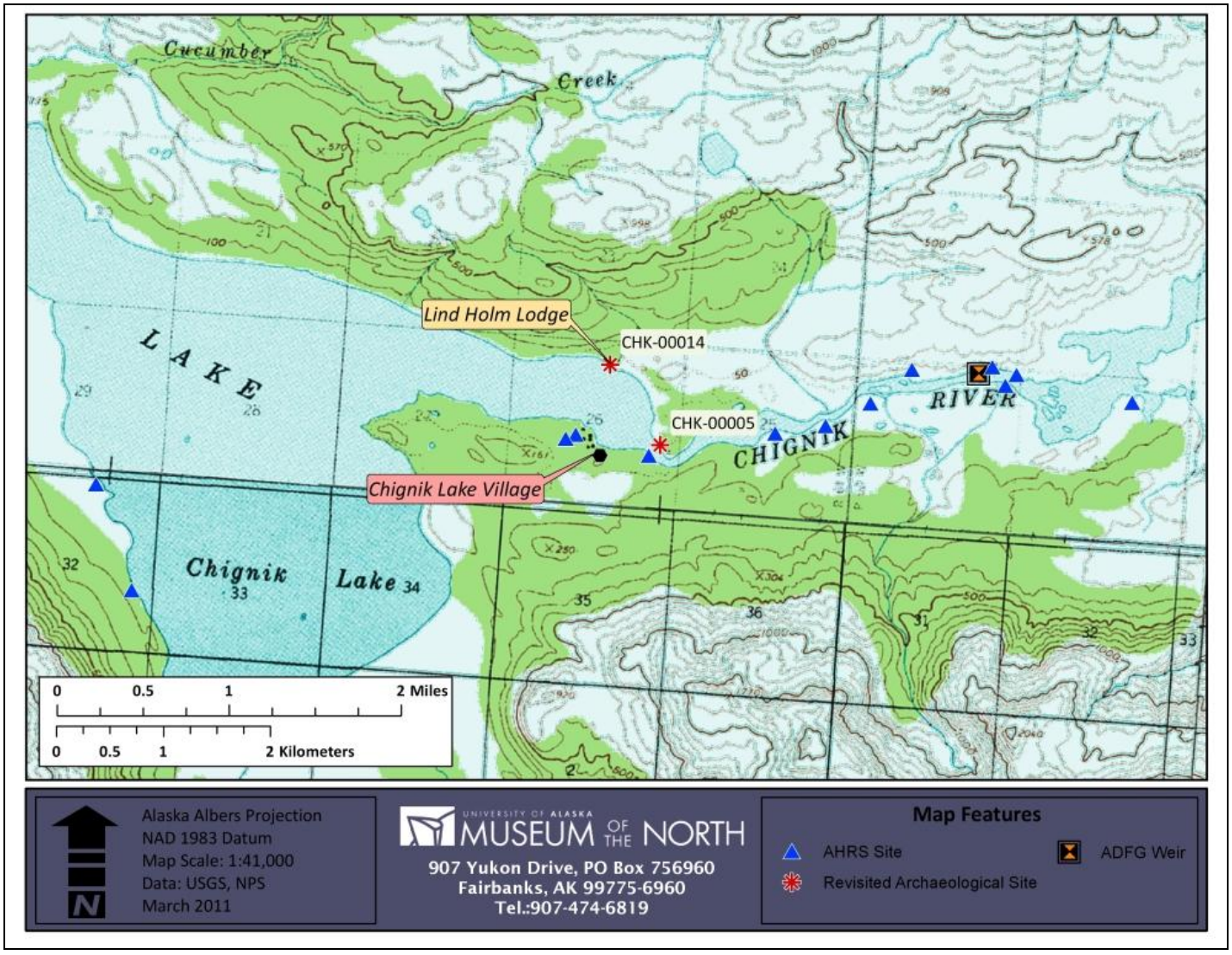


Figure 5: Map showing lower Chignik Lake with key sites labeled

We arrived at the weir after lunch and got a great tour by the crew there. We found out that the river can be difficult to run on this lower section and that there is a gate to go through at the weir if you want to access the lowest portions of the river and the lagoon. We also bottomed out the motor at one section where it is tricky to stay in the main channel and found out that our motor was too small to effectively carry us back up river, but the fish and game crew was kind enough to help us out and get our crew back up to the lake. Needless to say, a boat pilot would probably be best when working on the lower section of the Chignik River. We spent the late afternoon and early evening starting some test excavations at CHK-00005. Rasic, Jordan, and Gilliland arrived in the NPS Cessna 180 on the evening of the 7th in preparation to begin aerial reconnaissance on June 8th.

**CHK-00005** is located on a prominent knoll, on the north shore of Chignik Lake, overlooking the outlet leading into the lower Chignik River (Figures 5 and 6).
This is a site that has long been known about by local residents and was one of the first archaeological sites recorded in the Alaska Heritage Resource Survey for this area. A fisheries research station is located approximately 100m to the west, below the knoll this site is situated on, along the first terrace above the water. Don E. Dumond (1992:92) visited this site in 1975 and described several cultural depressions and collected a small assemblage of artifacts from this site, noting that cultural material was eroding along the bluff edge and could be found along the beach (AHRS data card).

We visited this site during June 7th and June 8th with several goals in mind: to map the site using a Trimble GPS unit, to test the house features at the site in order to recover dateable material, and to conduct a condition assessment of the site paying particular attention to the bluff erosion noted by Dumond. During the morning of June 7th the site was mapped during which time two likely house depressions were noted on the southeast portion of the knob on a bench roughly 2m lower than the top of the landform (Figure 7). These depressions are large and circular/oval in shape with a maximum diameter of about 8-9 meters. A smaller, 4m in diameter, depression is located 15m to the north and east of the larger depressions. This smaller feature may represent a cache or storage feature. A forth, less defined surface depression is located along the edge of the bluff and may represent a third house ruin here.

Figure 6: Overview of CHK-00005 facing south-southeast

This spot seems like an ideal place to live due to this being a natural funnel area for salmon moving upriver and into Chignik Lake. This site is well vegetated with 2m high alders, reeds, grasses, and moss. There is no surface visibility on top of the landform here but we did find six basalt flakes eroding out of the south side of the bluff and being deposited on the beach below the site. All of these eroded flakes were left in place, none were collected.

Two formal test units were excavated at CHK-00005 during 2010. TU-01 was opened up during the afternoon of June 7$^{th}$ and consists of a 50x50cm square which was placed in the center of one of the house depressions (Feature #LC01A) (see Figure 7). TU-01 was positive for cultural material with artifacts first appearing at 40cmbs but with a majority of the artifacts found between 70cmbs and 90cmbs (Figure 8). A total of 842 flakes, 2 biface fragments, one complete biface (Figure 9), 3 net sinkers (Figure 10), and 17 charcoal samples (from 52-140cmbs) were collected from throughout this unit (see Appendix 1). Excavation of TU-01 stopped at 100cmbs but a soil probe was used to punch down an additional 40-60cmbs and charcoal continued to be found. The soil profile of this unit is a complex one with alternating bands of pumice and cultural deposits (Figure 8).

All but one of the 17 charcoal samples that were collected from this unit were identified as either alder (*Alnus*), spruce (*Picea*), or an unidentified hardwood (see Appendix 2). The one

sample (2010-35) that could not be identified is a carbonized material that may not be wood charcoal. A sample of alder charcoal recovered from a hearth feature 90cm below the surface in TU-01 was radiocarbon dated to approximately 1800 years ago (Figures 7 and 8, Beta-299605). Another alder charcoal sample, this one collected at 140cm below surface in soil probe 03 of TU-01, was radiocarbon dated to about 4700 years ago (Figures 7 and 8, Beta-299606).

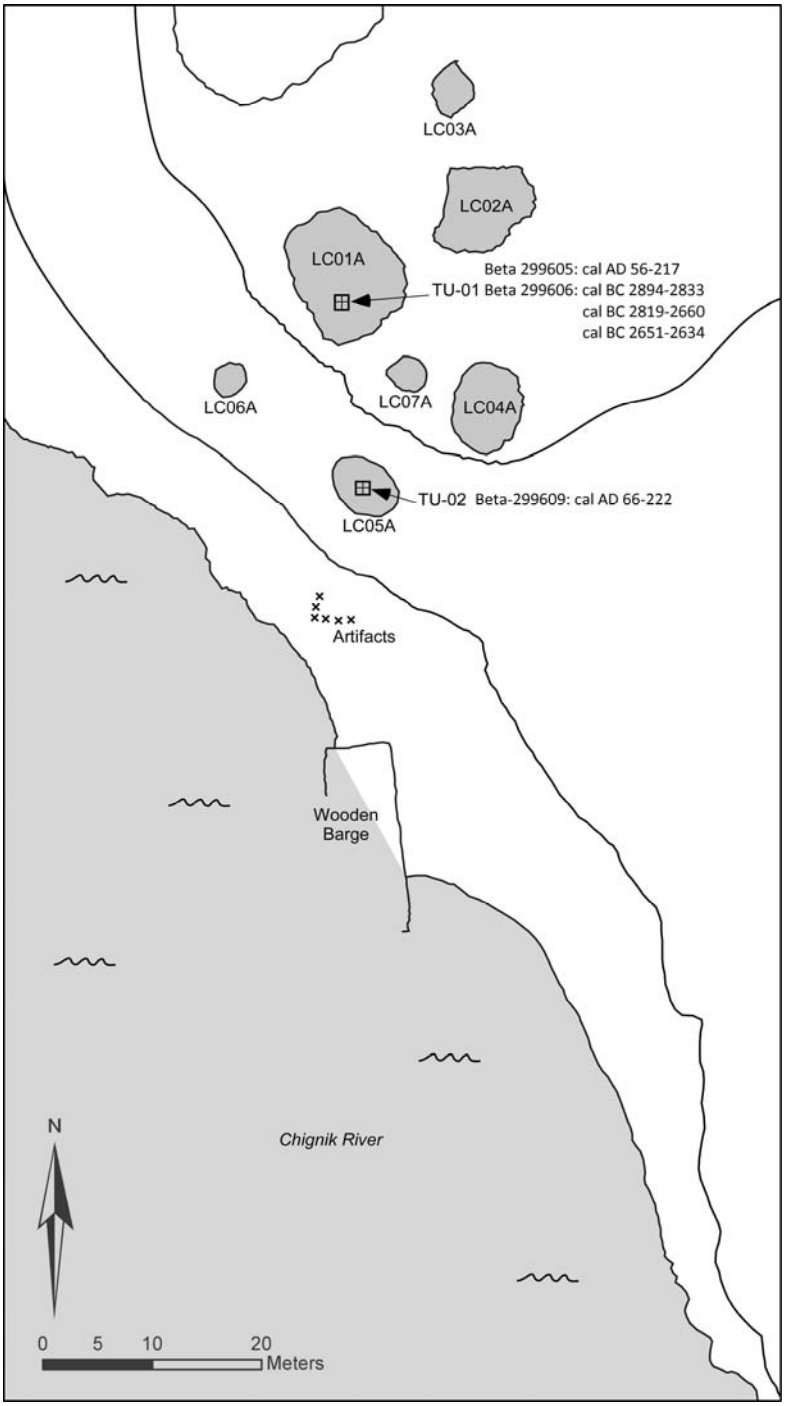


Figure 7: CHK-00005 Site Map

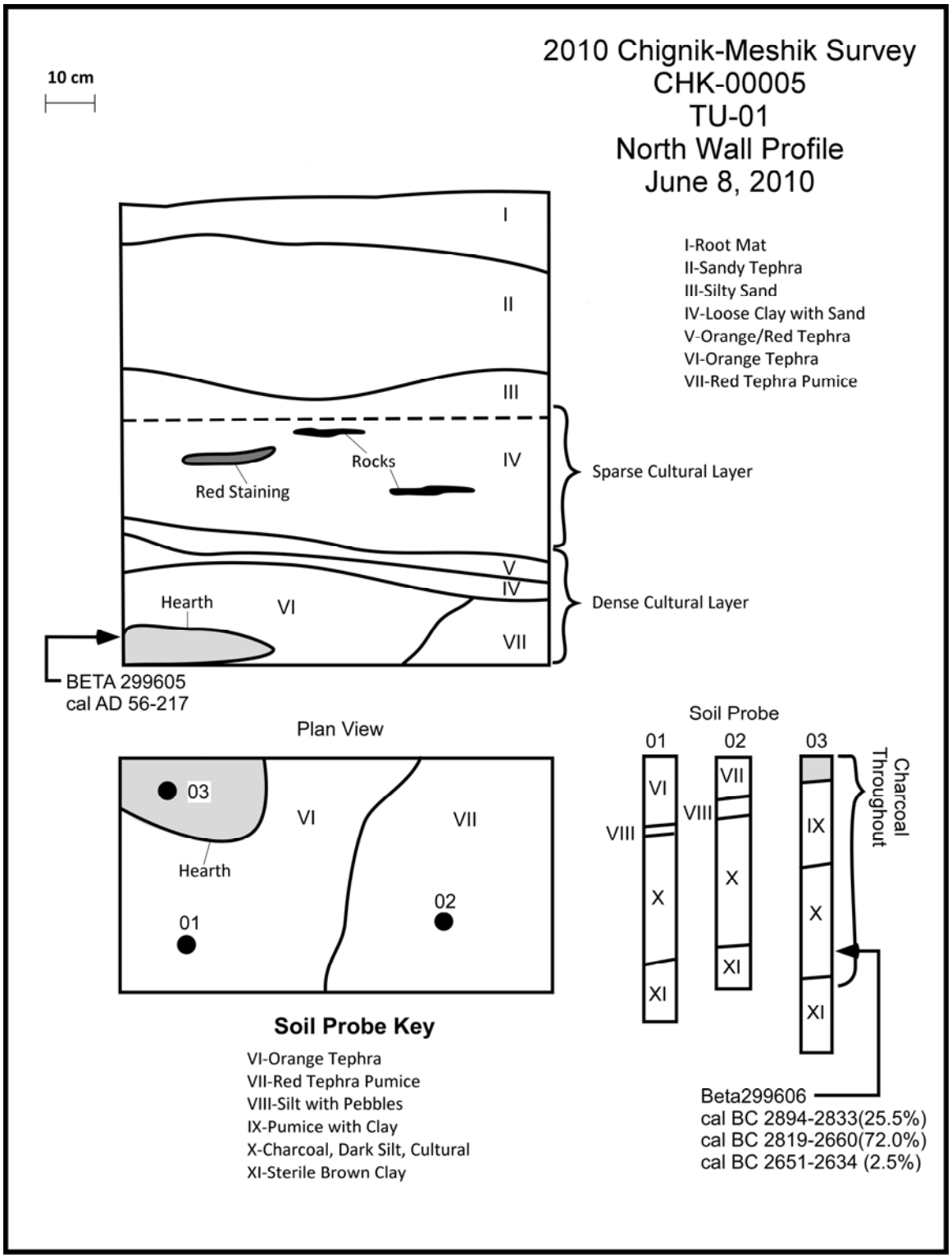


Figure 8: CHK-00005, TU-01, North Wall Soil Profile


Figure 9: Complete biface recovered from TU-01 at CHK-00005


Figure 10: Net sinkers recovered from TU-01 at CHK-00005

TU-02, also a 50x50cm square, was excavated on June 8th and was placed in the center of a second house depression at this site (Feature LC05A) (see Figure 7). TU-02 was positive for cultural material but was not as dense at TU-01. A total of 203 flakes were recovered between 60cmbs and 90cmbs and most of these flakes are basalt. Two notched, basalt net sinkers were also recovered from TU-02; one was recovered between 70cmbs and 80cmbs and the other came from 80-90cmbs. Three charcoal samples were collected from TU-02 at 64cmbs, 75cmbs, and 82cmbs. A piece of alder charcoal associated with the cultural layer and collected at 82cmbs was radiocarbon dated to approximately 1800 years ago (Figures 7 and 11, Beta-299609). This date is nearly identical to the upper component in TU-01.

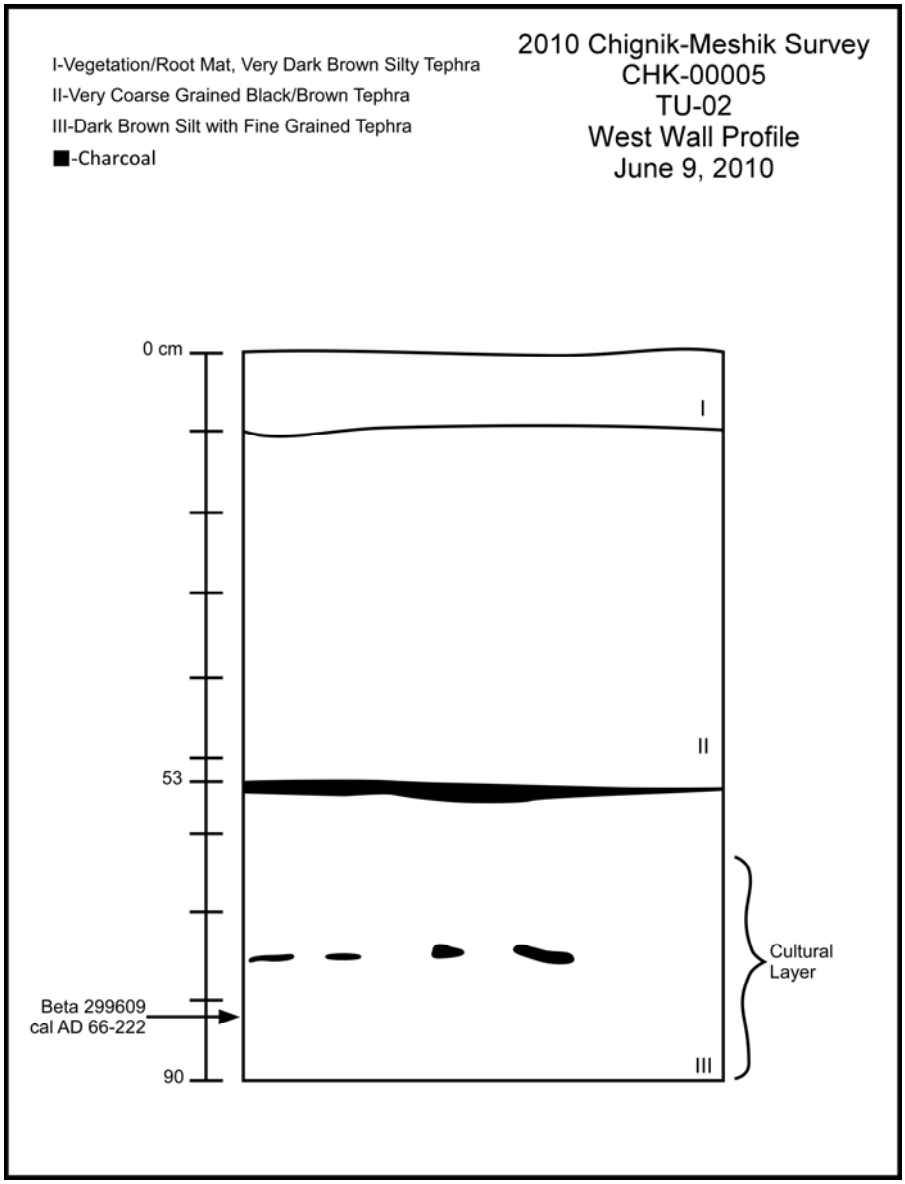


Figure 11: CHK-00005, TU-02, West Wall Soil Profile

On June 8th, while the rest of the crew finished testing CHK-00005, Rasic, Jordan, and Shirar conducted aerial reconnaissance of the project area with NPS pilot Allen Gilliland. We spent the morning flying the Chignik River valley, Black Lake area, and the flats out to the Bristol Bay coast (see Figures 1 and 2). During this morning flight we located several sites with house and cache depressions, marked several spots we could visit with the helicopter, and Jordan mapped ancient shoreline. During the afternoon of the 8th we conducted the same kind of reconnaissance in the Meshik River valley and Aniakchak National Monument and Preserve. The goal of this reconnaissance was to not only decide where the most productive areas are going to be for this summer but to get a handle of how we want to approach this project for the next three years.

On June 9th Rasic, Reid, and Shirar were dropped of at Joe Klutsch's camp in Aniakchak National Monument and Preserve to conduct pedestrian survey in the area (Figure 12). During conversations Barton had with Joe Klutsch, we were given permission to land at his airstrip there in order to survey a short glacial moraine located west of the camp. Joe Klutsch informed us that he had seen artifacts on this glacial feature while guiding hunters in the area and also indicated that this feature may be a natural source of obsidian in the region. Once on the ground we did find two archaeological sites on this moraine (CHK-00114 and CHK-00115) (see Figure 12) but what was thought to be obsidian turned out to be dacite cobbles. Dacite looks remarkably like obsidian at first glance but fractures poorly and is not a good raw material for manufacturing stone tools (Figure 13) (also see VanderHoek and Myron 2004:121-122). CHK-00114 and CHK-00115 are further described and discussed in the "Meshik Lake, Meshik River Valley, and Albert Johnson Creek" section of this report.

Chisholm spent June 9th in the village of Chignik Lagoon to meet with village leaders and to give a presentation on previous archaeological excavations conducted nearby. Barton, Jordan, and Carter conducted aerial reconnaissance with NPS pilot Allen Gilliland. Their reconnaissance flights were in the same areas flown on June 8th and with the same overall goal of identifying the best areas to survey and test. And again, this pertains to the remainder of the 2010 field season but also to the 2011 and 2012 season.

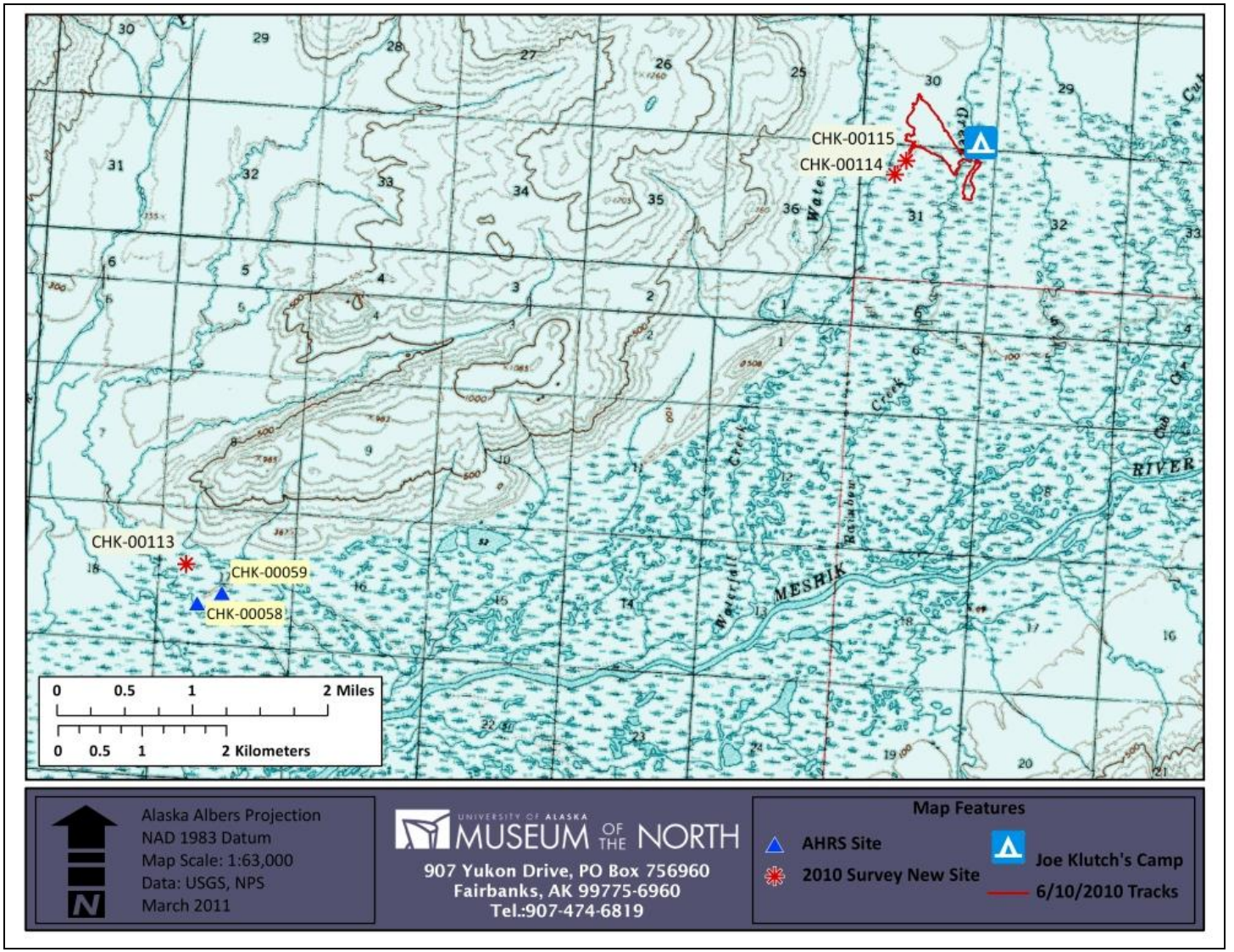


Figure 12: Map showing middle portion of the Meshik River valley with AHRS sites

Figure 13: Example of a dacite cobble

On June 10th the NPS fixed-wing pilot Allen Gilliland left us to return to King Salmon. Later on the 10th the helicopter, piloted by Sam Egli, arrived along with helicopter manager and NPS biologist Chuck Lindsay. The helicopter arrived during the late afternoon so the crew spent the day at CHK-00014 in order to map the site and test two of the features there.

**CHK-00014** is located on the far eastern portion of the lake, directly across from the village of Chignik Lake (see Figure 5). This site was previously recorded during surveys conducted in 1975 by Don E. Dumond (1992:92) and is presently located at the top of an approximately 4m knoll just northwest of Lindholm Lodge. Dumond wrote that there are twelve depressions at this site. Two of those depressions were relocated and tested.

TU-01, a 50x50cm square test pit, was excavated within a 4m diameter circular depression located approximately 15-20m from the edge of the landform (Feature #1) (Figure 14). TU-01 was positive for cultural material but artifacts at this site are markedly less dense than what was found at similar sites in the immediate area (i.e. CHK-00005). Artifacts first began appearing at approximately 50cmbs and continued down through the remainder of the unit, which was terminated at 80cmbs. TU-01 clipped the edge of a hearth feature between 55 and 60cmbs and it was in this general stratigraphic level where most of the lithics and charcoal were

recovered from (Figure 15). Artifacts collected from TU-01 include 18 basalt flakes and half of a single basalt net sinker. Two charcoal samples were collected from the hearth feature that was encountered while excavating this test. A piece of unidentified hardwood charcoal collected at 60cmbs within the hearth feature was radiocarbon dated to approximately 1200 years ago (Figures 14 and 15, Beta-299607).

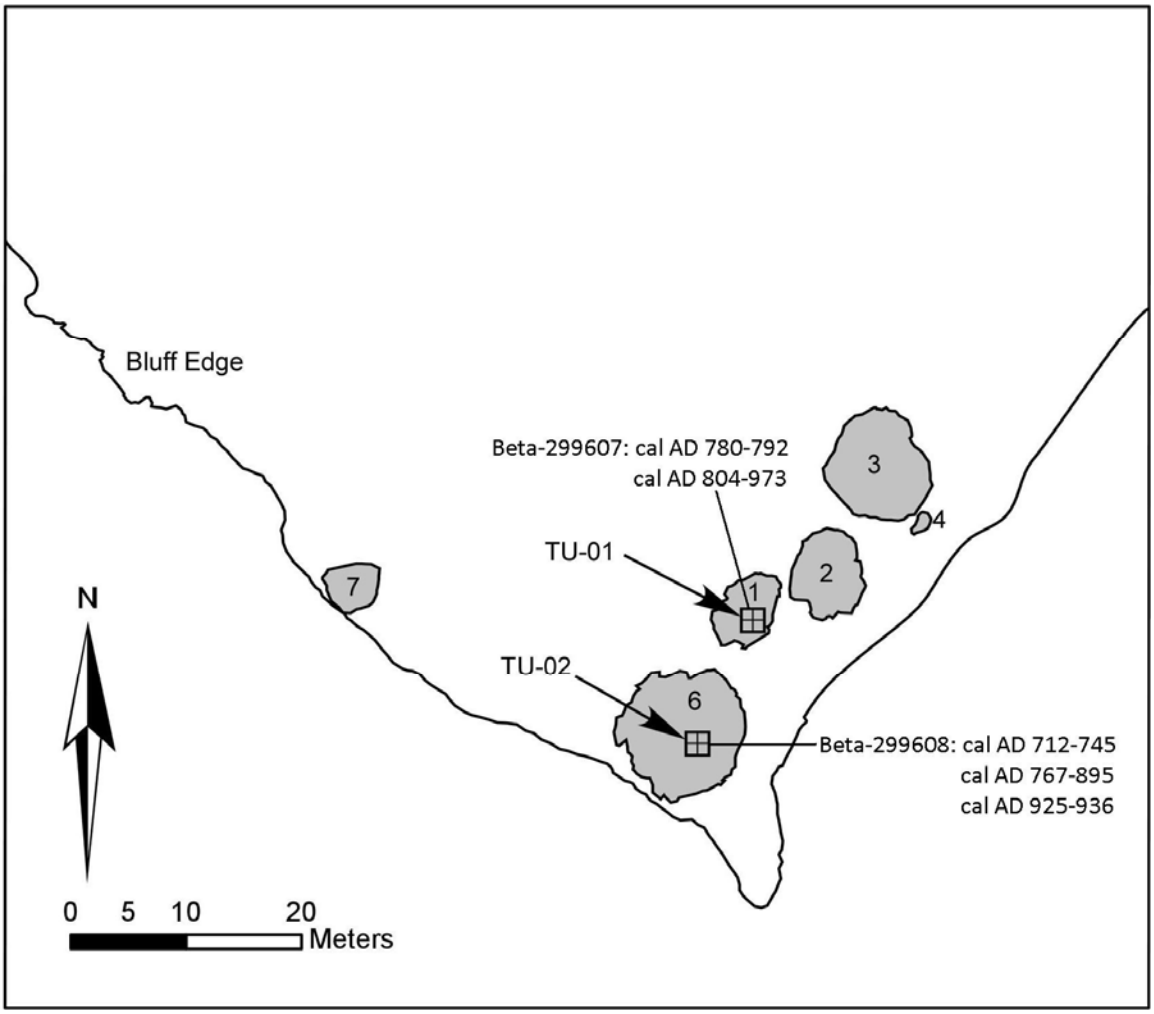


Figure 14: CHK-00014 Site Map

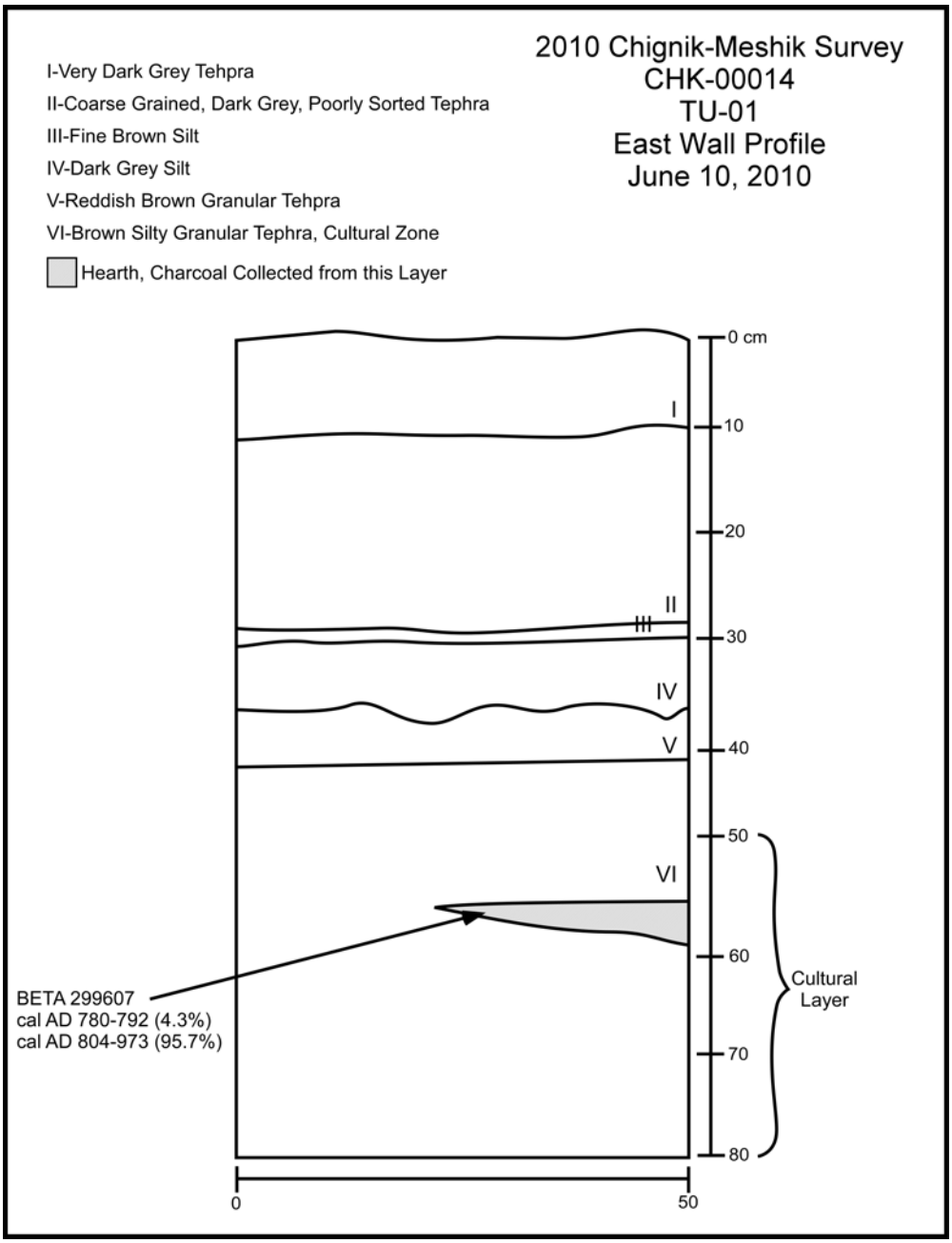


Figure 15: CHK-00014, TU-01, East Wall Soil Profile

TU-02 was also a 50x50cm test unit and was placed in the center of a second 4m in diameter circular depression located closer to the edge of the landform (Feature #6) (see Figure 14). TU-02 was positive for cultural material and contained a total of 12 lithics found in two levels between 60 and 80cmbs. A single charcoal sample associated with the cultural deposit was collected from 62cmbs. This test unit had a complex series of tephra deposits, particularly between 50 and 70cmbs (Figure 16). Six sediment samples were collected from this test unit to serve as examples of the different tephras. The charcoal sample collected from TU-02 was

broken up into four sub-samples which were each identified as either alder (Alnus), unidentified hardwood, or unidentified wood. The alder sub-sample was radiocarbon dated to approximately 1200 years ago (Figures 14 and 16, Beta-299608).

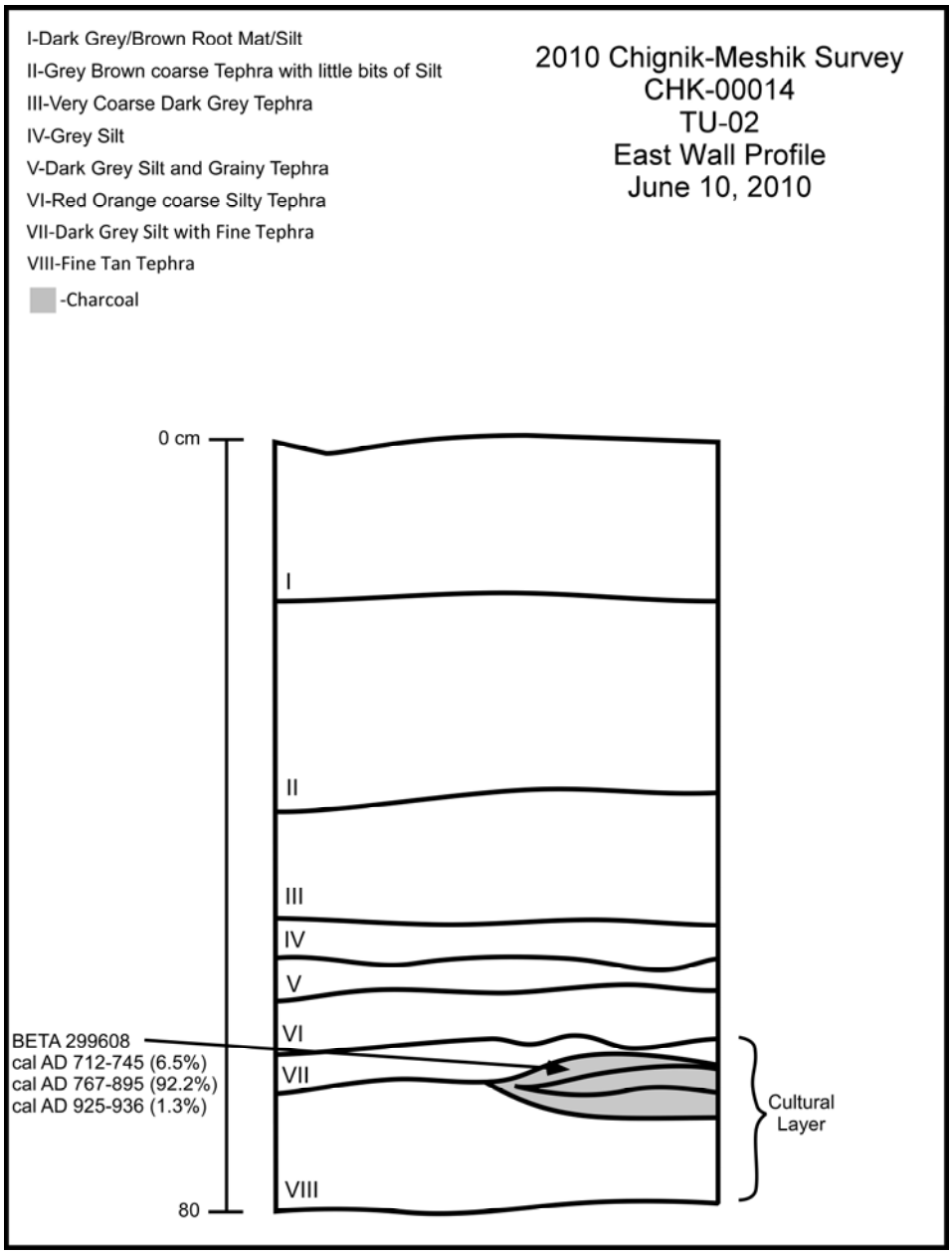


Figure 16: CHK-00014, TU-02, East Wall Soil Profile

Once the helicopter arrived and everyone was debriefed on safety we split into three separate crews and were dropped off in different areas within the project area. Chisholm and Shirar were dropped off to shovel test in the uplands between Cathedral and Broad Creeks, east of Black Lake. Chisholm and Shirar excavated at total of four shovel tests on the 10th but found no archaeological material (see Appendix 3). Barton, Carter, and Reid were dropped off to

record, test, and map a village site (CHK-00111) that was recognized during aerial reconnaissance near the confluence of Boulevard Creek and the Alec River. Once these two crews were dropped off, Rasic and Jordan stayed with the helicopter as they went to the northwest of Black Peak to inspect some glacial features there, which extend to the north into the Meshik River valley. While surveying on the ground at these glacial features they found a surface site (CHK-00112).

**CHK-00111** is located on a promontory along a terrace that rises approximately 20 meters above the surrounding terrain (Figure 17 and Figure 18). The site is close to the present day confluence of Boulevard Creek and the Alec River and at some point this confluence was likely located right below this terrace. This village site is located approximately 10km east of Black Lake and was first identified during fixed-wing aerial reconnaissance of the region and then was visited on the ground via helicopter on June 10th.

Figure 17: CHK-00111 circled in red, confluence of Alec River and Boulevard Creek in foreground

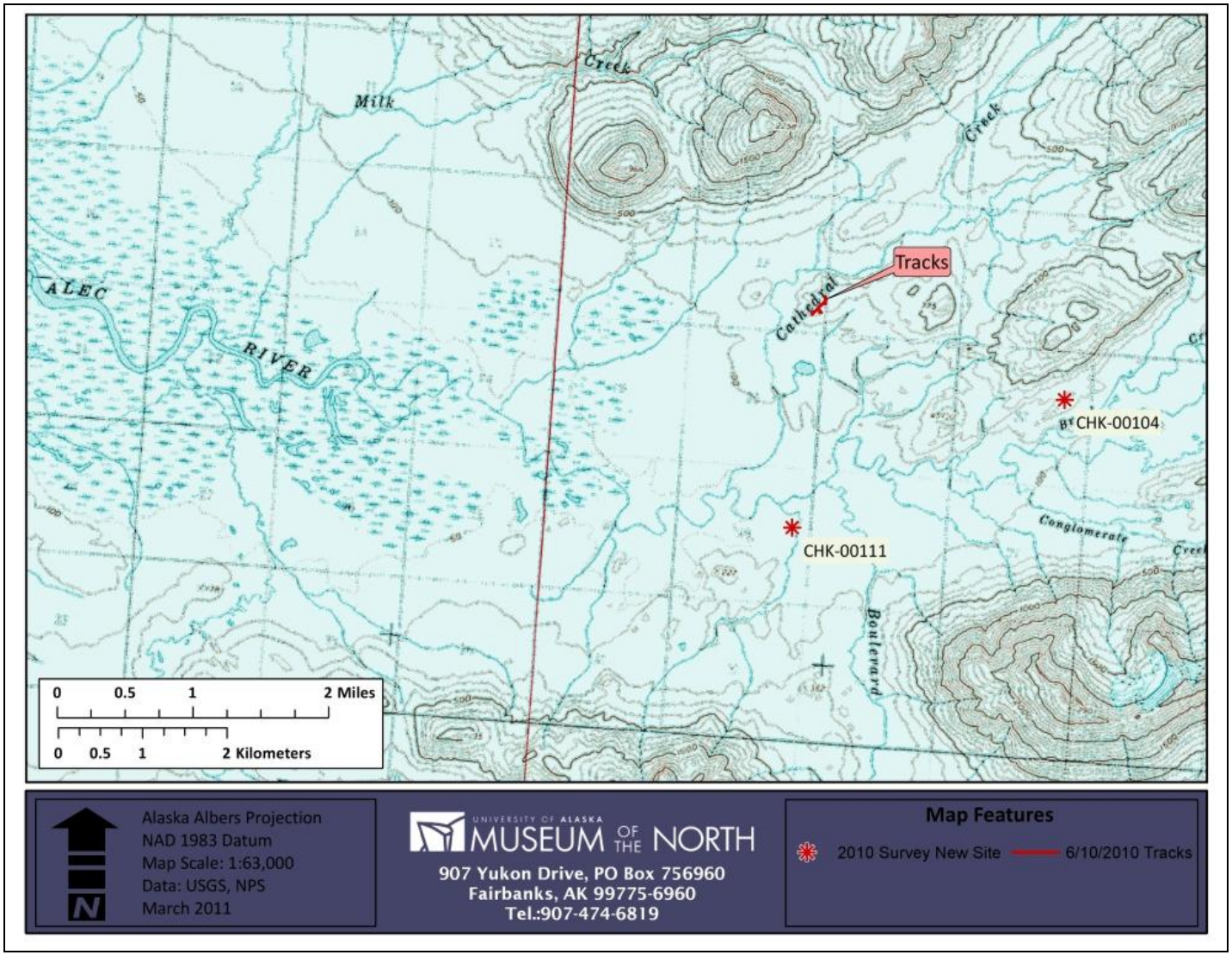


Figure 18: Map showing the locations of CHK-00111 and CHK-00104

Approximately 20 surface depressions, representing both cache pit features and house features, were mapped at CHK-00111 (Figure 19). This medium-sized village site is one of several currently known in the Chignik River drainage including several around and in between Black and Chignik Lakes. Vegetation at this site includes dwarf willow, alder, grasses, pushki, moss, and lichen. This site is well vegetated but there are several surface exposures caused by bear diggings. A broken net sinker and twenty-eight lithics, which include basalt and chert flakes and pieces of fire cracked rock, were collected from one of these diggings which is referred to as EXP-05. A single charcoal sample was also collected from EXP-05 (Figure 20). This sample was then split into for sub-samples each identified as either an unidentified hardwood or simply unidentified wood.

A total of two 50x50cm square test units were excavated at the site (see Figure 19). TU-01 was placed in a rectilinear "key-hole" style house depression (Feature #12) but only produced two basalt flakes and a small basalt net sinker. All three of these artifacts were collected. No charcoal was found in TU-01 but a thin stratigraphic layer was identified between 43 and 48cmbs as a possible house floor (Figure 21). TU-02 was excavated in a multi-room house depression but did not produce any artifacts (Feature #4). TU-02 did pass through a hearth feature which produced four charcoal samples collected between 24 and 30cmbs. Two of these samples were directly associated with fire cracked rock. Each of these charcoal samples was identified as either alder (*Alnus*), an unidentified hardwood, or unidentified wood (Appendix 2). A sample of alder charcoal collected at 28cmbs yielded a radiocarbon date of approximately 500 years old (Figure 19, Beta-292746). Unfortunately, a soil profile map was not drawn for TU-02.

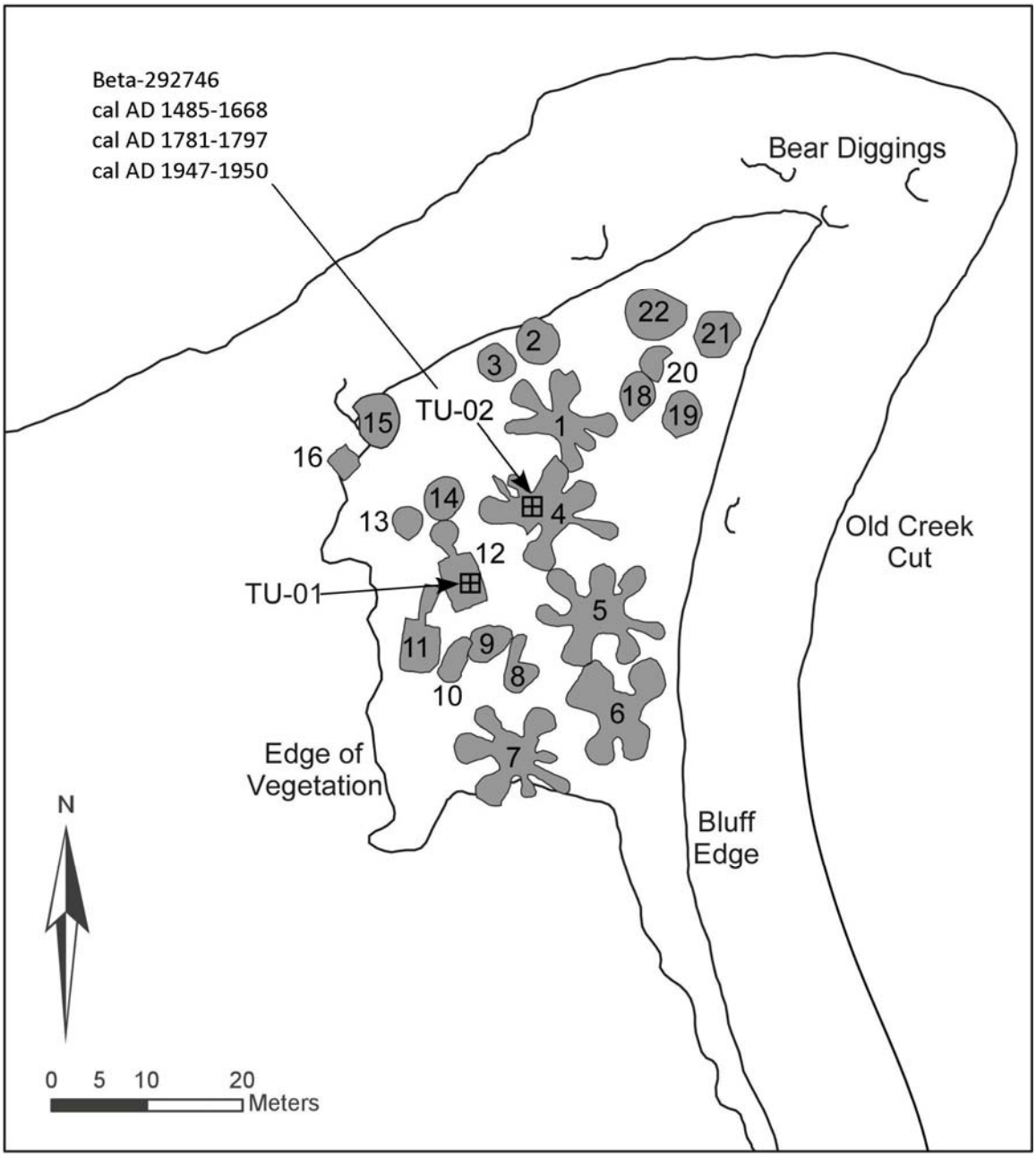


Figure 19: CHK-00111 Site Map

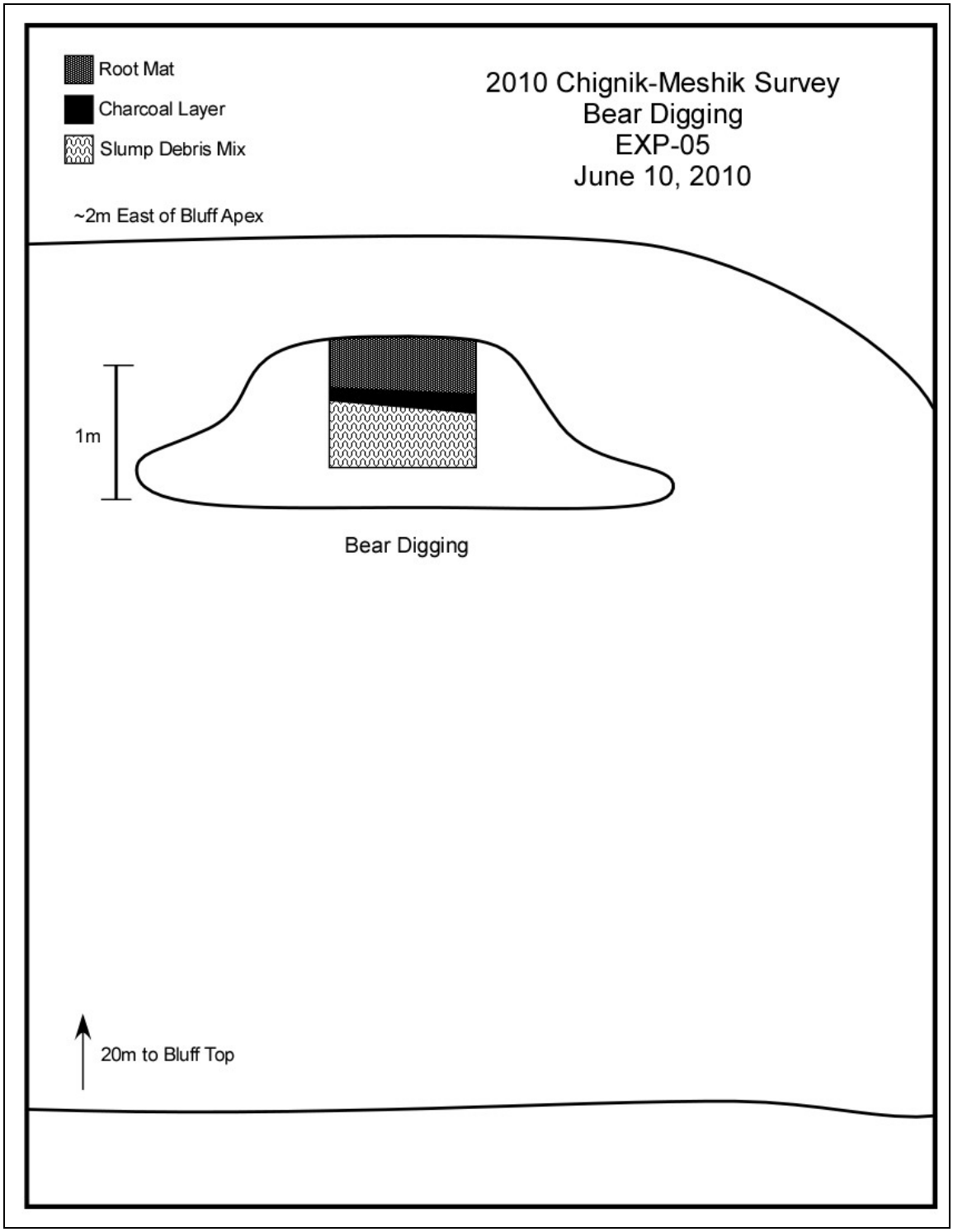


Figure 20: CHK-00111, EXP-05, Soil Profile

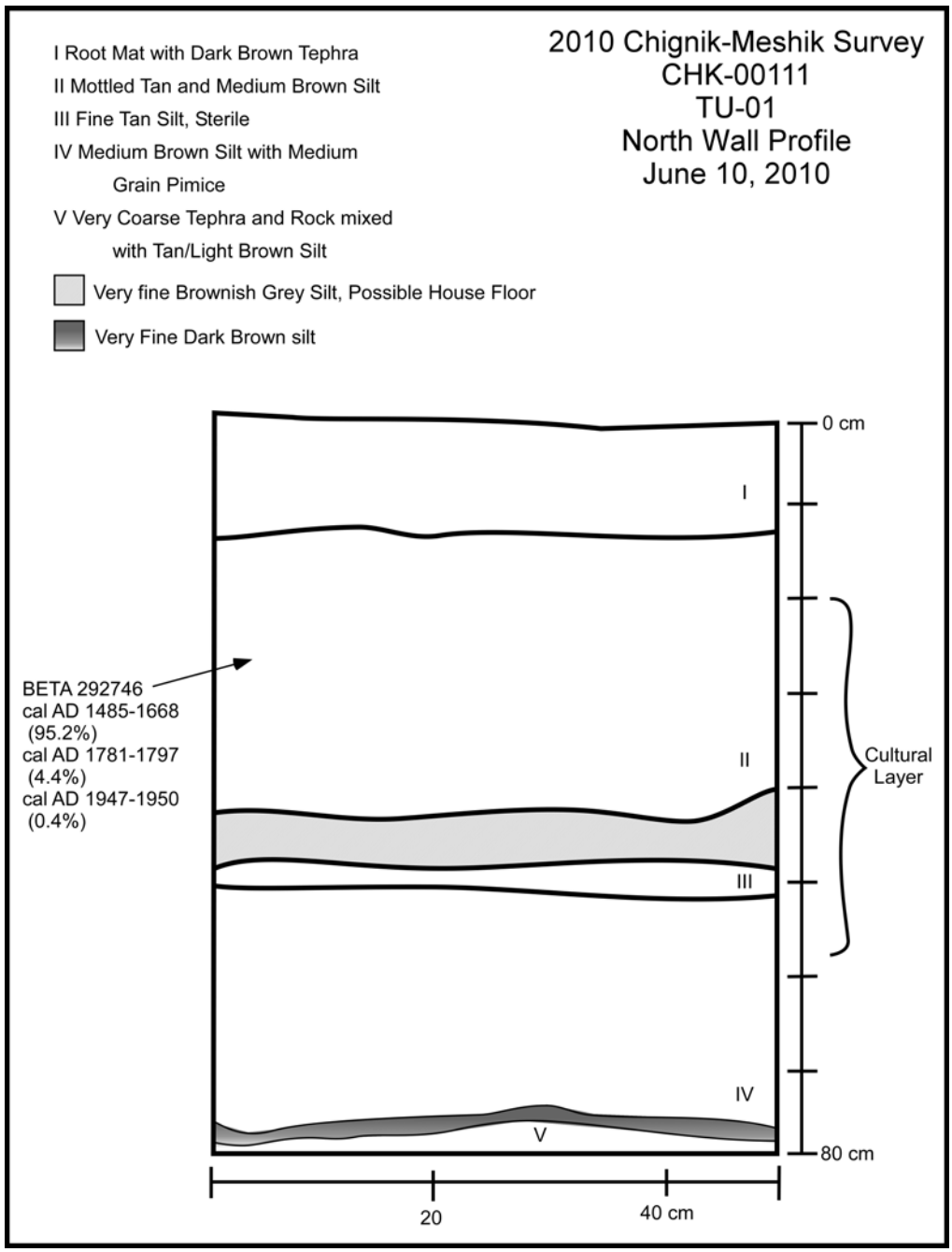


Figure 21: CHK-00111, TU-01, North Wall Profile

**CHK-00112** is located on the crest of a small hill atop a high moraine above and to the west of Charles Creek (Figures 22 and 23). This landform is on the northwest side of Black Peak and the site is nine kilometers northwest of Purple Lake and fifteen kilometers north of Black Lake. The site is located at an elevation of 230 meters and is elevated approximately 40 meters above the surrounding terrain. Jordan is interested in the geomorphology of this area but these

landforms are also good settings for hunting overlooks, with exceptional views to the north and west. There is excellent surface visibility at this site with large, wide blowouts consisting of exposed gravelly lag and moraine gravels. Much of this surface visibility is the result of wind erosion and an estimated 40 percent of the ground surface consists of exposed gravels. The only artifact found here was a small, stemmed projectile point made from basalt which is complete and undamaged (Figures 24 and 25). No other artifacts were found in the vicinity despite the good surface visibility and careful inspection. The basalt arrow point was collected.

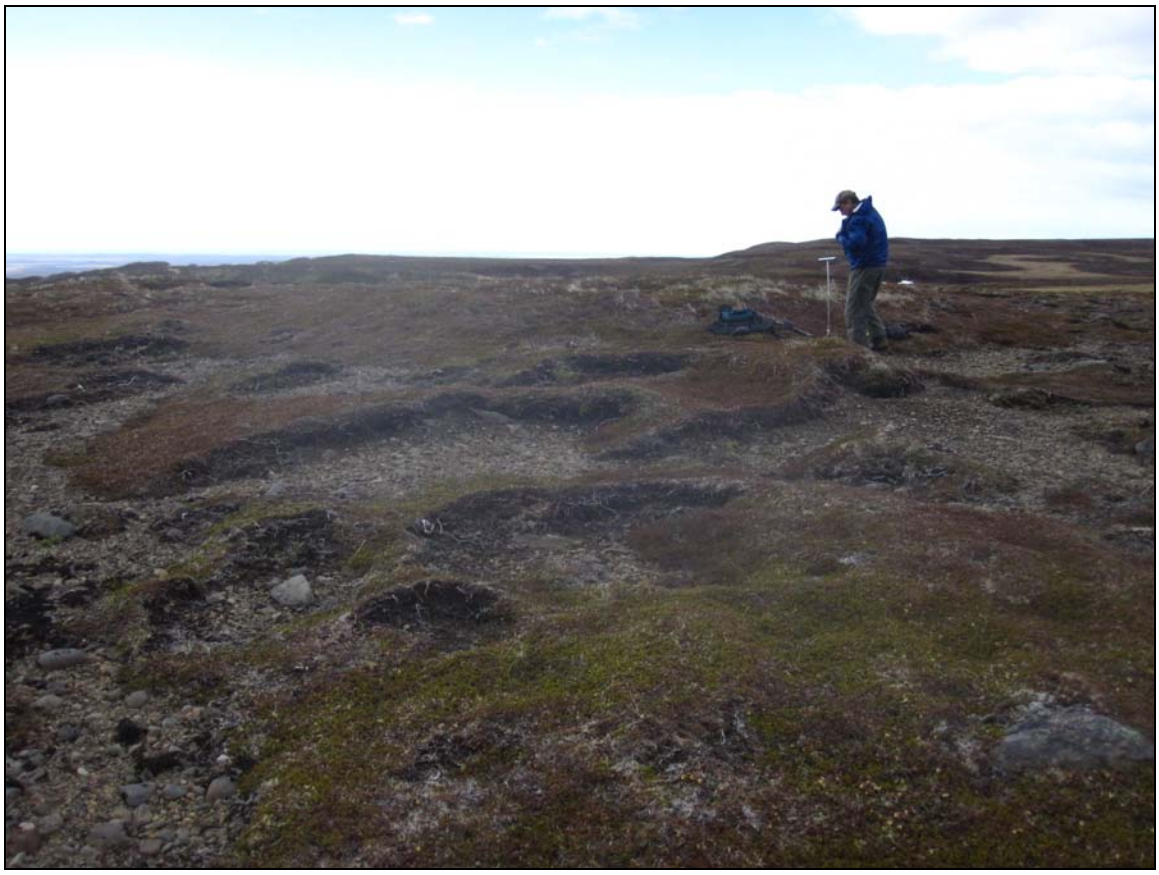

Figure 22: Photograph showing an overview of CHK-00112

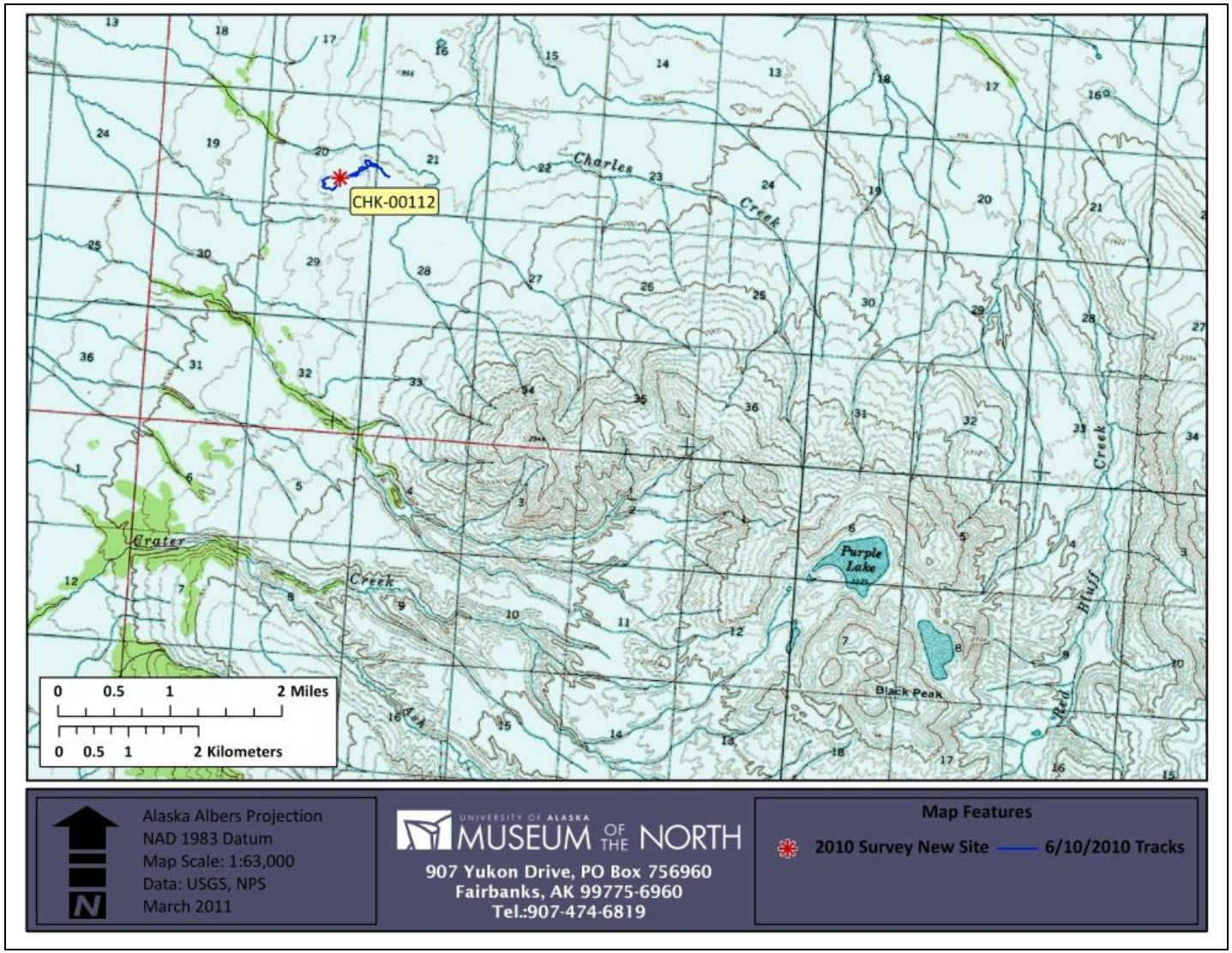


Figure 23: Map showing the location of CHK-00112


Figure 24: Basalt projectile point collected from the surface at CHK-00112

Figure 25: Basalt projectile point collected from the surface at CHK-00112

On June 11th we broke up into three separate crews again. Rasic and Shirar were dropped off on a high ridge plateau located on the west side of the West Fork Chignik River valley, west of Black Lake. No sites were found on top of this high ridge but the surface was a pavement of natural basalt cobbles and several of these were collected for XRF characterization. The helicopter returned during the afternoon to retrieve Rasic and Shirar who spent the remainder of the day conducting aerial reconnaissance and surface survey along the Chignik Bay coastline and up several of the creek valleys along the coast including Dry Creek and Boulevard Creek. Several exposures were investigated but no sites were found. Barton and Jordan were dropped off in an area between Aniakchak Lagoon and Albert Johnson Creek to test a rock shelter and investigate several upland exposures. Barton and Jordan found no sites in this area.

**CHK-00105**, located along the upper Chignik River between Black Lake and Chignik Lake, was recorded, tested, and mapped on June 11th by Chisholm, Reid, and Carter (Figure 26). The site is situated on the south end of an isolated, elevated bedrock landform located near the confluence of the West Fork Chignik River and the main stem Chignik River between Black Lake and Chignik Lake (Figures 27, 28 and 29). This village site is situated approximately four kilometers above where the Chignik River flows into Chignik Lake and was first identified during fixed-wing aerial reconnaissance of the area. Chignik Lake and the delta where the river enters into the lake can be seen from CHK-00005. Approximately 100 surface depressions, representing both cache pit features and house features, were mapped at this site (Figures 28, 30, 31, and 32). This large village site is one of several known prehistoric villages in the Chignik River drainage. Vegetation at this site includes dwarf willow, alder, grasses, pushki, moss, and lichen.

Three 50x50cm test units (TU-01, TU-02, and TU-03) were excavated within surface features at this site. Each test unit was placed in a separate house feature and each one yielded cultural material. TU-01 was excavated in a single room, oval shaped house depression with no obvious entrance/exit tunnel (Feature #LC10F) (Figures 28 and 30). The stratigraphy of TU-01 was quite complex with several thin tephras present (Figure 31). A total of 61 pieces of lithic debris were collected from four levels between 10 and 80cmbs. Additionally, half of a notched net sinker was collected from the 40-50cmbs level. No charcoal samples were found within this test unit.

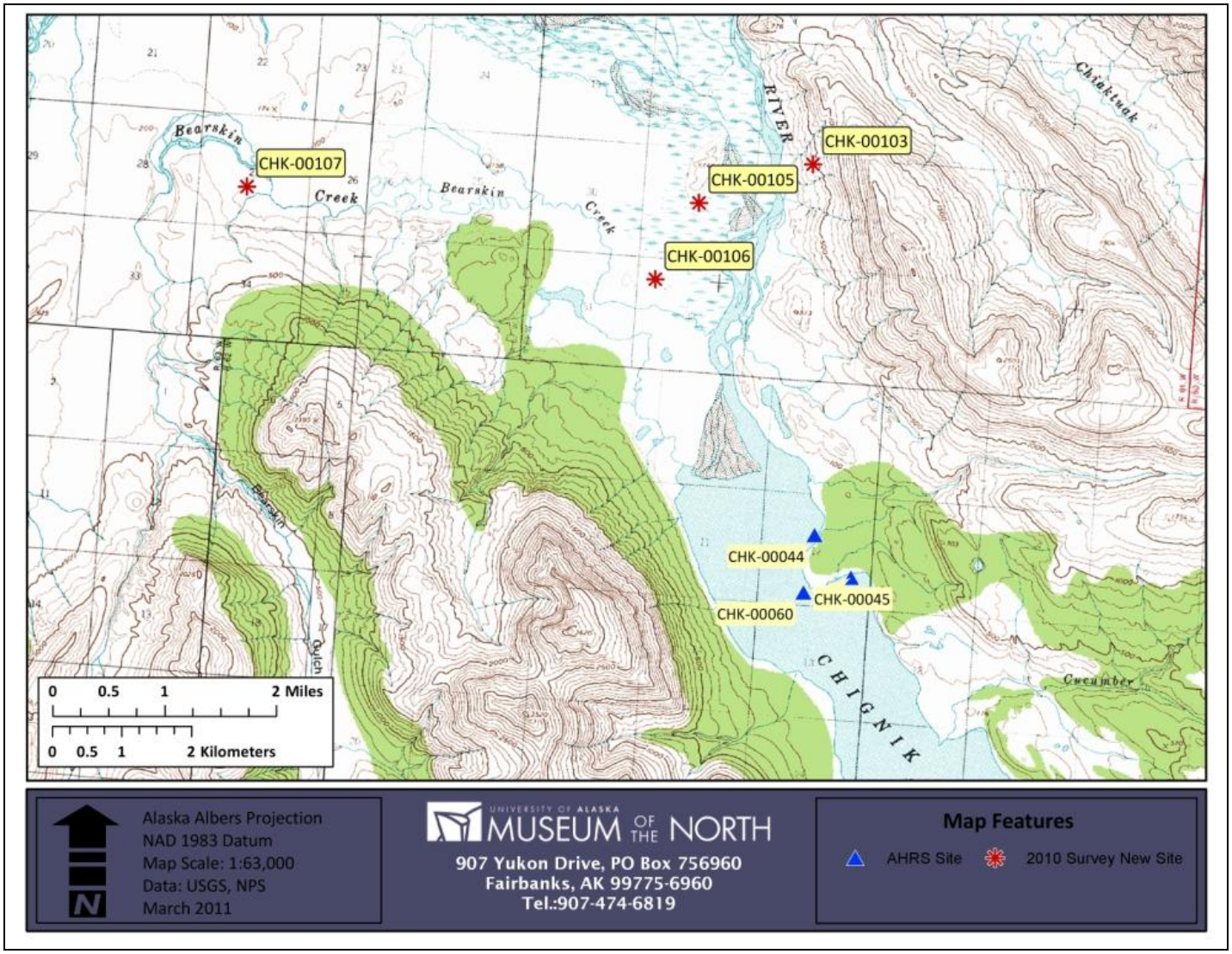


Figure 26: Map showing upper Chignik River and Chignik Lake with AHRS sites

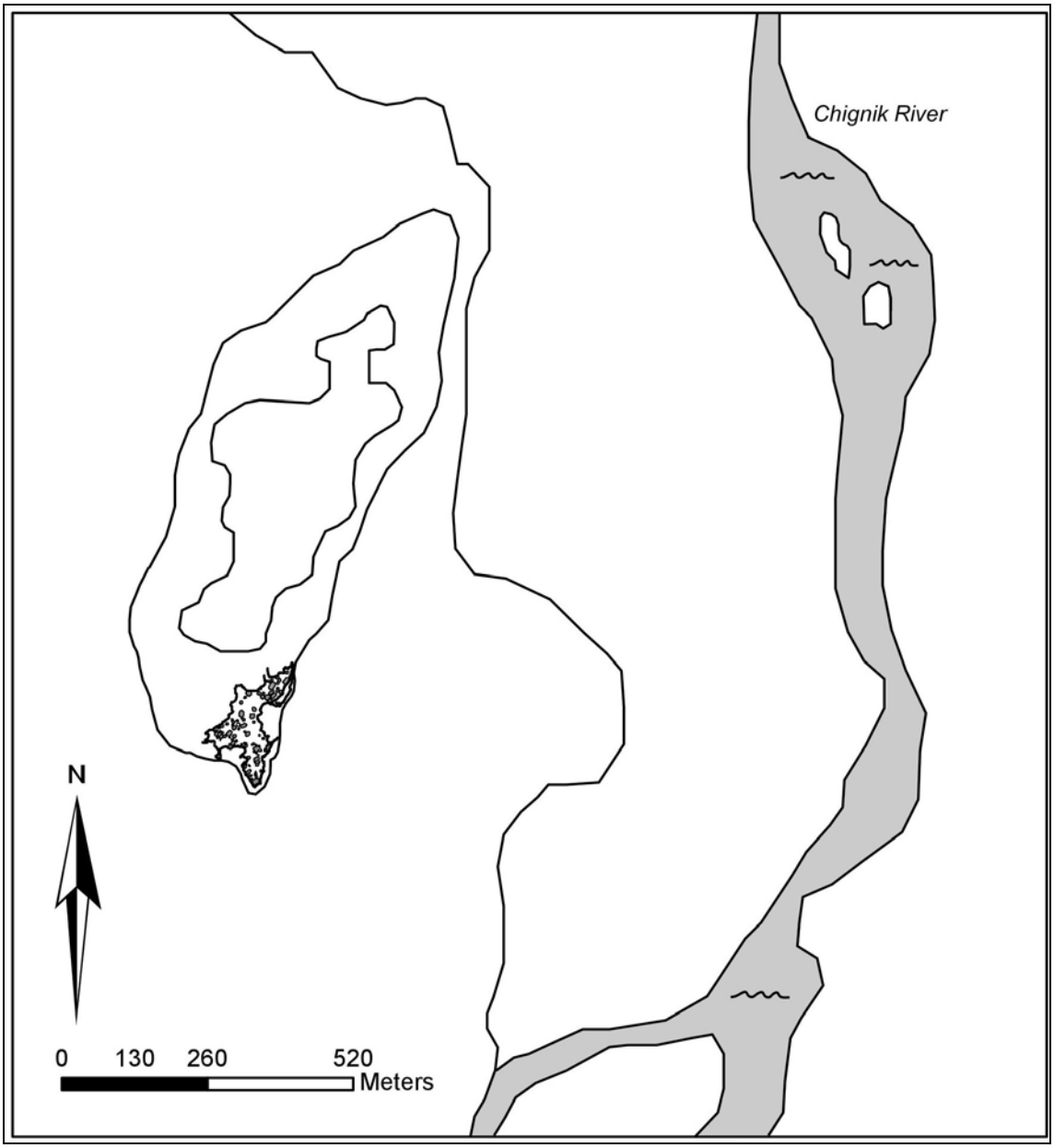


Figure 27: Site map for CHK-00105 with surrounding area

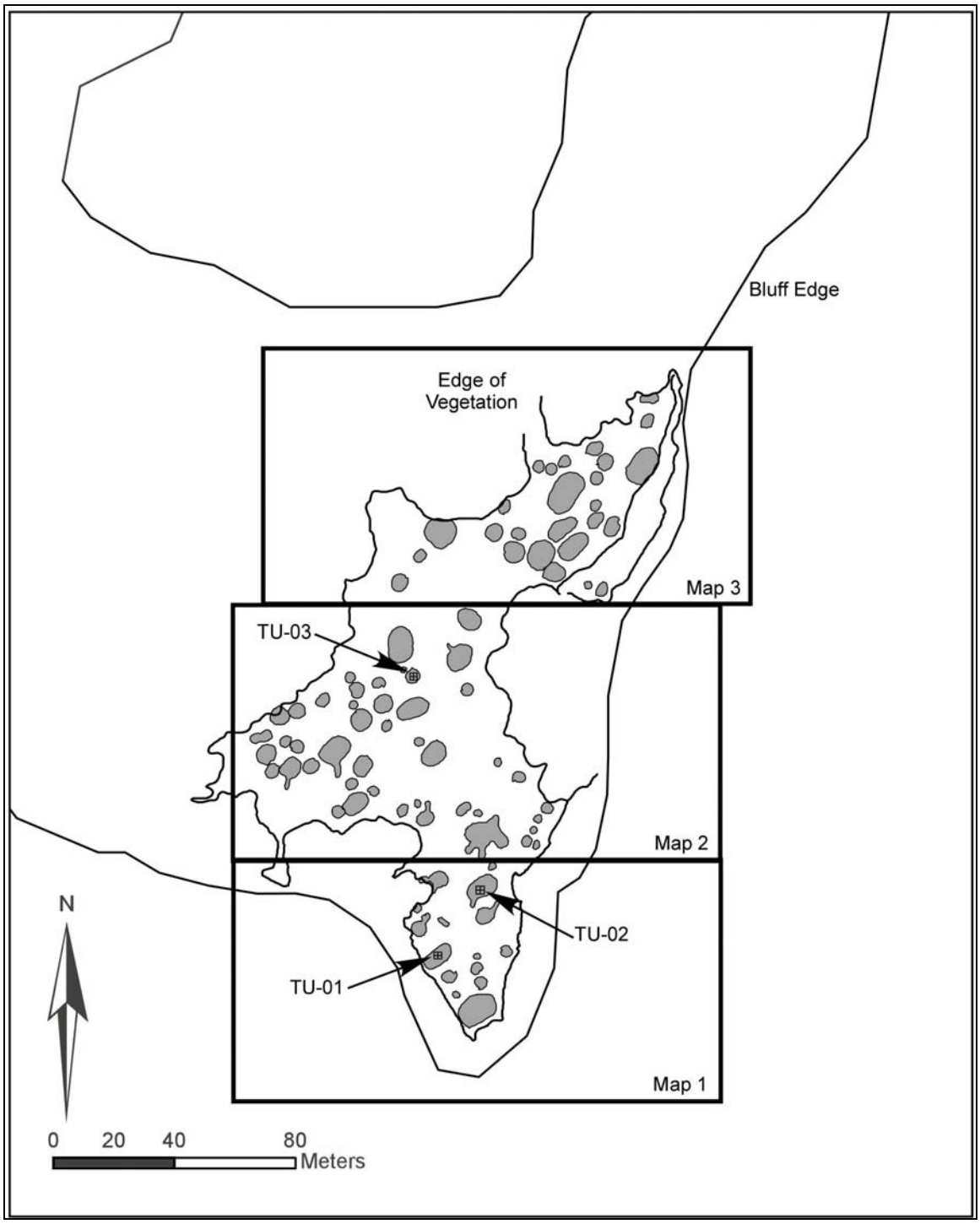


Figure 28: Zoomed in view of CHK-00105 Site Map

Figure 29: Aerial photograph with CHK-00105 circled in red

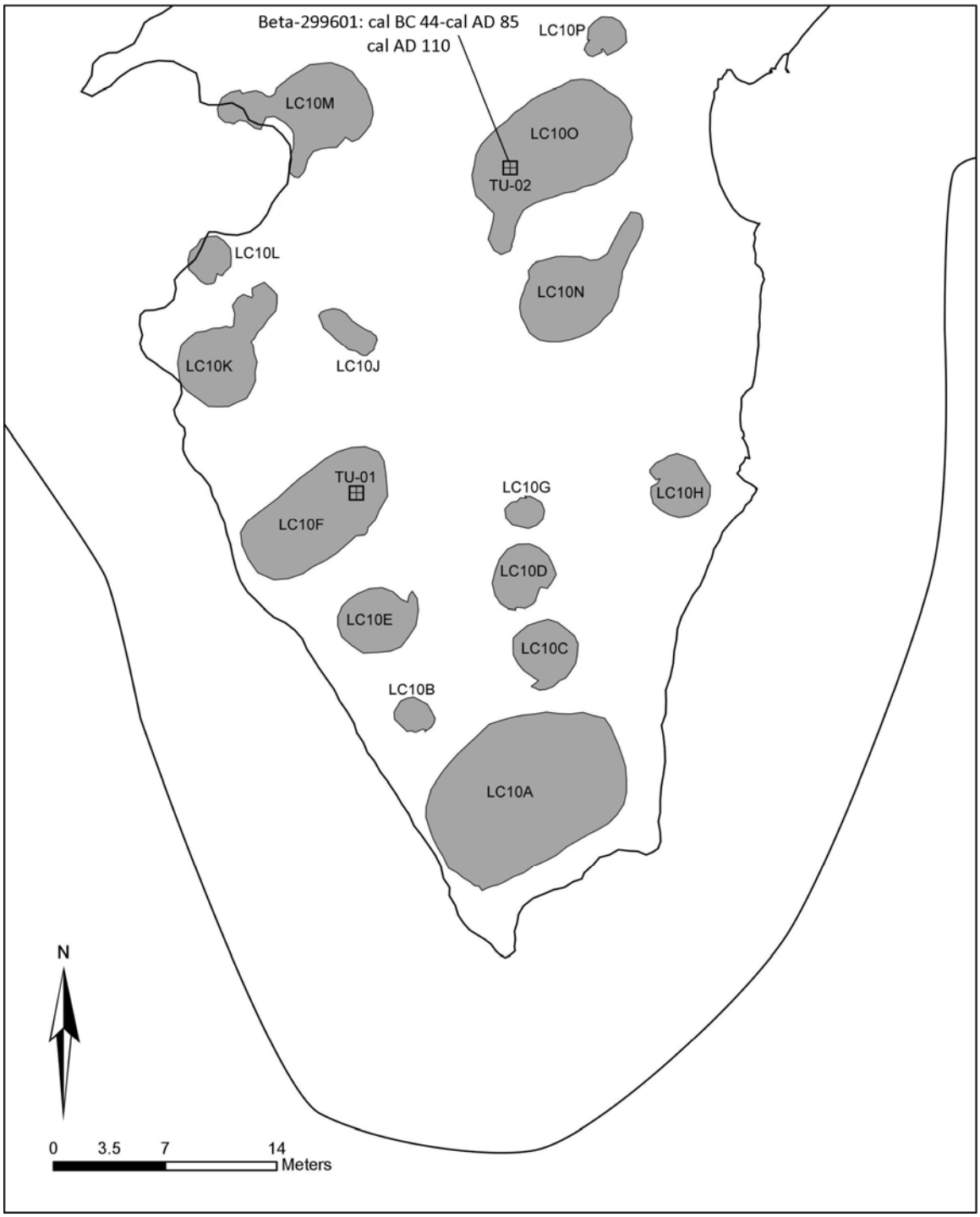


Figure 30: Map blowup of CHK-00105 labeled as Map 1 in Figure 28

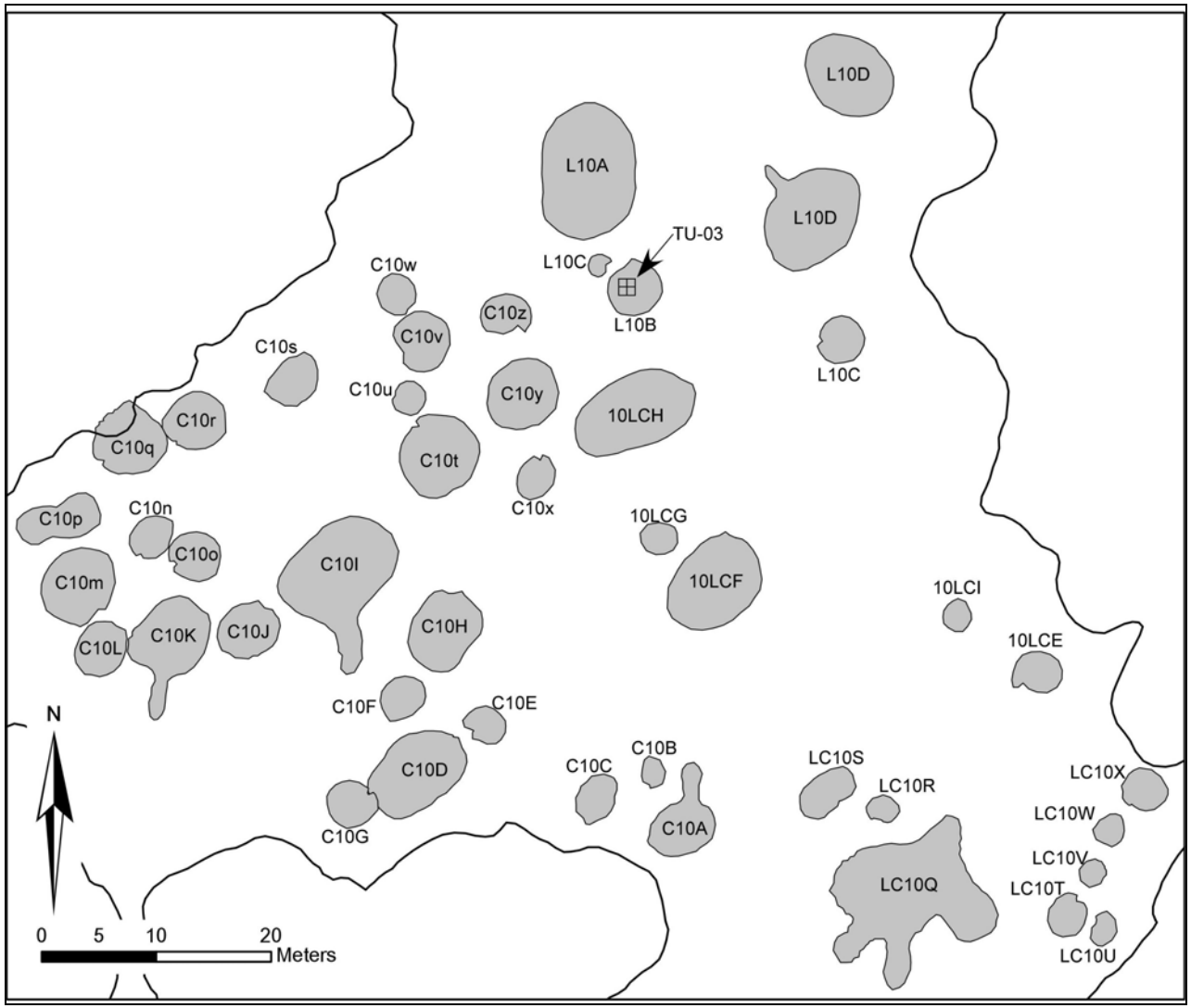


Figure 31: Map blowup of CHK-00105 labeled as Map 2 in Figure 28

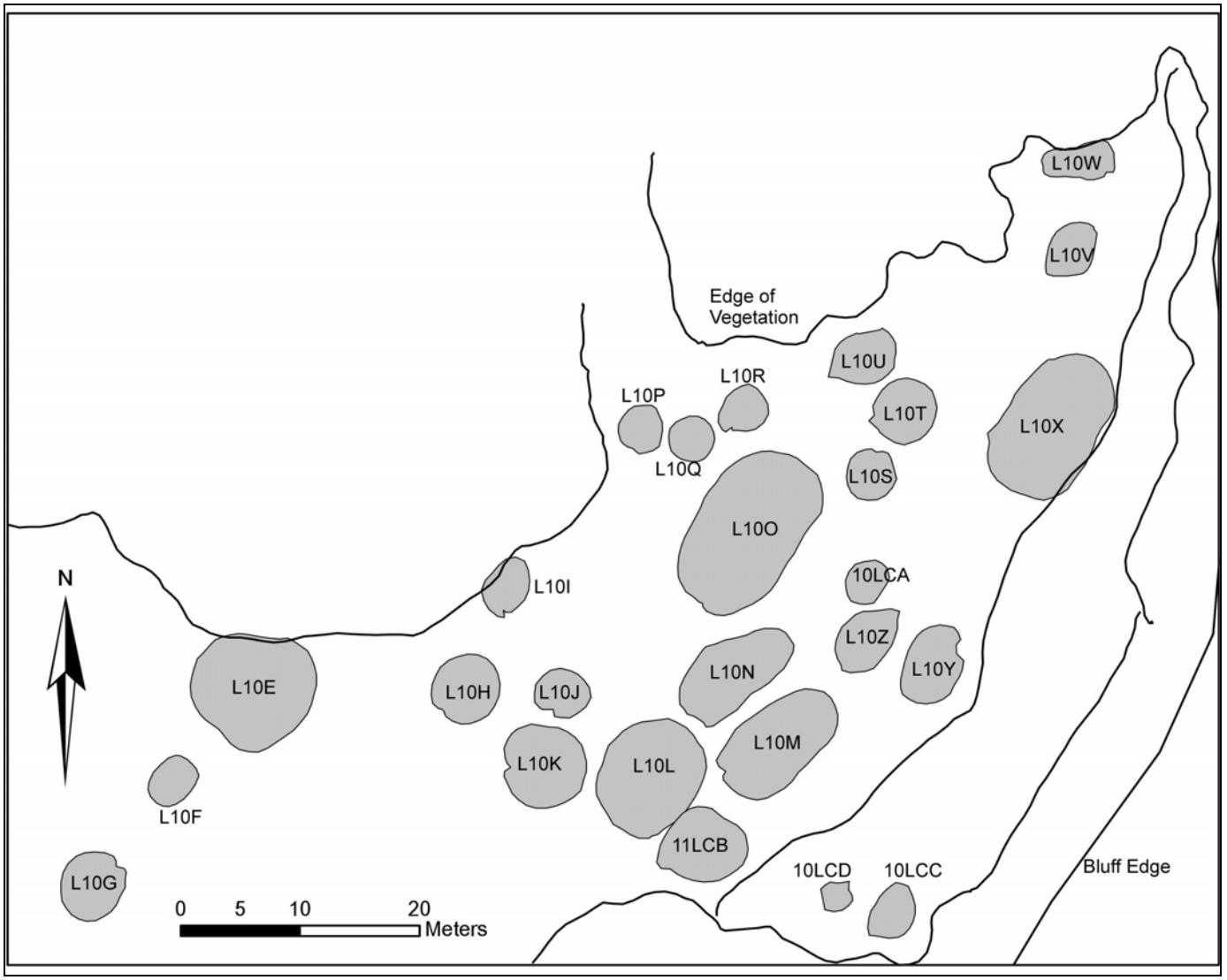


Figure 32: Map blowup of CHK-00105 labeled as Map 3 in Figure 28

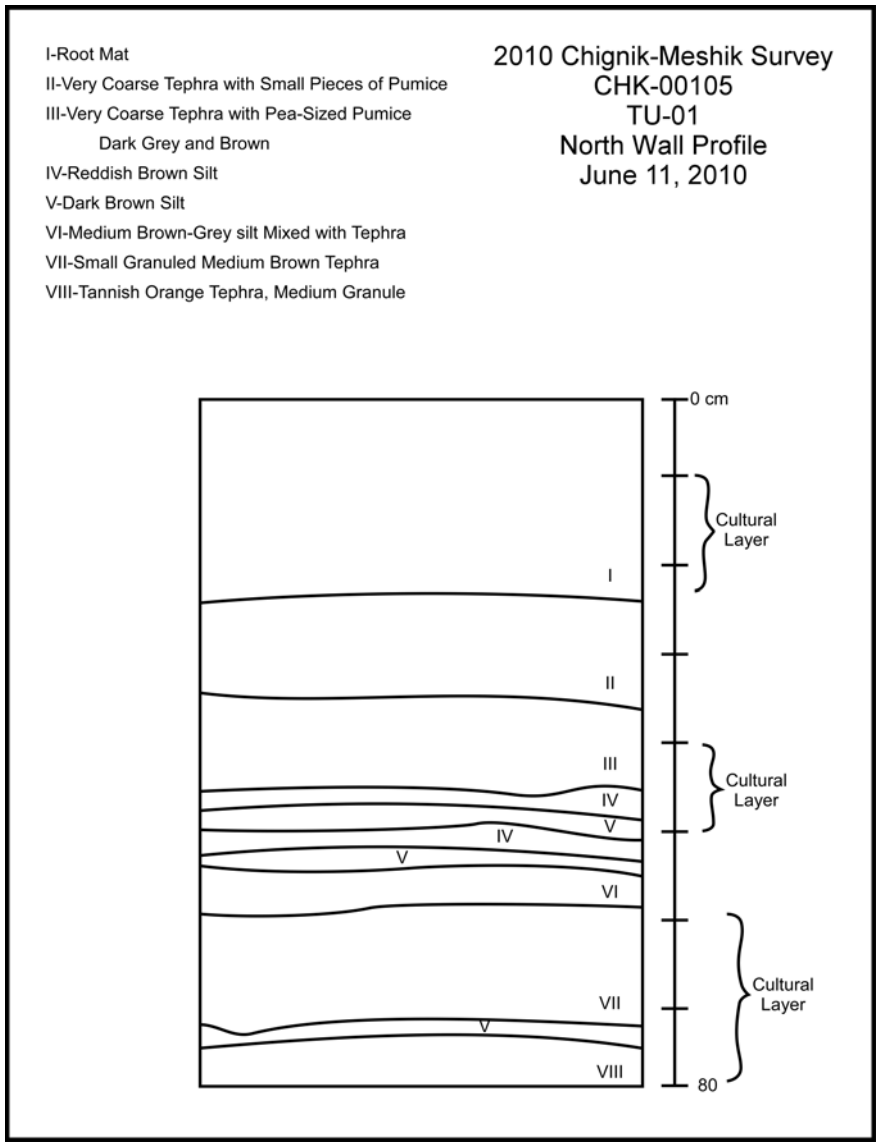


Figure 33: CHK-00105, TU-01, North Wall Soil Profile

TU-02 was excavated within a single room, oval shaped house feature that does exhibit an entrance/exit tunnel (Feature #LC10O) (see Figures 28 and 30). The soil profile from this test unit is similarly complex to what was seen in TU-01 with several thin tephras overlying the cultural component (Figure 34). Seven sediment samples, each from a different layer and/or tephra, were collected from the profile of this unit. Thirteen basalt flakes were recovered from this test unit. Four of these flakes were found between 20 and 40cmbs and nine were recovered between 60 and 80cmbs. Two basalt biface fragments were also recovered from the cultural component situated between 60 and 80cmbs, and which likely represent the occupation of this house. Two charcoal samples were collected during excavation. A piece of unidentified

hardwood charcoal collected at 65cmbs was radiocarbon dated to approximately 1800 years ago Figures 30 and 34, Beta-299601).

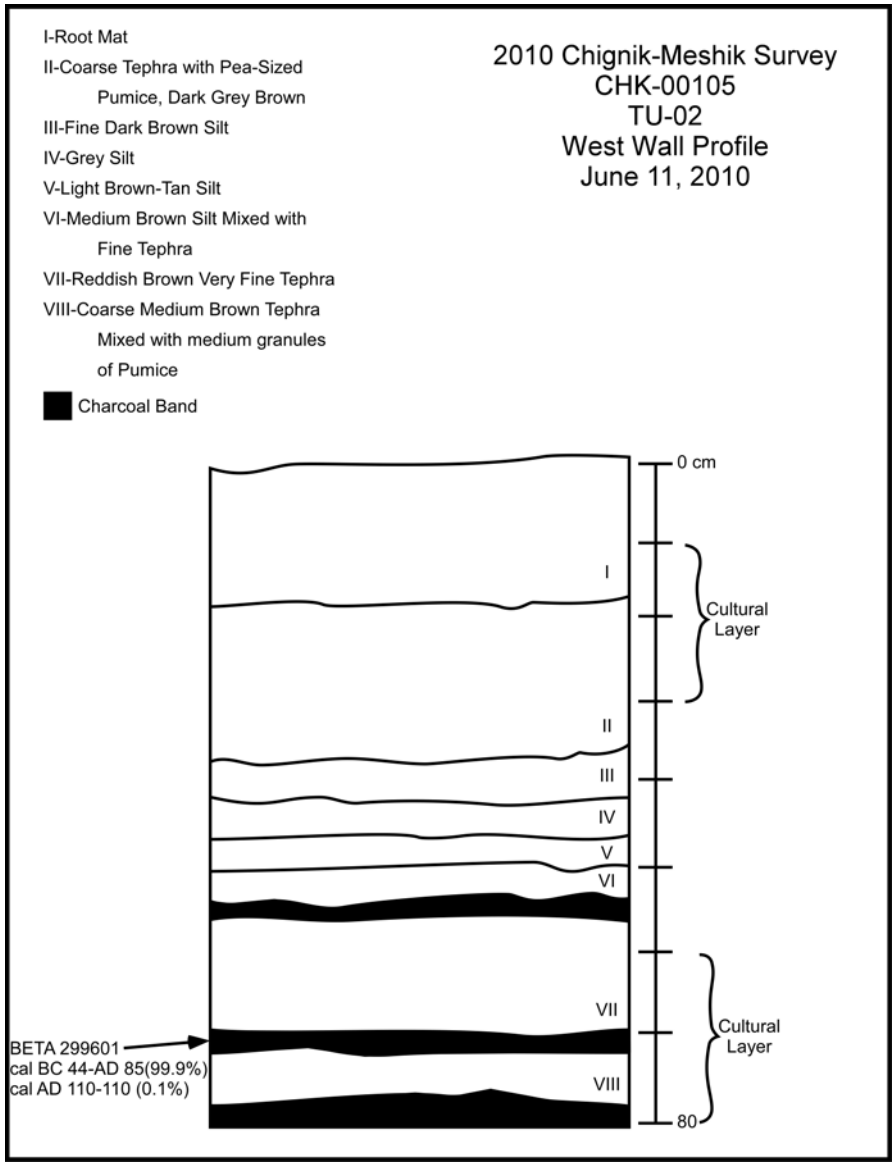


Figure 34: CHK-00105, TU-02, West Wall Soil Profile

TU-03 was excavated in a small circular depression (Feature L10B) (see Figures 28 and 31) and the soil profile from this test unit is less complex than what was seen in TU-01 and TU-02, with only half as many soil layers represented (Figure 35). Either this feature is younger than the other two that were tested at this site or the tephra deposits are simply deeper in the area where this feature is located. A total of 25 basalt flakes were collected from three different 10cm layers between 40 and 70cmbs. Unfortunately no charcoal was found within this test unit.

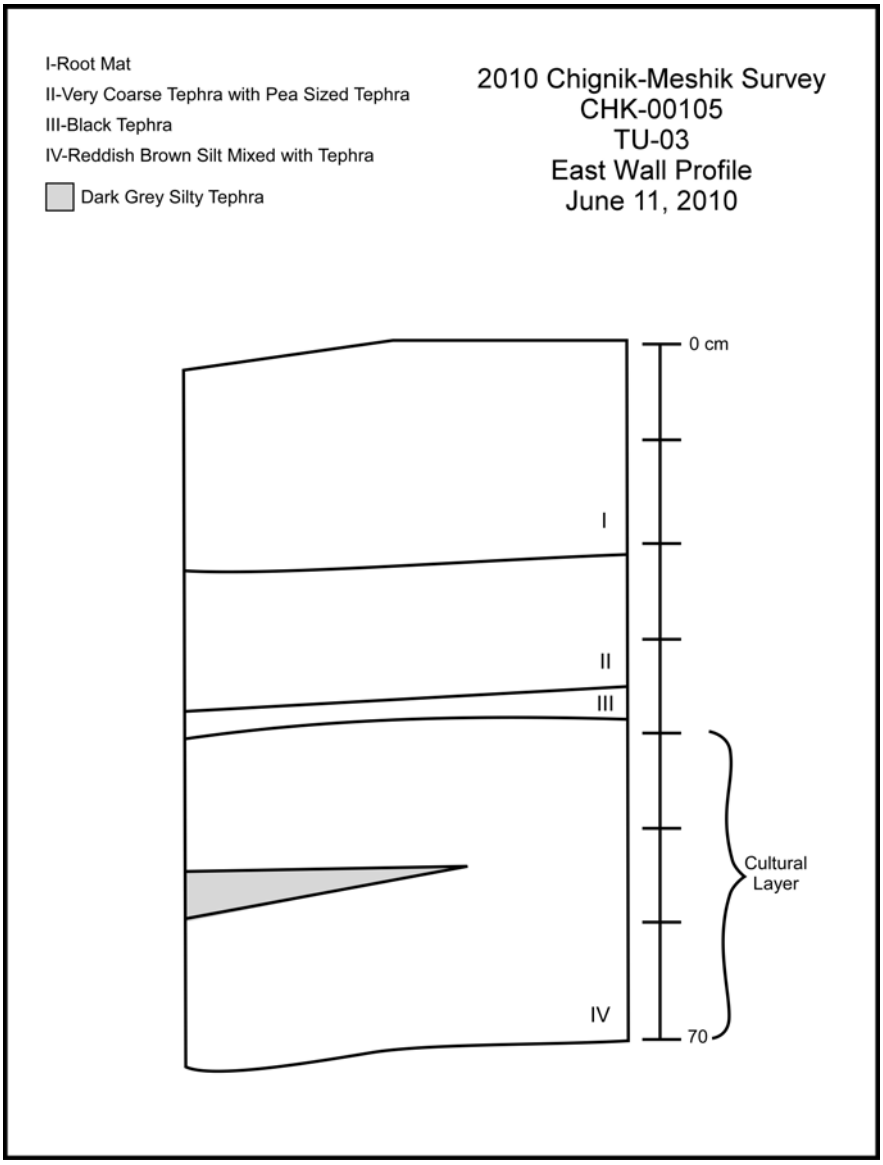


Figure 35: CHK-00105, TU-03, East Wall Soil Profile

Five more village sites were recognized in the Chignik Lake area during our aerial reconnaissance but we were not able to visit these sites on the ground. GPS coordinates were collected for each of these five sites and Alaska Heritage Resource Survey (AHRS) numbers were obtained. GPS coordinates for these sites were taken from the air and should be considered approximate, but when used in coordination with aerial photographs (where possible) and site descriptions the coordinates should be accurate enough to make site relocation relatively easy.

**CHK-00103** is located on the left bank of the Chignik River, across from the confluence of the West Fork Chignik River and the main stem Chignik River between Black and Chignik Lakes (see Figure 26). This village site is approximately 4.5 kilometers above the delta where the Chignik River flows into Chignik Lake. The site was recognized during fixed-wing aerial

reconnaissance of the region and has not yet been visited on the ground. This site exhibits several surface depressions which likely represent a mix of cache pit and house features but an estimate of the number of features cannot be made at this time. This is one of several known village sites located in the Chignik River drainage.

**CHK-00104** is located on the right bank of Broad Creek approximately one kilometer above the confluence with Conglomerate Creek (see Figure 18). This location is approximately 14 kilometers east of Black Lake and 13 kilometers south-southeast of Black Peak. This site was identified during fixed-wing reconnaissance of the region and has not yet been visited on the ground. Several surface depressions are present at this site and likely represent a mixture of storage and dwelling features but an accurate total number of features cannot be estimated at this time (Figure 36). This is one of several new village sites recorded from the Chignik Lake and Black Lake drainages.

Figure 36: Aerial photograph with CHK-00104 circled in red, Broad Creek in foreground

**CHK-00106** is located on an elevated bedrock landform in the middle of the Chignik River floodplain approximately three kilometers above where the river drains into Chignik Lake (see Figure 26). This village site is situated in a spot that is east and north of Bearskin Creek,

west of the Chignik River, and south of the West Fork Chignik River. This site was recognized during aerial reconnaissance and has not yet been visited on the ground, making it difficult to estimate the total number of cultural depressions present here (Figure 37). These depressions likely represent a combination of storage and house features.

Figure 37: Aerial photograph showing CHK-00106 circled in red

**CHK-00107** is located on the right bank of Bearskin Creek just past where the creek takes a wide sweeping turn to the east, below Bearskin Gulch (see Figure 26). There are several surface depressions present at this village site but an accurate estimate cannot be made since this site was not visited on the ground. These surface depressions most likely comprise a combination of storage and house features. The nearest known site is CHK-00106 located approximately six kilometers to the east and there are several other village sites close by in the Chignik River drainage. Unfortunately an aerial photograph of this site was not collected.

**CHK-00116** is a village site located on the left bank of the Chignik River just below the outlet of Black Lake. Based on aerial photographs the site consists of 30-40 circular surface depressions but this should be considered an extremely rough estimate since the site has never been visited on the ground (Figure 38). These depressions are likely comprised of a mixture of

cache pit and house ruins. This site is situated on the first terrace above the Chignik River less than a mile south of CHK-00043 and CHK-00062 which are located right next to the outlet of Black Lake (Figure 39).

Figure 38: Aerial photograph showing CHK-00116 circled in red

## Black Lake

On June 12th, our final day with helicopter support, we moved from Lindholm Lodge at Chignik Lake to a field camp located on the north shore of Black Lake (Figure 39 and Figure 40). Barton, Jordan, Chisholm, Carter, Reid, and Shirar were camped at Black Lake and based fieldwork operations from here until June 16th. Rasic began his journey back to Fairbanks starting with a scheduled Pen Air flight out of Chignik Lake on the 12th. Chisholm and Shirar were on the first trip out to Black Lake with a load of gear and the task of picking out a suitable camp spot. Carter came out by herself with the second load of gear, Reid with the third load, and finally Barton and Jordan were out with the fourth load. All six crew members and all of our field gear was moved with four helicopter flights.

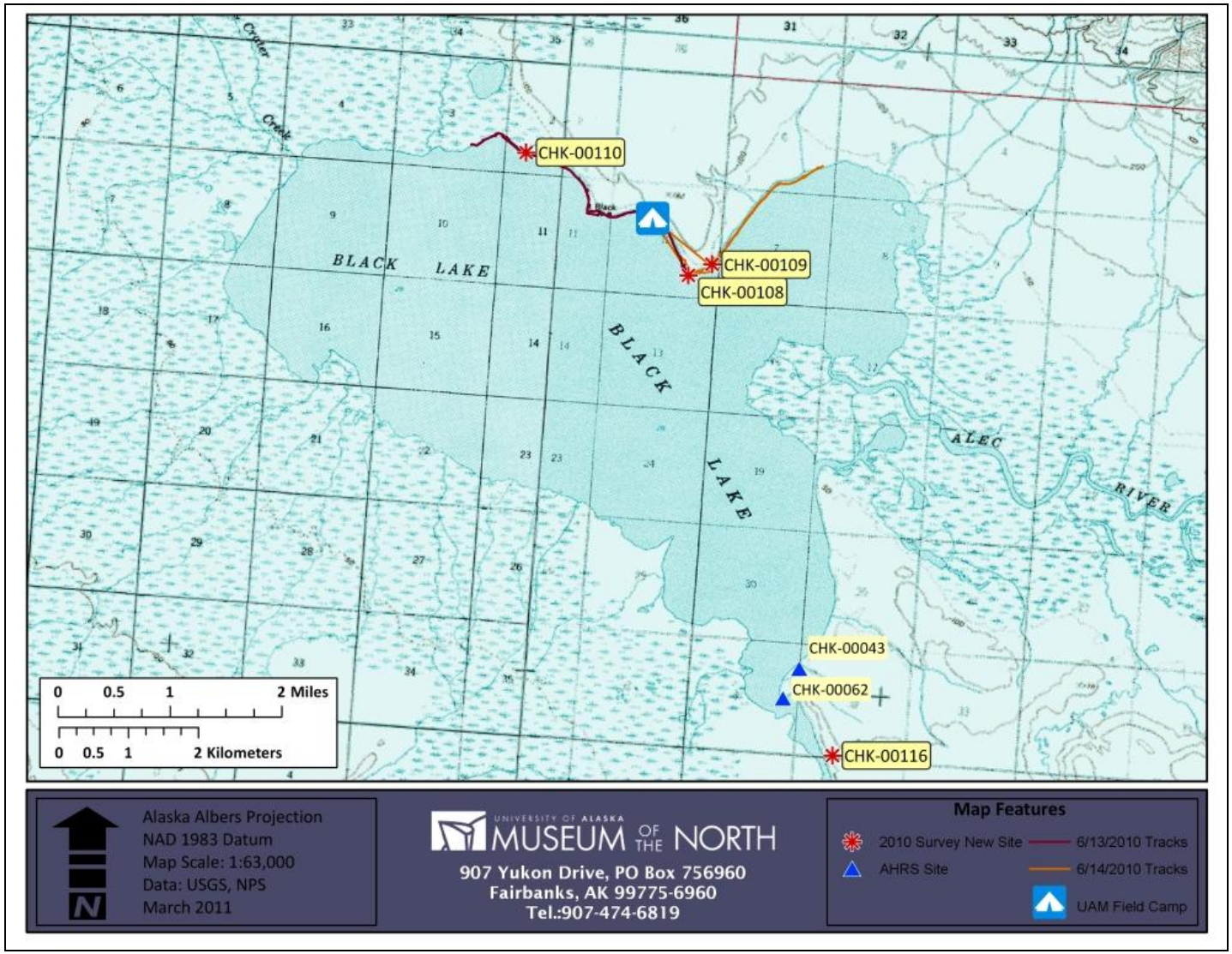


Figure 39: Map showing Black Lake field camp and AHRS sites in the area

Figure 40: Photograph showing Black Lake field camp

Our camp at Black Lake was fully assembled by 2PM on the 12th, so we spent the afternoon surveying the northeast shore of Black Lake. We quickly relocated the village site on the point that had been recognized from the air (CHK-00108) and then we located a second village site (CHK-00109) just past the point (Figure 39 and Figure 41). We continued east, crossing two small drainages as we surveyed along the lake shore stopping near a third drainage (see track logs on Figure 39). No more archaeological sites were located but Jordan found a relatively deep soil profile/peat exposure at the end of our pedestrian transect that he returned to on June 14th in order to map and collect samples.


Figure 41: Aerial photograph showing CHK-00108 and CHK-00109 circled in red

On June 13th Jordan, Chisholm, and Reid surveyed the northwest shore of Black Lake and located a third village site (CHK-00110) (see Figure 39). This crew was also hoping to discover more peat exposures on this portion of the lake but no new profiles were found. While the northwest corner of the lake was being surveyed Barton, Shirar, and Carter returned to CHK-00108 to map and test the site in hopes of collecting dateable material from several of the features. Jordan, Chisholm, and Reid arrived at CHK-00108 shortly after noon to help finish testing the site.

**CHK-00108** is located on the first terrace above Black Lake on a prominent point that juts out into the north-central portion of the lake (see Figures 39 and 41). This village site consists of approximately 30 cultural depressions comprised of cache pits and several different types of house pit depressions including multi-room houses, single-room houses, and two-room "keyhole" style houses (Figures 42, 43, 44, and 45). A total of six 50x50cm test units (TU-01 through TU-06) were excavated at this site and each of the three different types of house pit depressions were tested. Five of these tests were placed inside five different cultural depressions and one unit was excavated outside of any feature to test for the presence or absence of a midden deposit.

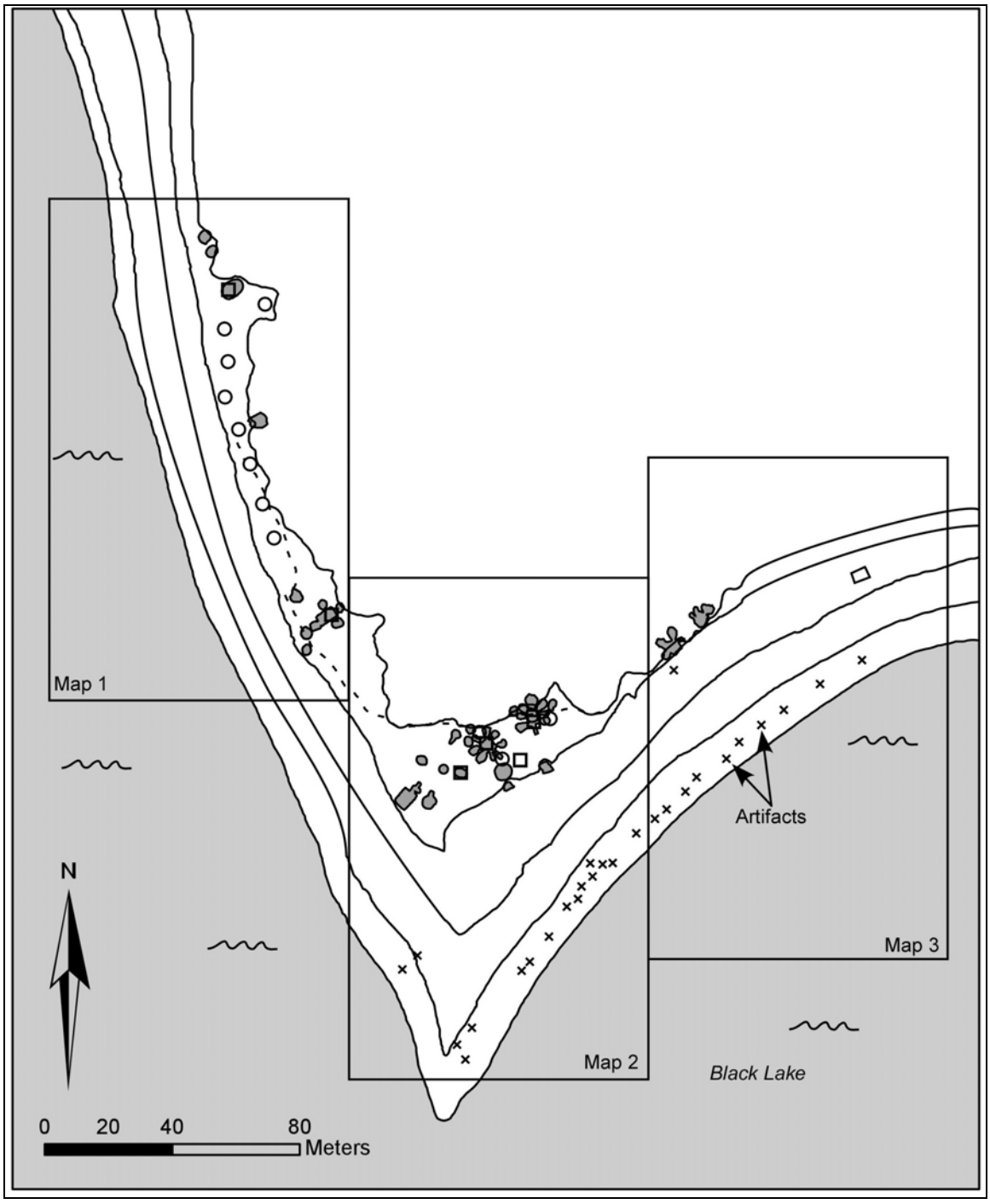


Figure 42: CHK-00108 Site Map

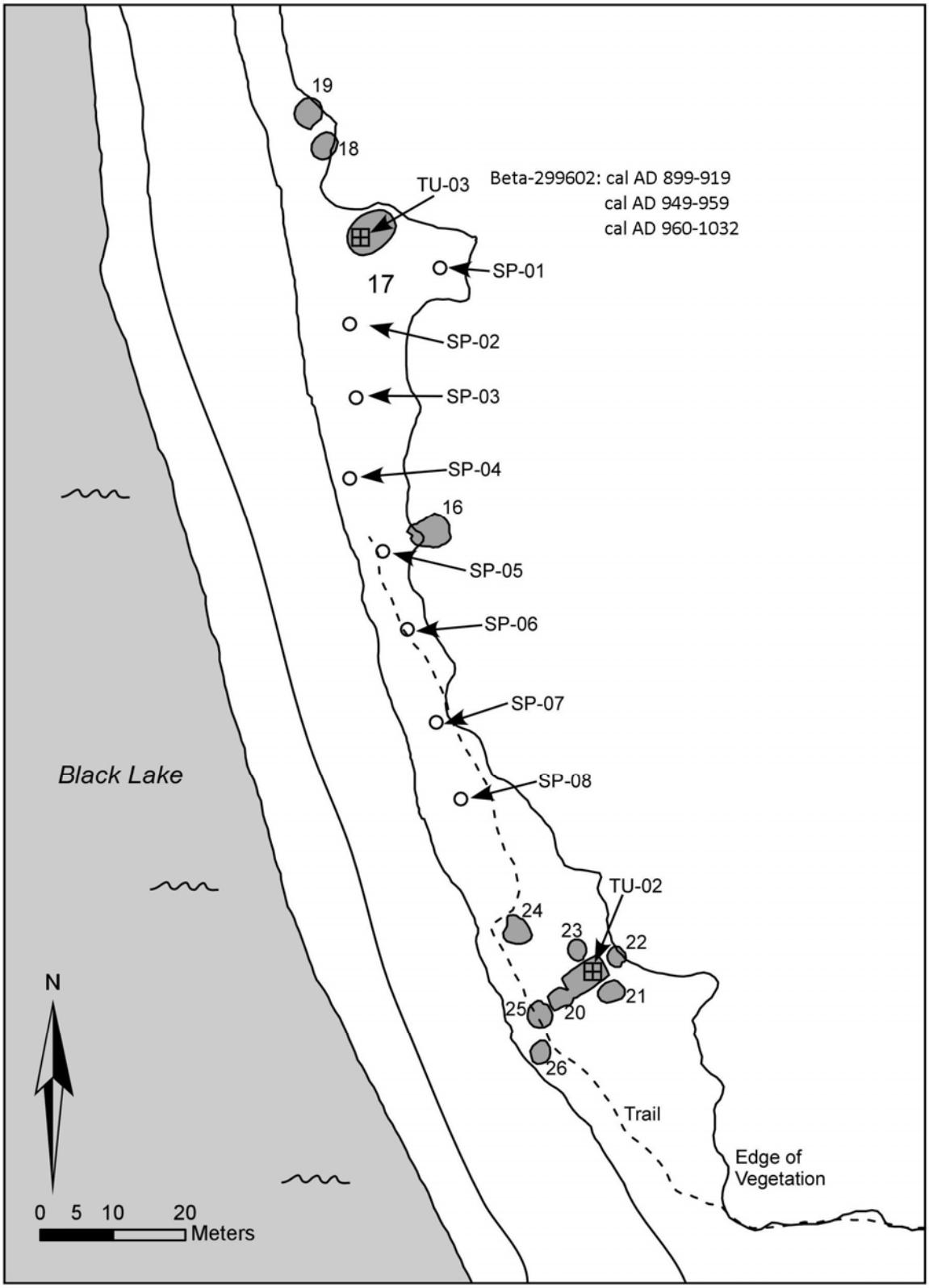


Figure 43: Map blowup of CHK-00108 labeled as Map 1 in Figure 42

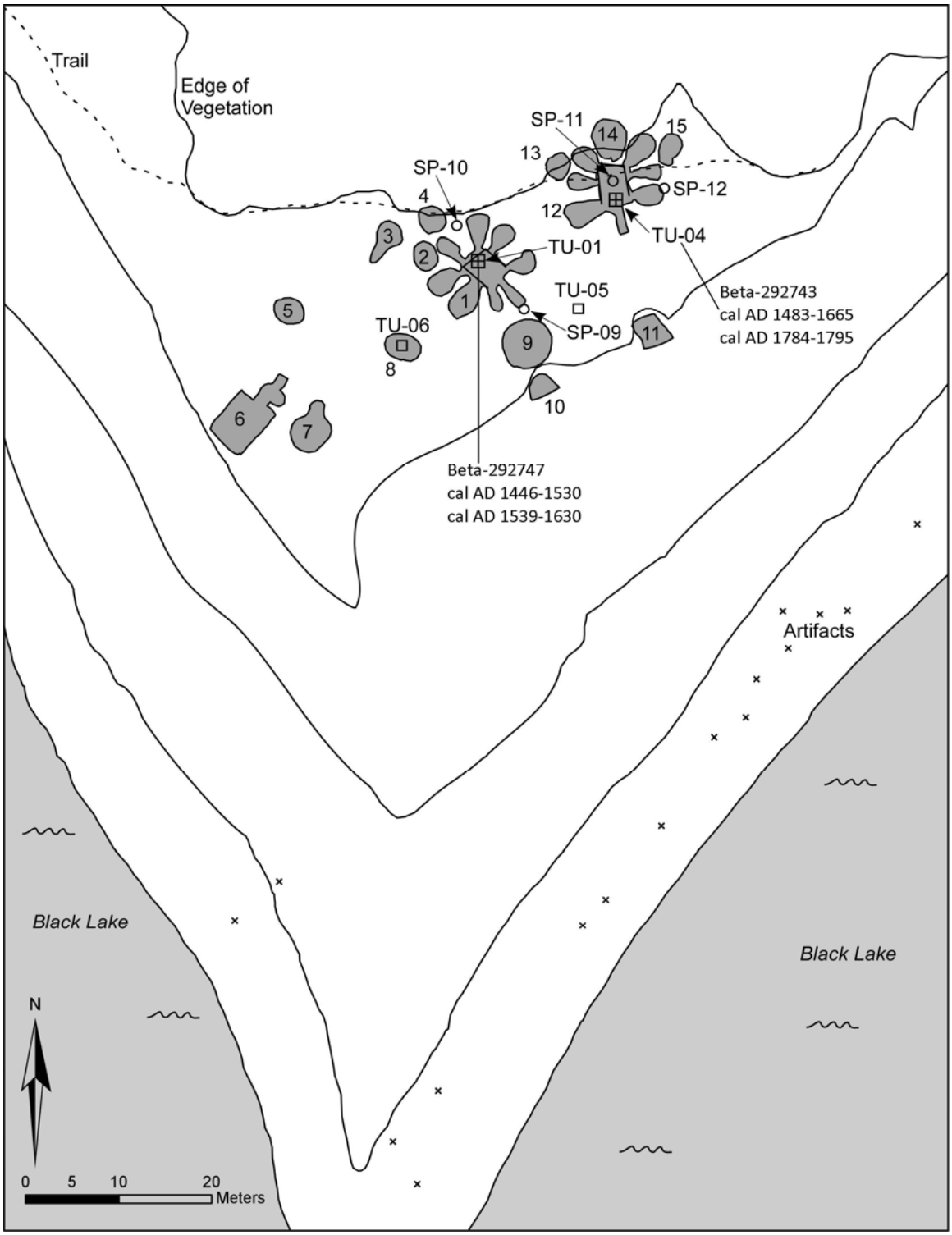


Figure 44: Map blowup of CHK-00108 labeled as Map 2 in Figure 42

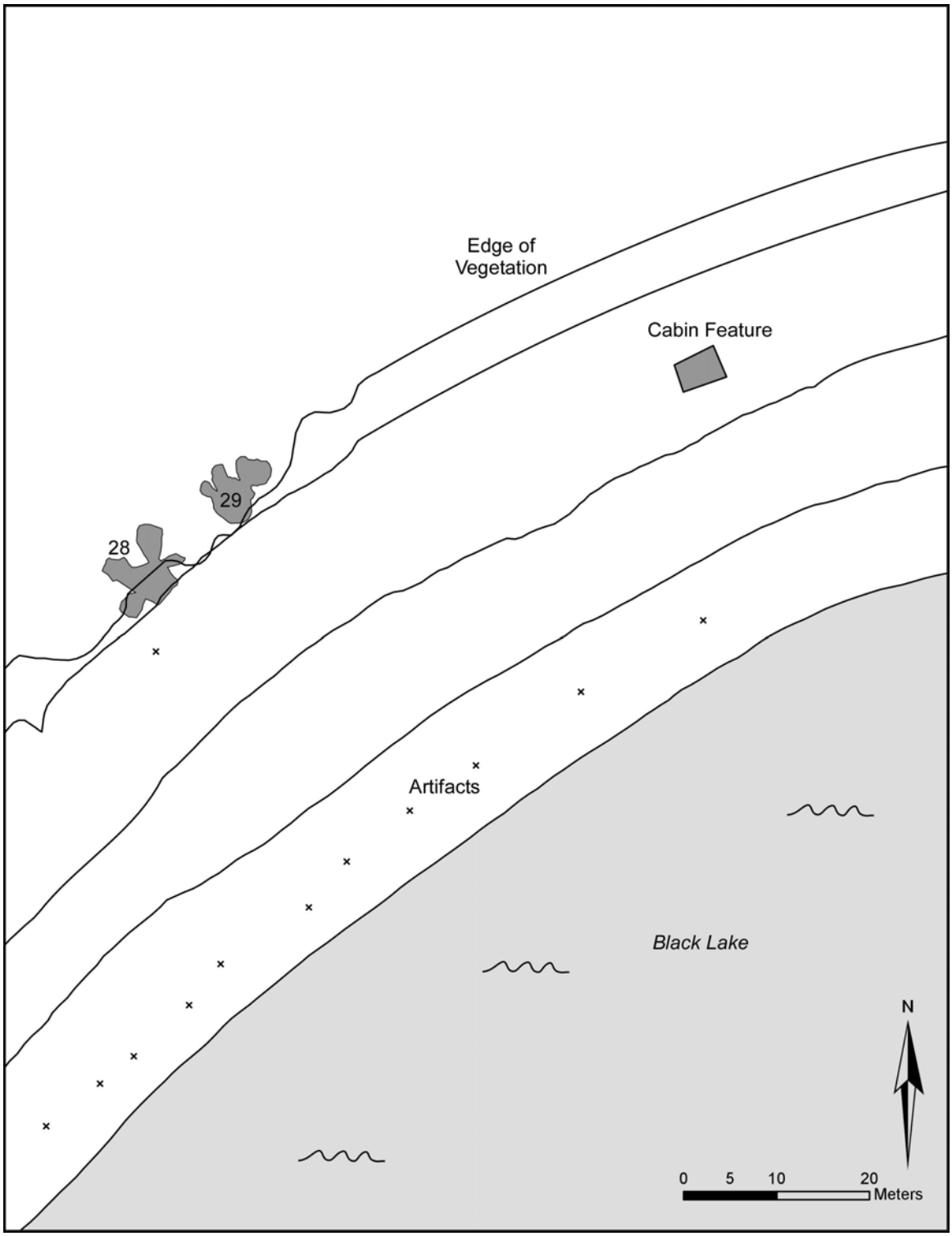


Figure 45: Map blowup of CHK-00108 labeled as Map 3 in Figure 42

While the site was being mapped, an extensive scatter of surface artifacts was found on the lake shore just below the site. This scatter is located on the southeast facing beach and appears associated with CHK-00108 (see Figure 42). These artifacts have eroded out of the terrace that CHK-00108 is located on and show evidence of being water worn. Each artifact was mapped with a Trimble GPS unit but a water-worn obsidian biface fragment was the only artifact collected from this scatter (Figure 46).

An historic/modern cabin ruin was found nearby while CHK-00108 was being mapped and tested (Figures 45, 47, and 48). This collapsed cabin feature is located right along the beach below the site and consists of cut lumber, sheet metal, a 55 gallon drum, and several glass bottles. This cabin appears too recent to be considered an historic site. During the afternoon at CHK-00108, Jordan ran a transect of soil probes across the site. These probes were all placed outside of cultural features with the goal being to characterize the stratigraphy at this site and in the Black Lake area more generally.


Figure 46: Obsidian biface collected from the surface at CHK-00108

Figure 47: Photograph of cabin feature at CHK-00108 represented in Figure 45

Figure 48: Photograph of cabin feature at CHK-00108 represented in Figure 45

TU-01 at CHK-00108 was located in the northeast corner of the central portion of a multi-room house ruin that had six satellite rooms extending off the main room and a well-defined entrance tunnel (Feature #1) (see Figure 44). TU-01 was positive for cultural material but few items were found. Only two basalt flakes were collected and these were found between 10 and 30cmbs. A small hearth feature, which was filled with fire cracked rock, was encountered in the southwest corner of TU-01 and produced ample charcoal for dating purposes. A total of four charcoal samples were collected from 12, 19, 22, and 25cmbs and were identified as alder (*Alnus*), an unidentified hardwood, an unidentified softwood, and unidentified wood. A sample of alder charcoal from 25cmbs yielded a radiocarbon date of approximately 500 years old (Figures 44 and 49, Beta-292747). The cultural layer of this house is situated between 15 and 25cmbs and a thin charcoal-filled layer at 25cmbs appears to be the house floor (Figure 49). Nothing cultural was found beyond this layer and TU-01 was terminated at 80cmbs.

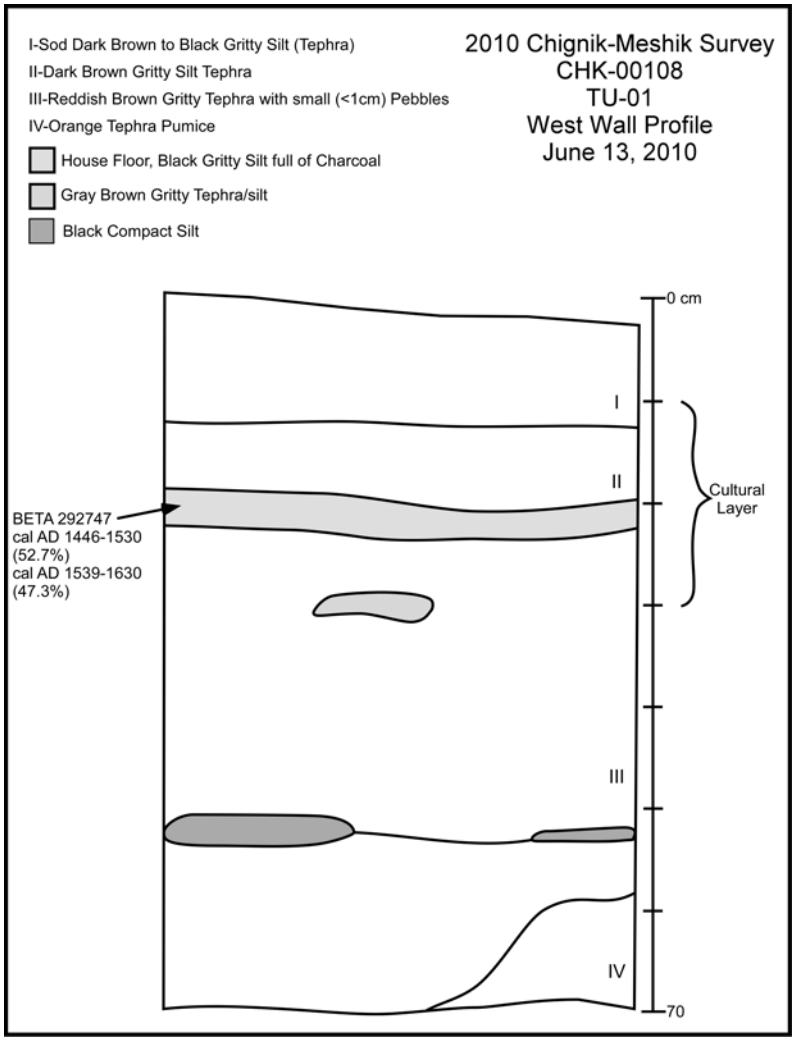


Figure 49: CHK-00108, TU-01, West Wall Soil Profile

TU-02 was excavated in the northern portion of a two-room "keyhole" feature located west of the main part of the site (Feature #20) (see Figure 43). This unit was positive for cultural material but only two flakes were recovered. A single basalt flake was found between 20 and 30cmbs and a single obsidian flake was found between 30 and 40cmbs. No charcoal was found in this test unit and therefore no samples could be collected. A well-defined floor or cultural layer was not encountered in this feature and the stratigraphy here does not necessarily indicate a lived in structure (Figure 50). Nothing cultural was found below 40cmbs and this test unit was finished at approximately 80cmbs.

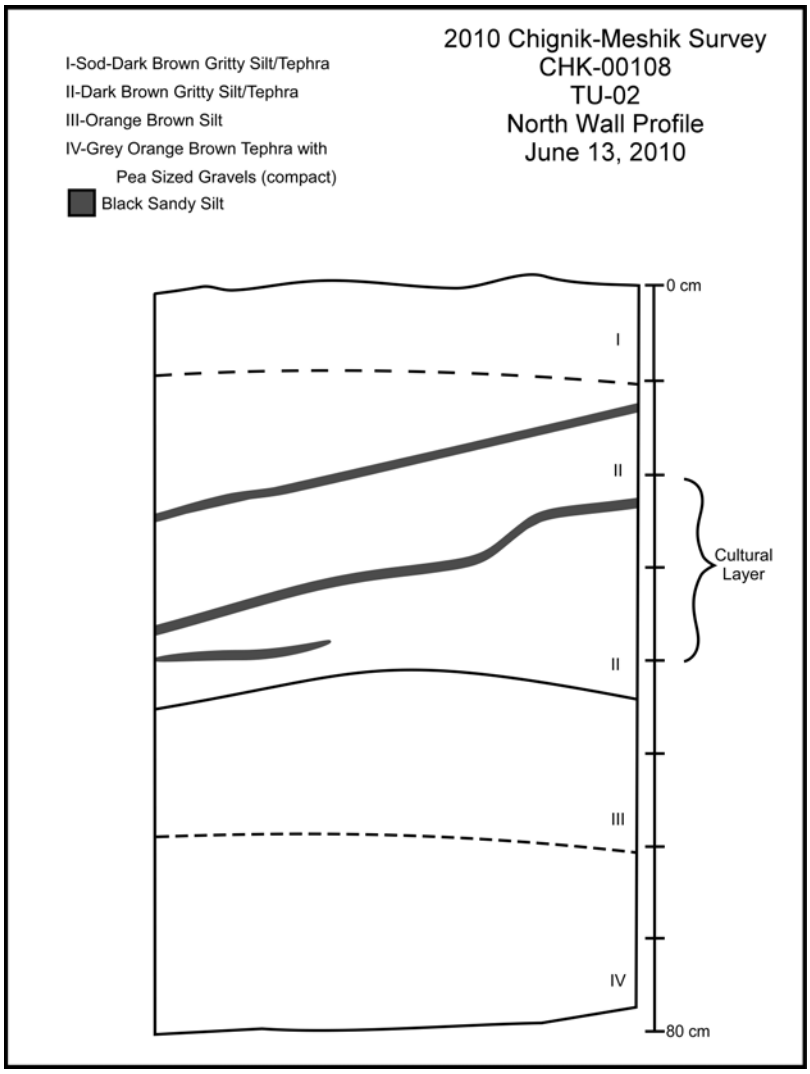


Figure 50: CHK-00108, TU-02, North Wall Soil Profile

TU-03 was placed in the center of a circular house depression (Feature #17) (see Figure 43) and produced basalt flakes to a depth of 80cmbs and a single basalt biface from 60 to 70cmbs. Altogether, 22 basalt flakes were recovered between 20 and 80cmbs. There was no

well-defined living floor or cultural layer found in this feature as is evidenced by the vertical spread of artifacts throughout this unit as well as the fairly homogenous soil profile (Figure 51). Despite this fact, charcoal was encountered and two samples were collected from 52 and 56cmbs and were identified as willow (*Salix*)/cottonwood (*Populus*) and unidentified hardwood. A sample of willow/cottonwood charcoal was submitted for radiocarbon dating and yielded a 1000 year old date (Figures 43 and 51, Beta-299602). This test unit was terminated at 80cmbs.

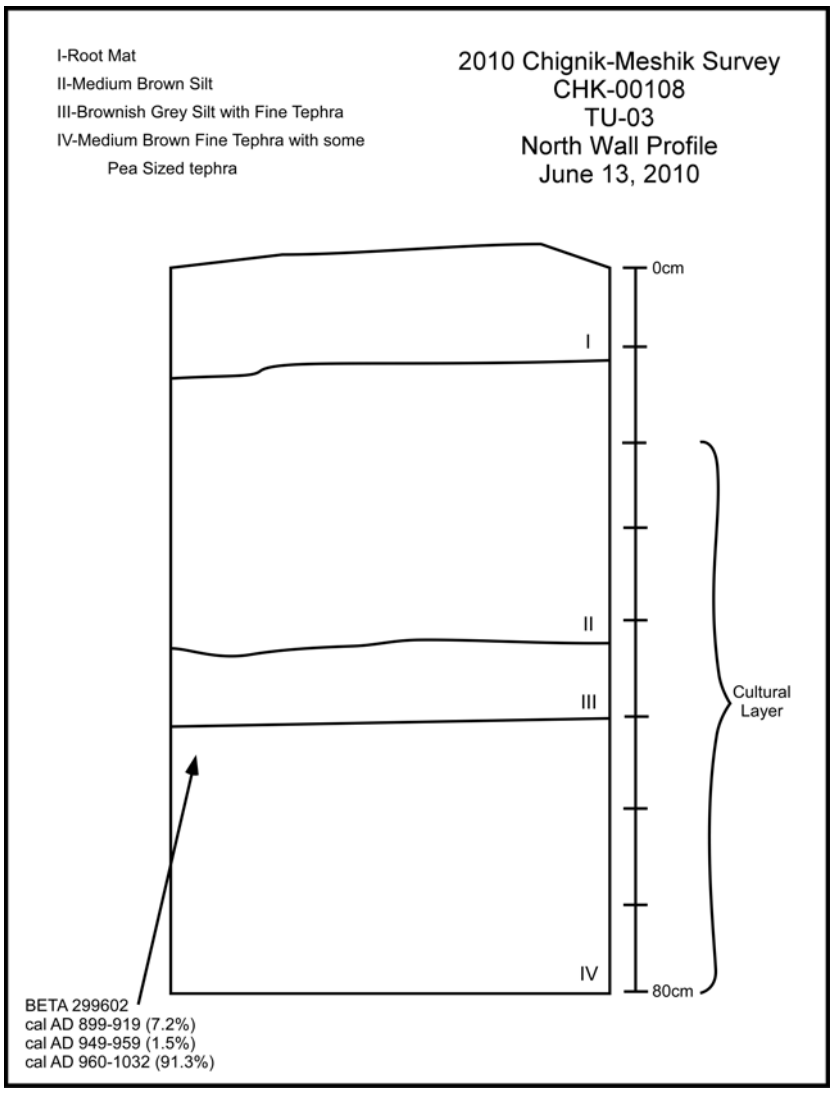


Figure 51: CHK-00108, TU-03, North Wall Soil Profile

TU-04 was excavated in a multi-room house and was placed at the point where the main room and the entrance/exit tunnel meet (Feature #12) (see Figure 44). The cultural deposit in this feature is relatively shallow and ends within the 20-30cmbs level. Six basalt flakes were collected between 10 and 30cmbs and two charcoal samples, both unidentified hardwood, were collected from 20 and 24cmbs. The charcoal sample collected at 24cmbs was directly associated

with a basalt flake and was radiocarbon dated to approximately 500 years ago. The soil stratigraphy in this feature did reveal what appears to be a house floor (Figure 52). No cultural items were found below 30cmbs and TU-04 was terminated at approximately 70cmbs.

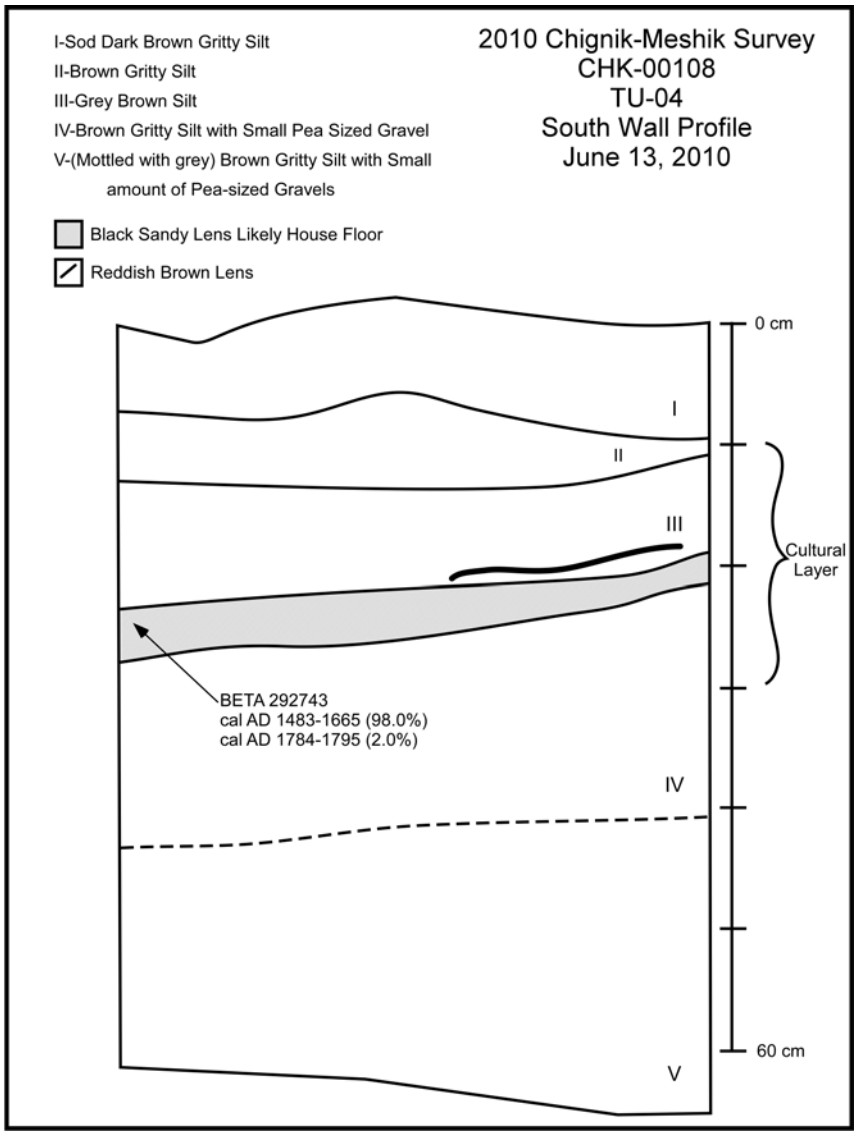


Figure 52: CHK-00108, TU-04, South Wall Soil Profile

Both TU-05 and TU-06 were negative for cultural material. TU-05 was placed in an area in between any obvious cultural features and was excavated in this spot to test for the presence of a midden deposit and to look for potentially older components (see Figure 44). This unit went through a series of tephra deposit and was terminated at 70cmbs (Figure 53). TU-06 was placed in the center of a small, deep depression believed to represent a cache pit (Feature #8) (see Figure 44). This unit went through roughly the same progression of tephra deposits as seen in TU-05 and was terminated at 80cmbs (Figure 54).

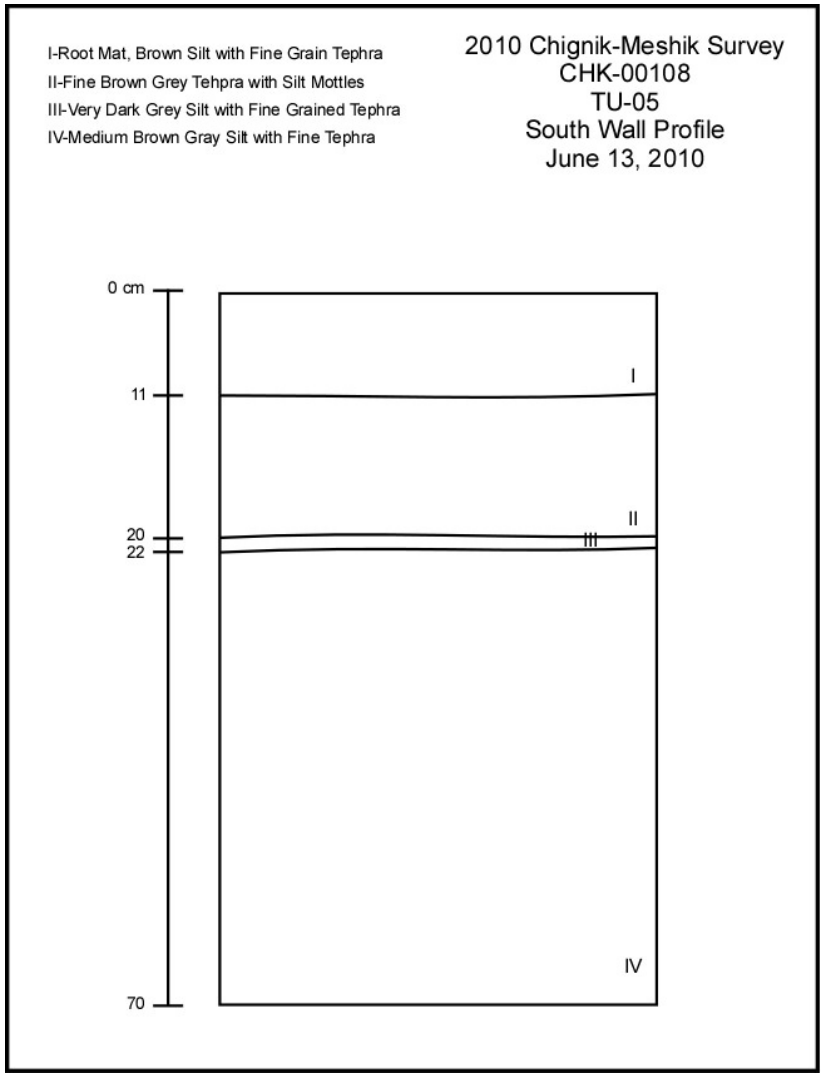


Figure 53: CHK-00108, TU-05, South Wall Soil Profile

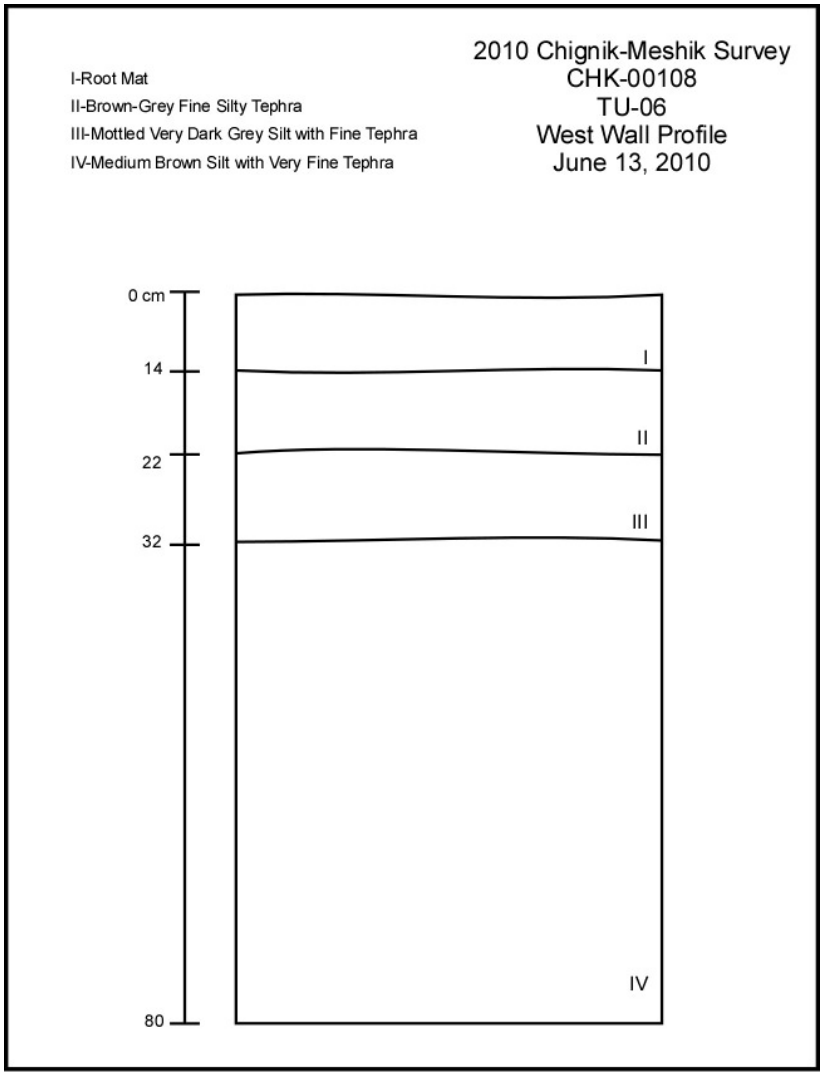


Figure 54: CHK-00108, TU-06, West Wall Soil Profile

On June 14th the entire crew spent the morning testing at CHK-00109. During the early afternoon, Jordan and Reid returned to the deep profile exposure (labeled as 10-AN-2) that was found along the northeast lake shore. A section of this profile was cleaned off and mapped. Nineteen soil samples and seven bulk peat samples were collected. A total of seven tephras were noted throughout this 190cm deep exposure. Jordan and Reid returned to CHK-00109 during the late afternoon to assist the rest of the field crew in finishing off the testing there. **CHK-00109** is located on the first terrace above the beach, along the north-central portion of Black Lake, approximately 400m to the east-northeast of CHK-00108 (see Figure 39 and 41). This village site consists of 20-30 cultural depression including cache pits and house depressions (Figures 55, 56, and 57). Three different types of houses are represented here including multi-room houses, two-room "keyhole" style houses, and single-room houses. This site was mapped and tested during the 2010 field season and a total of five 50x50cm test units were excavated (TU-01 through TU-05). Two of these units were placed in a single multi-room house, two were excavated in the same "keyhole" style house, and the final unit was placed in an area outside of any features in order to test for a midden deposit.

TU-01 was excavated in the center of the interior room of a multi-room house structure (Feature #37) (see Figure 56). This test unit was positive for cultural material but only a few items were found. A single chalcedony flake was recovered between the surface and 10cmbs, a single bone fragment (likely mammal) was found between 10 and 20cmbs, and a wood sample was collected out of the screen and was located between 40 and 50cmbs. A hearth was encountered between approximately 20 and 35cmbs and contained dense charcoal and ash (Figure 58). A total of six charcoal samples were collected from TU-01 and were collected between 19 and 46cmbs. Five of these samples were collected from within the hearth feature and one was collected from below the hearth. All six of these samples are either alder (*Alnus*) or an unidentified hardwood. A piece of alder charcoal from 30cmbs was submitted for radiocarbon dating and yielded an approximate age of 500 years old (Figures 56 and 58, Beta-292748). TU-01 was terminated at a depth of 60cmbs which was well below any evidence of cultural deposits.

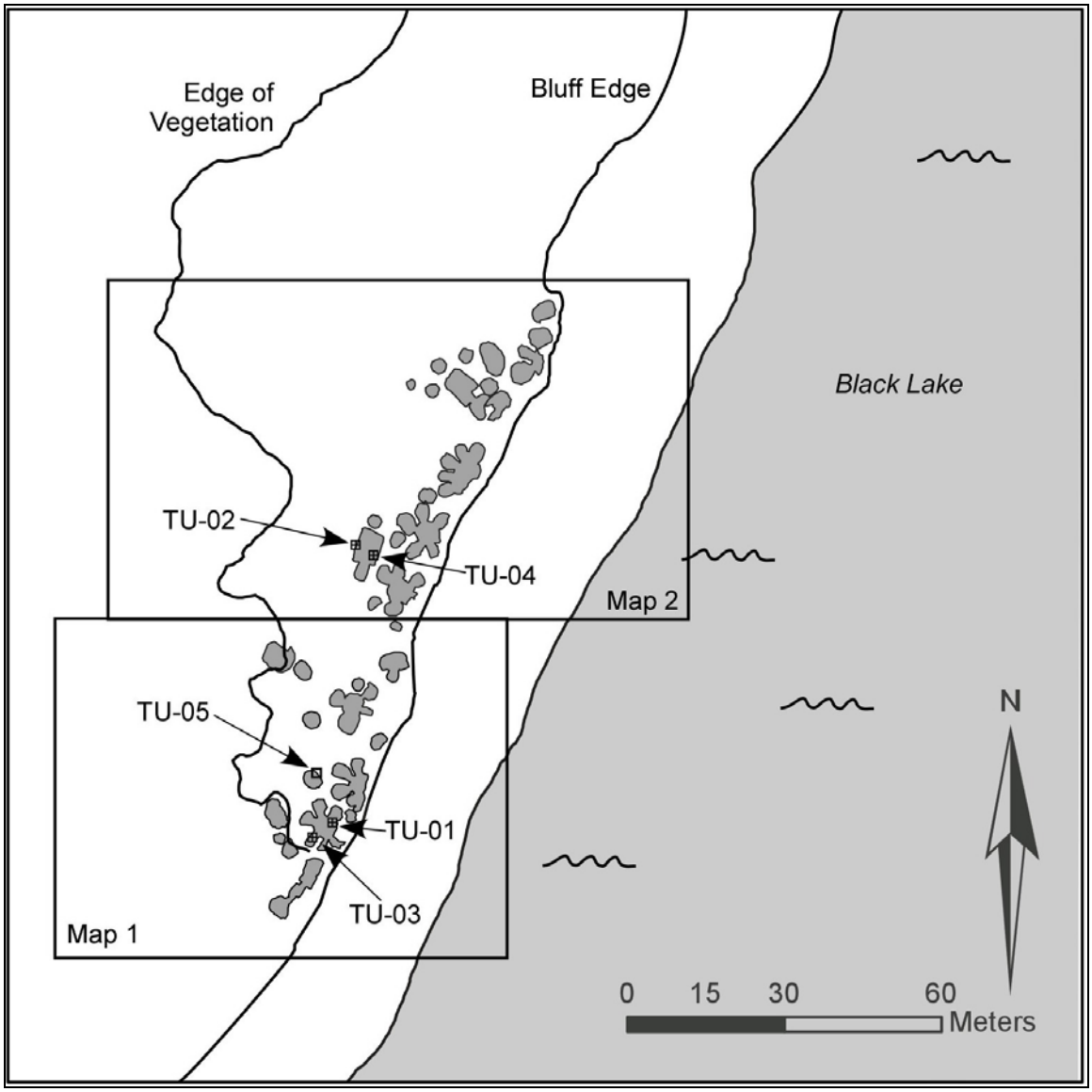


Figure 55: CHK-00109 Site Map

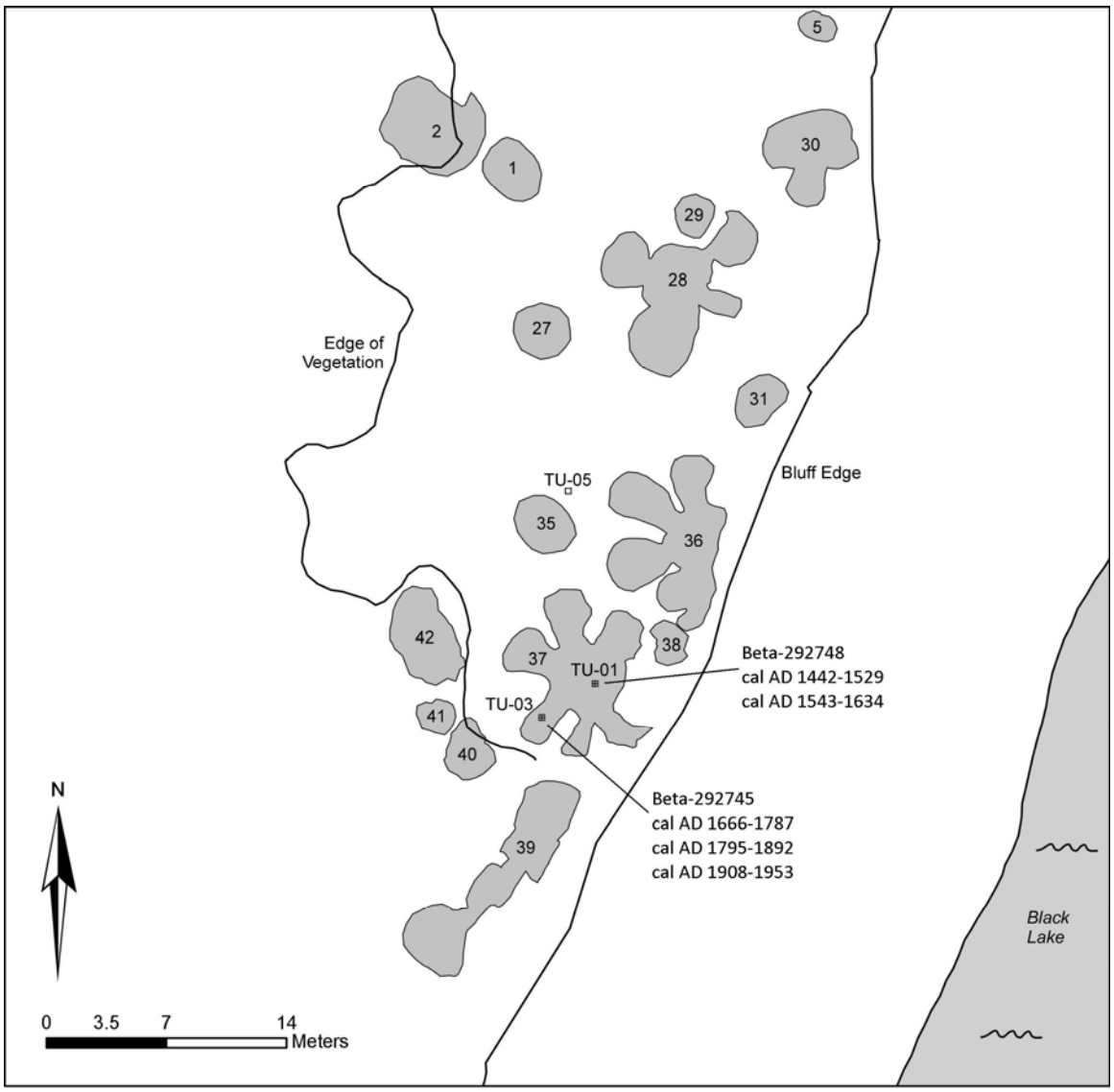


Figure 56: Map blowup of labeled as Map 1 in Figure 55


Figure 57: Map blowup of CHK-00109 labeled as Map 2 in Figure 55

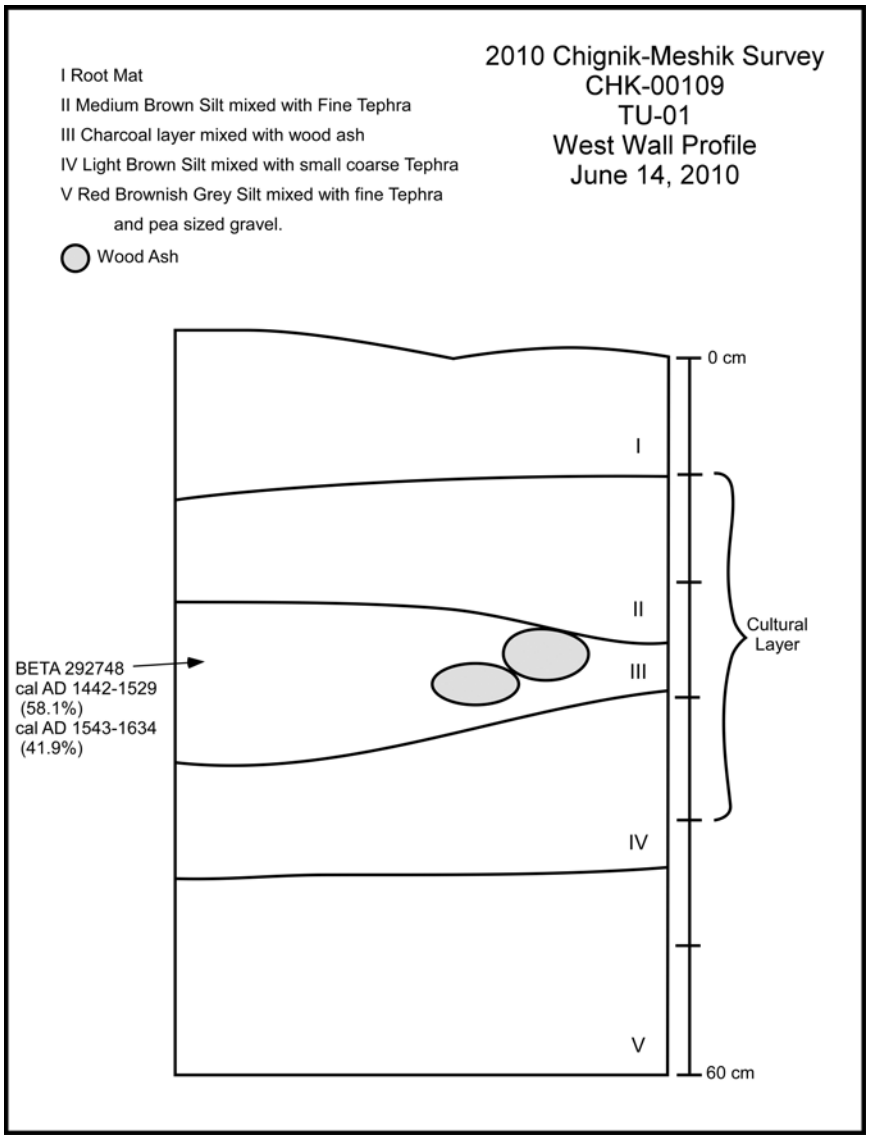


Figure 58: CHK-00109, TU-01, West Wall Soil Profile

TU-02 was excavated along the eastern berm (or edge) of a two-roomed "keyhole" shaped house depression (Feature #3) (see Figure 57). This test unit did not produce any artifacts but alternating bands of gray tephra in the bottom portions of the units were interpreted to be associated with house construction (Figure 59). A single charcoal sample, which was too degraded to be reliably identified, was collected at 52cmbs, near this cultural layer. TU-02 was excavated to a total depth of 70cmbs. Soil in the top 30cm of this test was loosely packed, likely due to rodent disturbance.

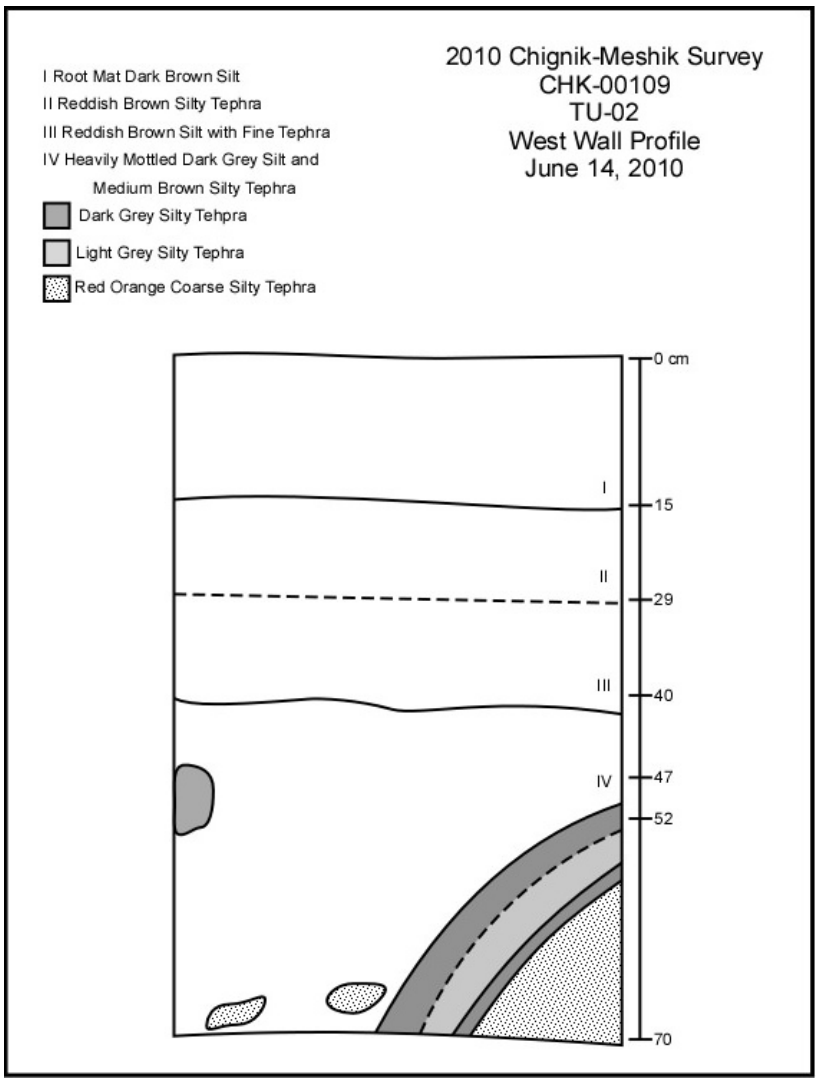


Figure 59: CHK-00109, TU-02, West Wall Soil Profile

TU-03 was excavated in the same multi-room house depression where TU-01 was excavated (Feature #37), but TU-03 was placed in one of the smaller satellite rooms extending from the centralized main room of this house (see Figure 56). This test unit was positive for cultural material and two small chalcedony tested cobbles and a small piece of ground slate were collected from between 20 and 40cmbs. A single charcoal sample of an unidentified hardwood was collected from this upper component at 25cmbs. About twenty centimeters deeper, and capped below three tephra layers, is what could represent a second cultural component at this site (Figure 60). No associated artifacts were found in this soil layer which is banded and mottled with large pieces of charcoal, carbon-rich stringers, reddish orange oxidation, and yellow bands of fine clay. Three charcoal samples were collected from this deeper component and originated between 48 and 52cmbs. One of these samples was

identified as alder (*Alnus*) and the other two are an unidentified hardwood. The sample of alder charcoal from 50cmbs was radiocarbon dated to approximately 300 years ago (Figures 56 and 60, Beta-292745). The black/gray tephra situated approximately 30cmbs and labeled as "D" in the profile drawing was sampled. TU-03 was terminated at a depth of 70cmbs.

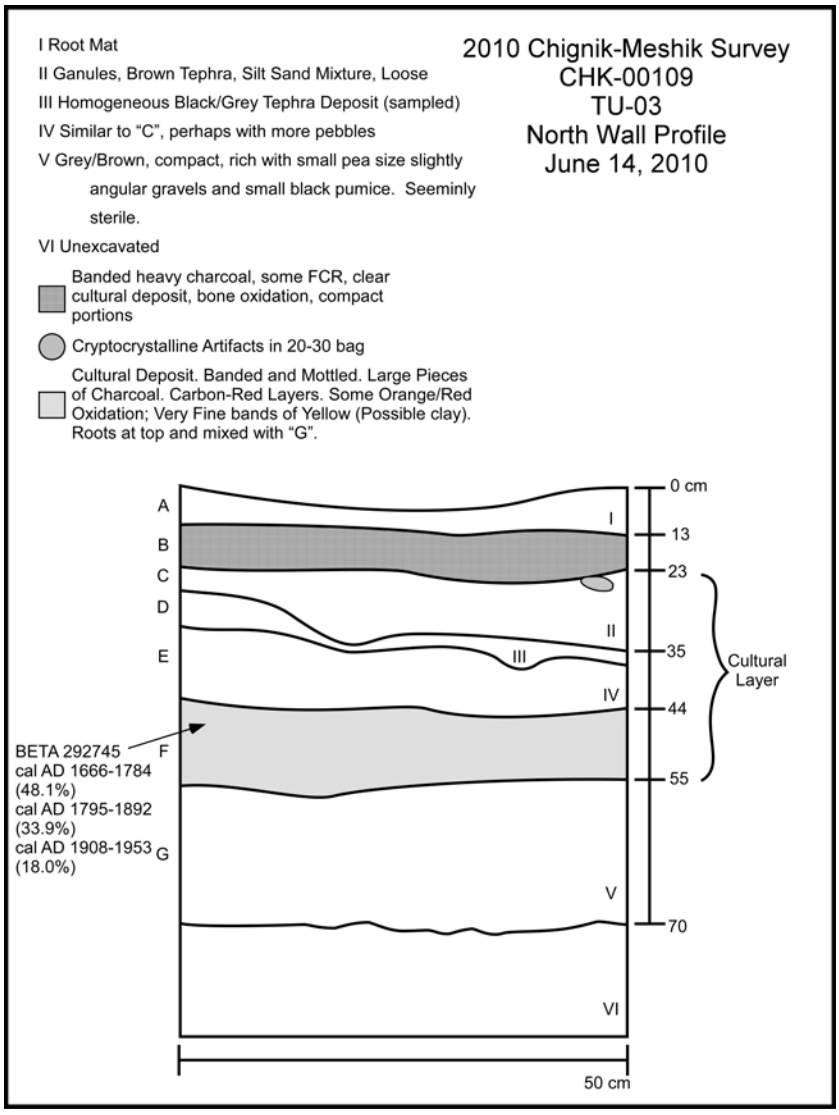


Figure 60: CHK-00109, TU-03, North Wall Soil Profile

TU-04 was placed in the center of the same two-room "keyhole" shaped feature where TU-02 was excavated (Feature #3) (see Figure 57). No cultural material was recovered from the test unit, including charcoal. A thin (2cm) dark reddish gray to black layer was encountered between approximately 62 and 64cmbs (Figure 61). This layer was interpreted as a house floor even though no cultural material is associated with it. Below the floor was a very compact layer

of oxidized gray silt mixed with a medium grained tephra which continued beyond the base of excavation. This TU-04 was terminated at 72cmbs.

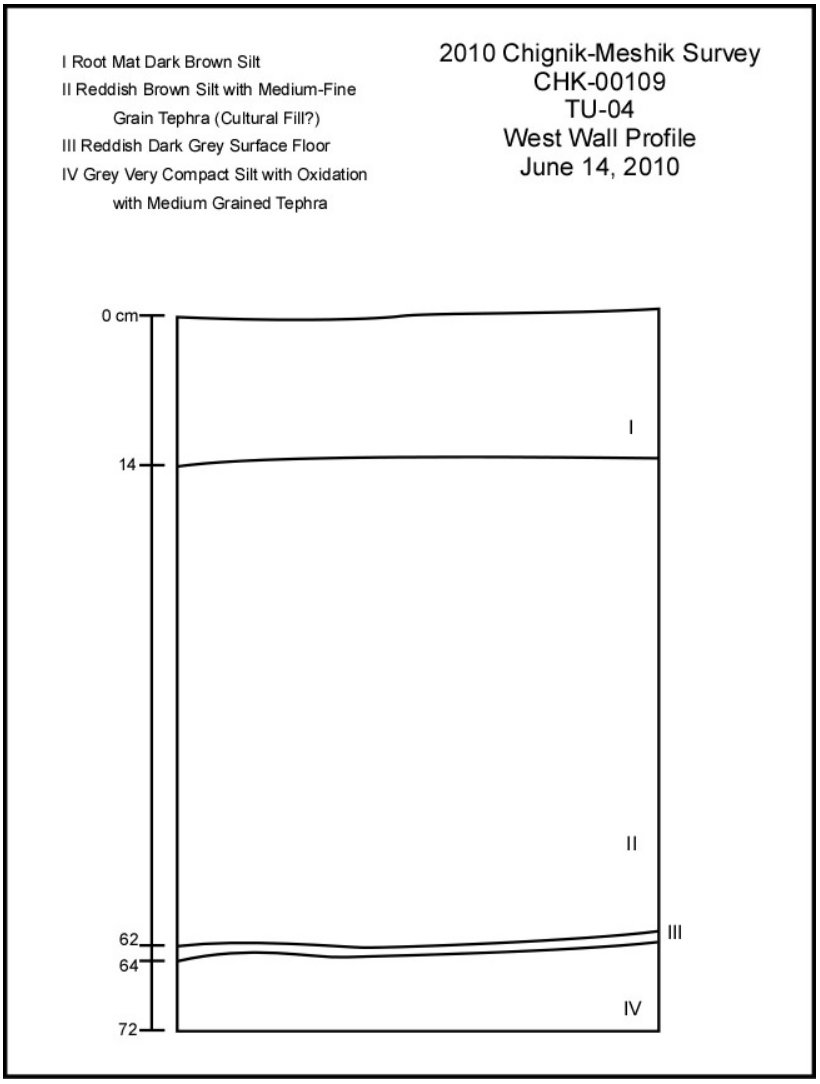


Figure 61: CHK-00109, TU-04, West Wall Soil Profile

TU-05 was placed outside of any cultural depressions in order to test for a midden deposit at the site (see Figure 56). This test unit was excavated to a depth of 75cmbs but no cultural material was found. The soil profile did reveal several alternating bands of silt and tephra (Figure 62). The dark silt layers found here could represent what is left of several relatively thin, organically rich midden deposits. Jordan hypothesized that the dark brown and gray gritty silt layer could be the remains of an old living surface from when this village was occupied. This layer would have been formed as surface vegetation was matted down and compressed as people moved around the site. Unfortunately this idea will have to remain just that until further testing can be completed at this site. All of the charcoal that was collected

from CHK-00109 is currently being identified and could provide dates for both of the house features that were tested here.

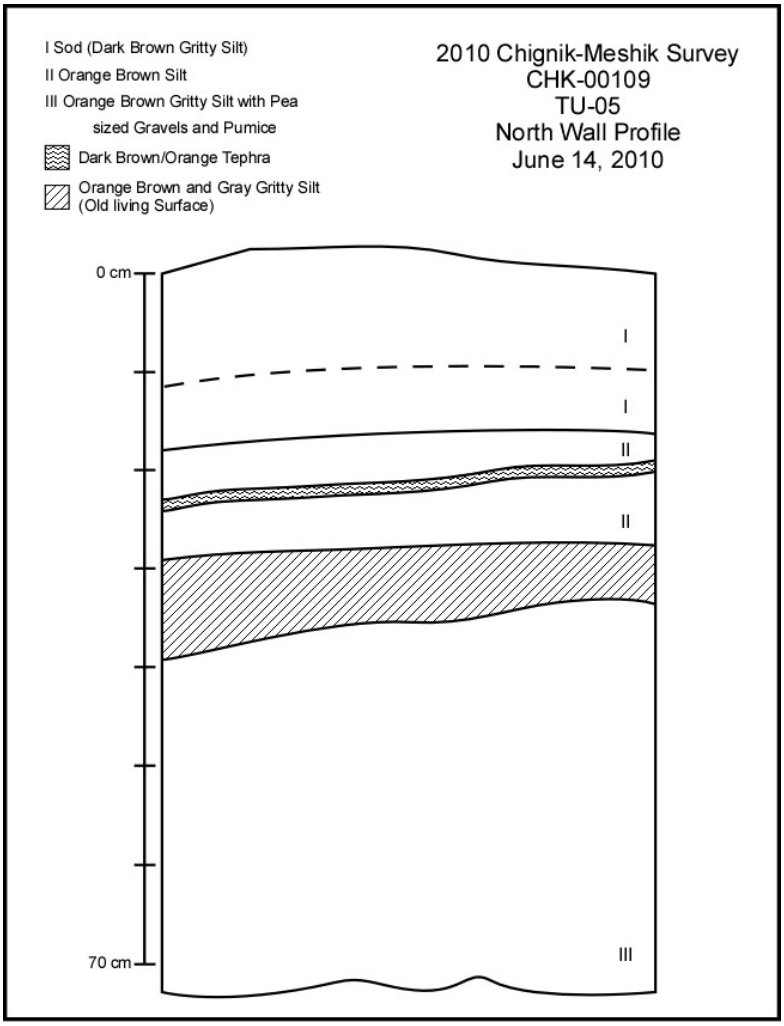


Figure 62: CHK-00109, TU-05, North Wall Soil Profile

On June 15th, our final day in the Black Lake subregion, we got a late start because Jordan was prepping to get picked up from the camp at Black Lake to get back to King Salmon to catch his flight home. Chisholm, Reid, Carter, and Shirar left camp at 10:00AM and headed west along the lake shore to revisit, map, and test CHK-00110 which was found earlier in the week on June 13th during reconnaissance of the northwest portion of the lake shore. We arrived at CHK-00110 around 11:00AM and Barton joined us in the early afternoon once the plane arrived and Jordan was on his way.

**CHK-00110** is located on the first terrace above the north-central portion of Black Lake and was found during pedestrian reconnaissance of the northwest portion of the lake (see Figure 39). The site consists of 10-20 cache pit and house depressions and is one of several

known village sites in the Chignik River drainage. House depressions vary in form at this site and include multi-room houses and two-room "keyhole" style houses.

The house features found at this site, at least the signature left on the surface, are different when compared to all of the other village sites that were visited on the ground in 2010. The interior chamber of the multi-room houses at CHK-00110 are more rounded while at other sites they appear square (Figure 63). The multi-room houses at CHK-00110 are also longer and appear like two separate houses joined together, with two interior rooms. The "keyhole" shaped houses at this site also appear more rounded rather than square shaped like at other sites in the region.

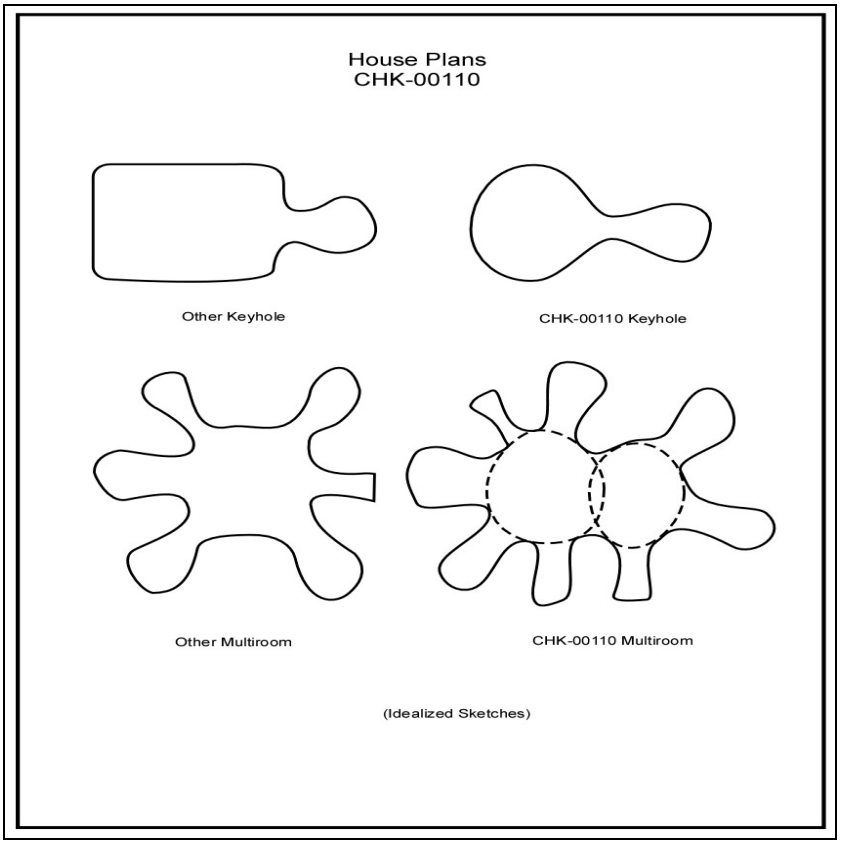


Figure 63: Illustration showing differences in house depression outline as seen on the surface

A total of six 50x50cm square test units were excavated at this site. TU-01 was excavated along the edge of the central room of a multi-room house depression (Feature #23) (Figure 64). This test unit was positive for cultural material but only two basalt flakes were found. One flake was recovered between 30 and 40cmbs and the second flake was collected from the 40-50cmbs level. No charcoal was found in TU-01. The soil profile in this unit was a

straightforward one with several different tephra and pumice layers represented (Figure 65). This test unit was terminated at 80cmbs.

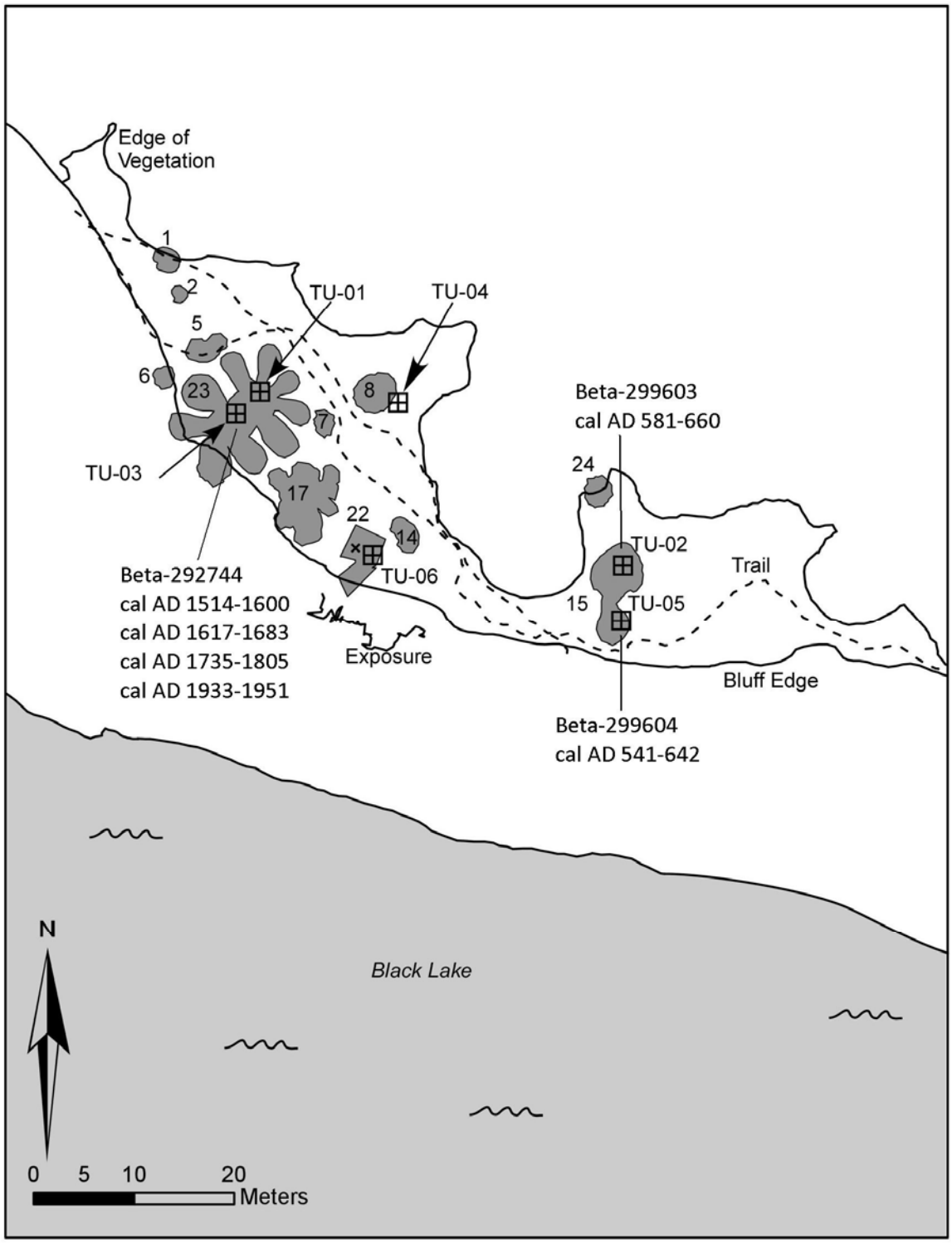


Figure 64: Site map for CHK-00110

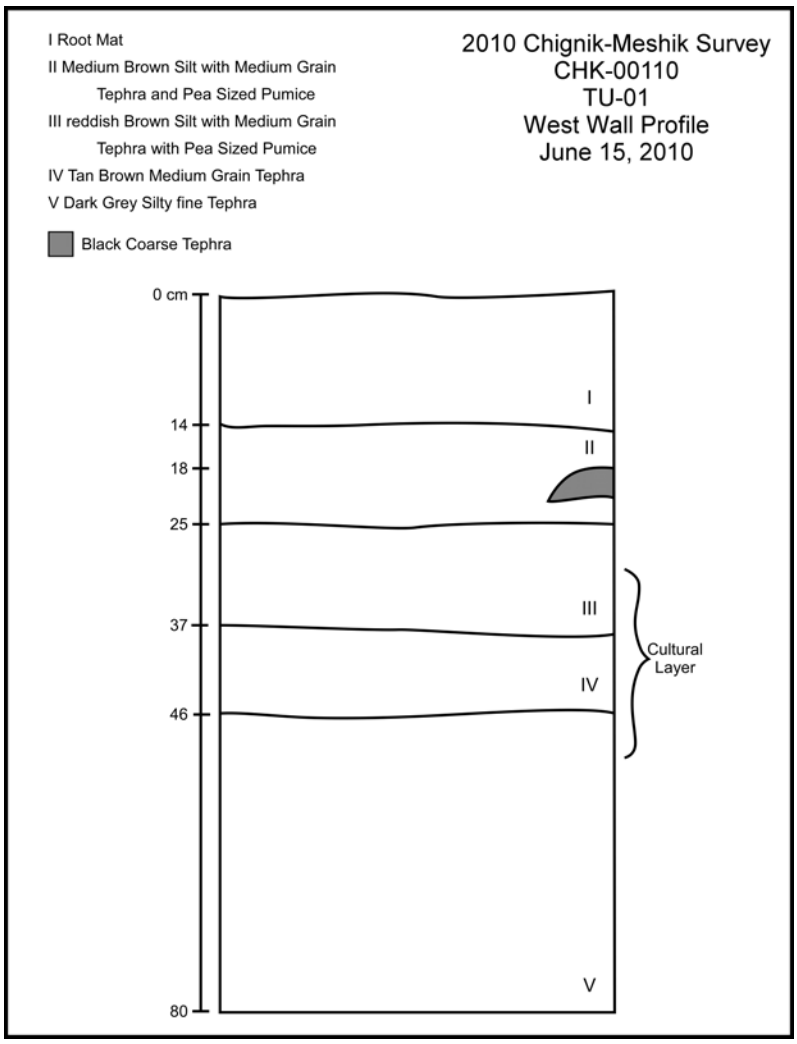


Figure 65: CHK-00110, TU-01, West Wall Soil Profile

TU-02 was placed in a two-room oval shaped "keyhole" feature located on the east site of the site (Feature #15) (see Figure 64). This test unit was positive for cultural material and contained 25 basalt flakes and a basalt biface fragment. All of these artifacts were recovered between 30 and 42cmbs. The two flakes found between 40 and 50cmbs were recovered within the top two centimeters of level 5. Three charcoal samples were collected from TU-02. Two of these samples were collected from the 30-40cmbs level and contain pieces of an unidentified hardwood and pieces of unidentified wood. The third sample was collected at 55cmbs and is an unidentified hardwood. The soil profile from this test unit shows that several tephra layers are present at this site, but it also illustrates a clear cultural component within this structure which is roughly situated between 30 and 40cmbs (Figure 66). The charcoal sample illustrated in the profile drawing is the one that was collected from 35cmbs and yielded a radiocarbon date that is approximately 1400 years old (Figures 64 and 66, Beta-299603).

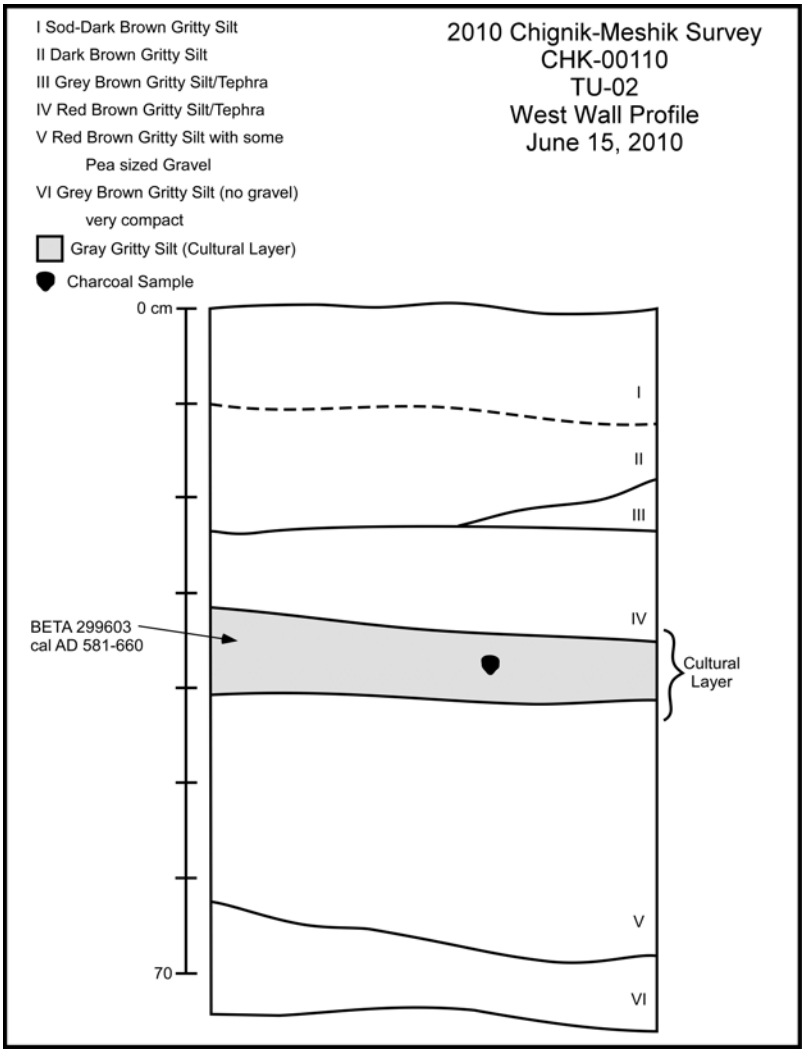


Figure 66: CHK-00110, TU-02, West Wall Soil Profile

TU-03 was placed a large main room of the same multi-room house where TU-01 was excavated (Feature #23) (see Figure 64). All of the other multi-room houses that have been recorded this summer have had a single central large room with satellite rooms extending off, but this feature appears to have two large central rooms. TU-03 produced a complete basalt biface, which appears to have been hafted and used as a knife, within the top 20cm (Figure 67). A single basalt flake was also recovered from the top 20cm of TU-03 and completes the artifact assemblage from this house. A hearth feature was encountered between about 20 and 30cmbs and was characterized by thick charcoal and fire cracked rock (Figure 68). A single charcoal sample was collected from this hearth and was divided into five sub-samples which were identified as willow (*Salix*), cottonwood (*Populus*), alder (*Alnus*), birch (*Betula*), and unidentified hardwood. A sample of unidentified hardwood was radiocarbon dated to about 500 years ago (Figures 64 and 68, Beta-292744).


Figure 67: Photograph of complete biface recovered from TU-03 at CHK-00110

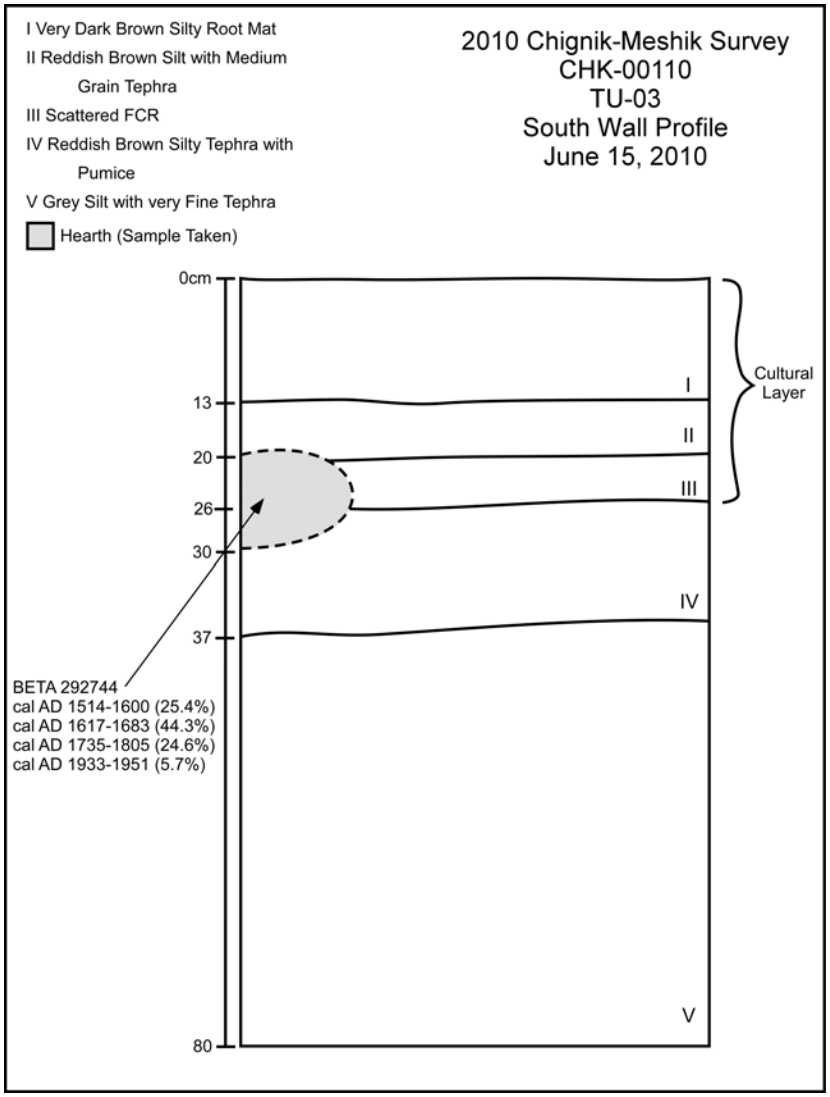


Figure 68: CHK-00110, TU-03, South Wall Soil Profile

TU-04 was excavated on the edge of a small circular depression that most likely represents a cache or storage pit feature (Feature #8) (see Figure 64). This test unit was positive for cultural material and four basalt flakes were recovered between 50 and 60cmbs. A charcoal sample of unidentified hardwood was collected from 60cmbs and is associated with the cultural deposits in this feature. Four tephra layers were encountered during the excavation of this test unit and the cultural material recovered is loosely associated with a thin band of dark gray silt located at approximately 55cmbs (Figure 69). The charcoal sample collected from this unit is the only one that was found in a storage feature and would be good to date for the sake of variety.

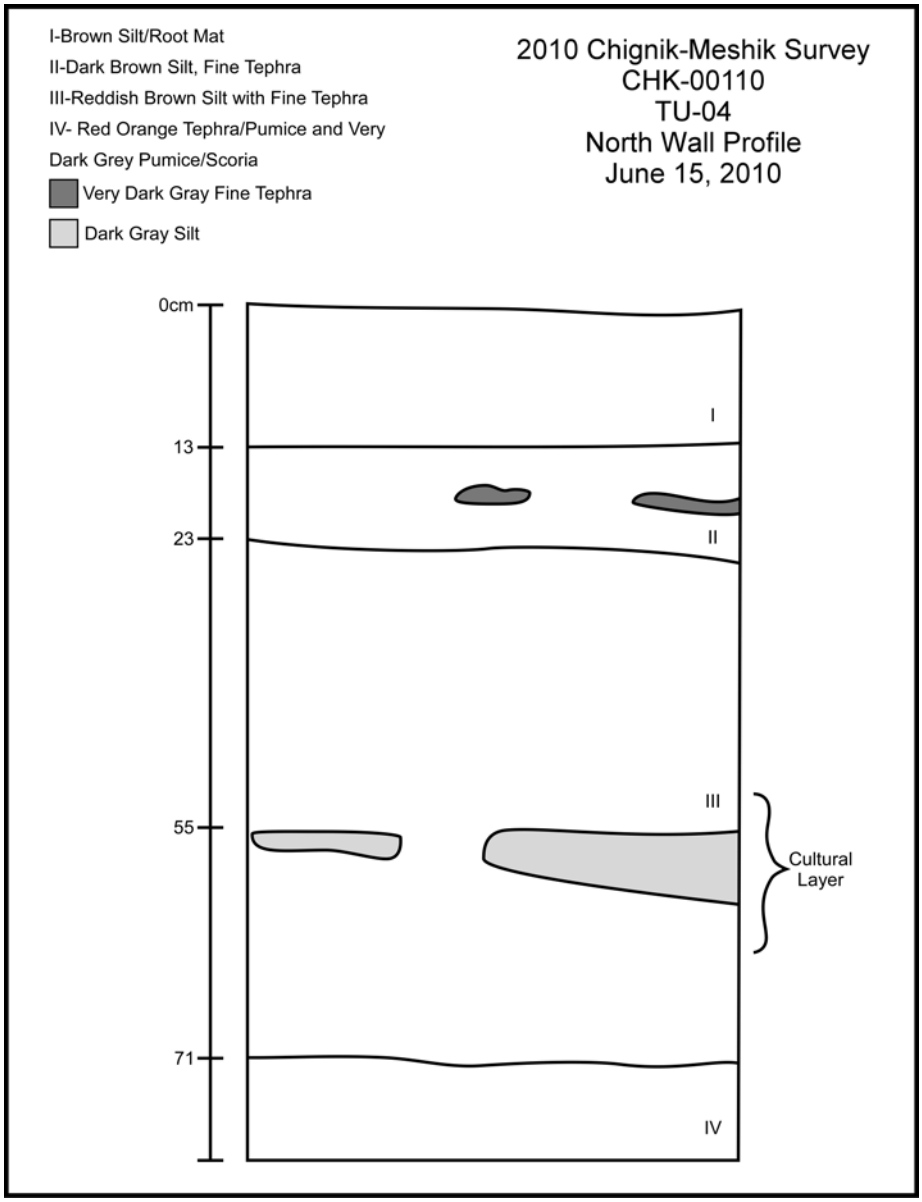


Figure 69: CHK-00110, TU-04, North Wall Soil Profile

TU-05 was excavated in the same two-room "keyhole" style depression where TU-02 was placed (Feature #15). TU-02 was located in the larger room and TU-05 was located in the smaller room (see Figure 64). TU-05 was positive for cultural material and 28 flakes were recovered between 30 and 90cmbs. Two of these flakes are a white chert or chalcedony material and the remaining 26 are basalt. Unlike TU-02, the flakes in TU-05 were spread out rather evenly throughout the stratigraphic profile indicating a diffuse, deep cultural layer here. The stratigraphic profile in this test unit also indicates that there could be a second component in this feature which was not apparent in TU-02 (Illustrated as "Lower Silt Band" in Figure 70).

These two test units are similar in that they both have a band of gray silt associated with artifacts between 30 and 40cmbs. Beyond this layer, these two units diverge because TU-05 continues to produce flakes down to 90cmbs with a second band of gray silt between 50 and 65cmbs. The stratigraphy in this feature is more complex than any of the other houses that have been tested in this area. Altogether three charcoal samples were collected from TU-05 and all of these are associated with this lower gray band. These three samples consist of willow (*Salix*)/cottonwood (*Populus*), unidentified hardwood, and unidentified wood. A piece of willow/cottonwood charcoal from the second, lower band of gray silt was radiocarbon dated and is approximately 1400 years old (Figures 64 and 70, Beta-299604). This date is nearly identical to the upper silt band that was dated in TU-02 and serves as evidence of only a single component within this feature. The deep cultural material in this unit contrasts with the shallow cultural deposits in TU-02 and makes this an intriguing feature.

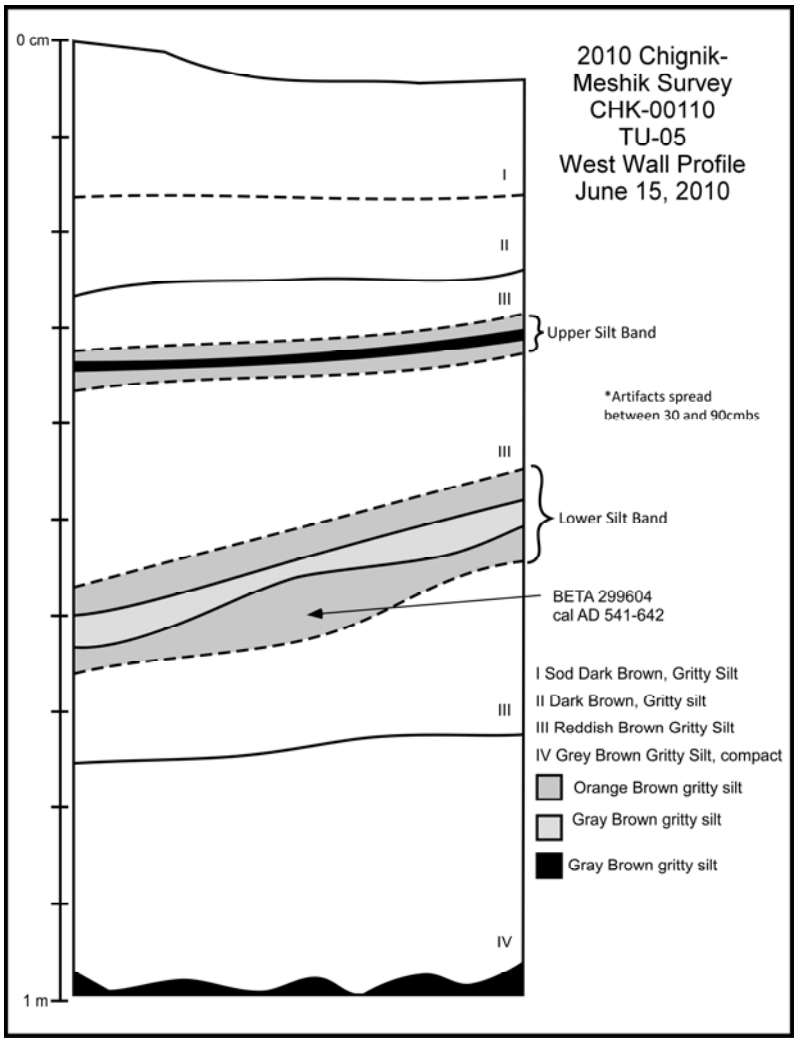


Figure 70: CHK-00110, TU-05, West Wall Soil Profile

TU-06 was excavated in a single room historic depression located along the edge of the same terrace as the late prehistoric depressions at this site (Feature #22) (see Figure 64). This feature has a comparatively deep surface expression, is rectangular in shape, has and entrance/exit tunnel facing the lake and dug into the side of the terrace, and was likely a sod block house. There was a rusted “Blazo” fuel can located in the center of this depression and TU-06 was placed right next to this can (Figure 71). TU-06 was only excavated to approximately 30cmbs and since this is an historic feature with a shallow cultural deposit, no profile map was drawn. TU-06 was positive for cultural material with artifacts spread throughout the top 20cm. Artifacts found and collected include: a metal wire ring, three pieces of a metal clasp, a sawn cross-section of long bone, two strips of rubberized canvas, and a small pieced of milled wood with a four inch nail attached.

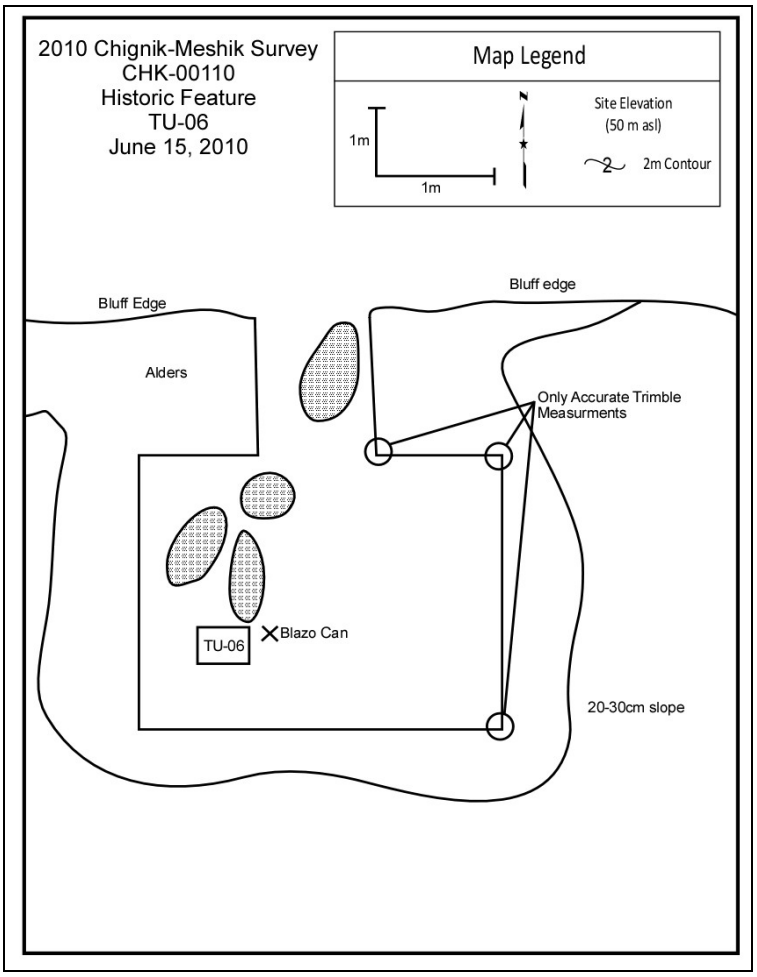


Figure 71: CHK-00110, Plan View of Historic House Feature and TU-06

## Meshik Lake, Meshik River Valley, and Albert Johnson Creek

On June 16th we moved camp from Black Lake to Meshik Lake which is located approximately 75 kilometers east-northeast in Aniakchak National Monument and Preserve. We were able to move all five remaining crew members and all of our gear in two Beaver flights contracted with Branch River Air out of King Salmon. The first flight carried Chisholm, Reid, Shirar and a load of field gear. The second flight brought Barton and Carter and the remaining gear left at Black Lake. At Meshik Lake we assembled our camp on the northeast shore of the lake (Figures 72 and 73) which took up the rest of the 16th.

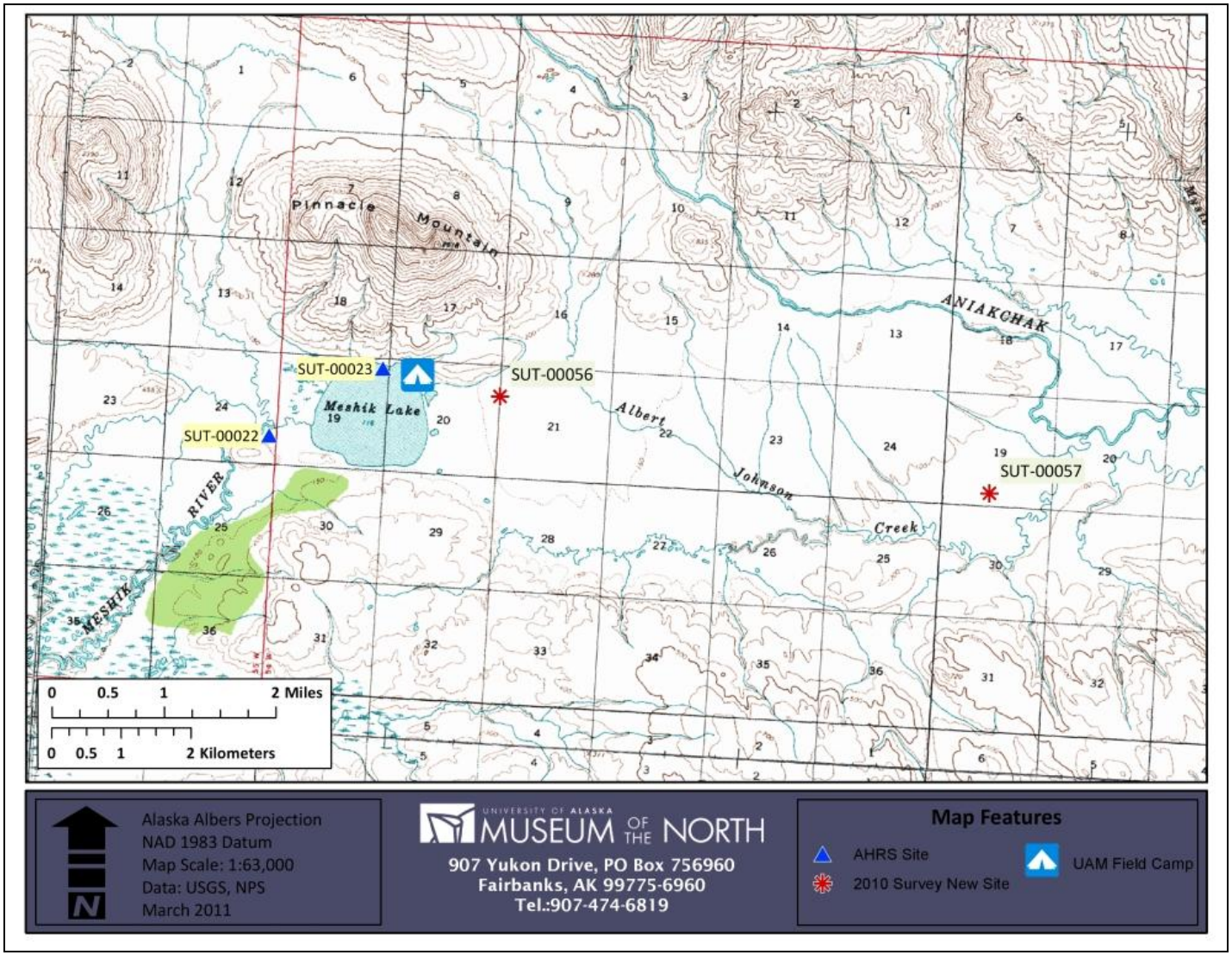


Figure 72: Map showing Meshik Lake field camp and AHRS sites

Figure 73: Field camp on northeast shore of Meshik Lake

On June 17th Barton, Chisholm, Reid, and Shirar (Carter remained in camp) conducted pedestrian survey east of our camp at Meshik Lake in the Albert Johnson Creek drainage (Figure 74). This area is characterized by large cinder blows with excellent surface visibility. The entire day was spent hiking and conducting surface survey in these blowouts (Figures 75 and 76). We only found a single site on the 17th (SUT-00056) despite surveying approximately 14km with excellent surface visibility.

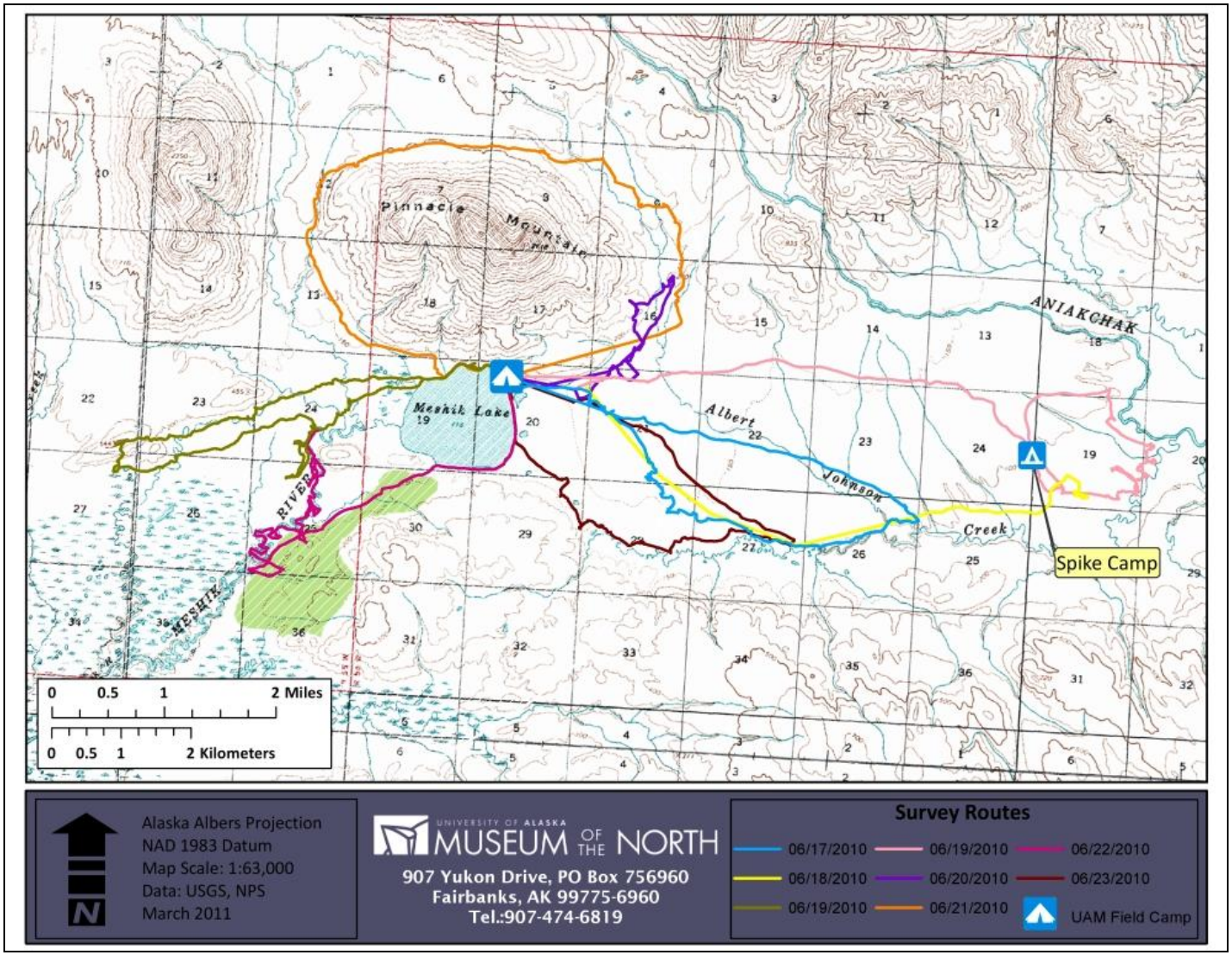


Figure 74: Map showing all of the crews' survey routes while stationed at Meshik Lake field camp

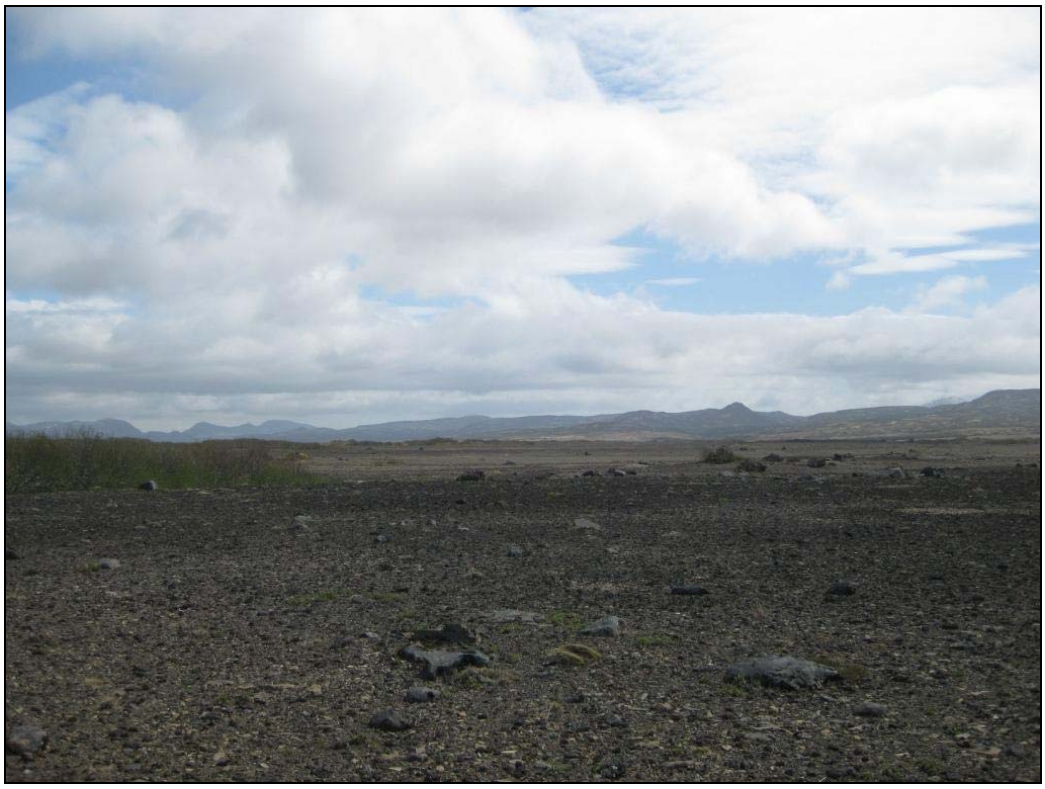

Figure 75: Expansive surface exposure in the Albert Johnson Creek drainage near Meshik Lake

Figure 76: Cinder blow exposure in Albert Johnson Creek drainage near Meshik Lake

**SUT-00056** is situated in a large cinder blow between Meshik Lake and the Aniakchak River approximately 2.5km southeast of the peak of Pinnacle Mountain and 1.5km east of Meshik lake (see Figure 72). A single basalt flake was found in surface exposures eroding out of a small island of soil and vegetation in the center of the cinder blow (Figures 77 and 78). The "island" located here is roughly circular and 6m in diameter. A rock ring is located along the eastern edge of this blowout and a tested basalt cobble (or cobble tool) and a lichen covered caribou shed were found associated with this rock ring. The site setting here is generally low and flat and does not offer significant views in any direction except to the edges of the cinder blow. Stability at this site is extremely poor and depositional integrity is very low, primarily due to wind erosion.

Figure 77: SUT-00056, "island" where basalt flake was found (facing west)

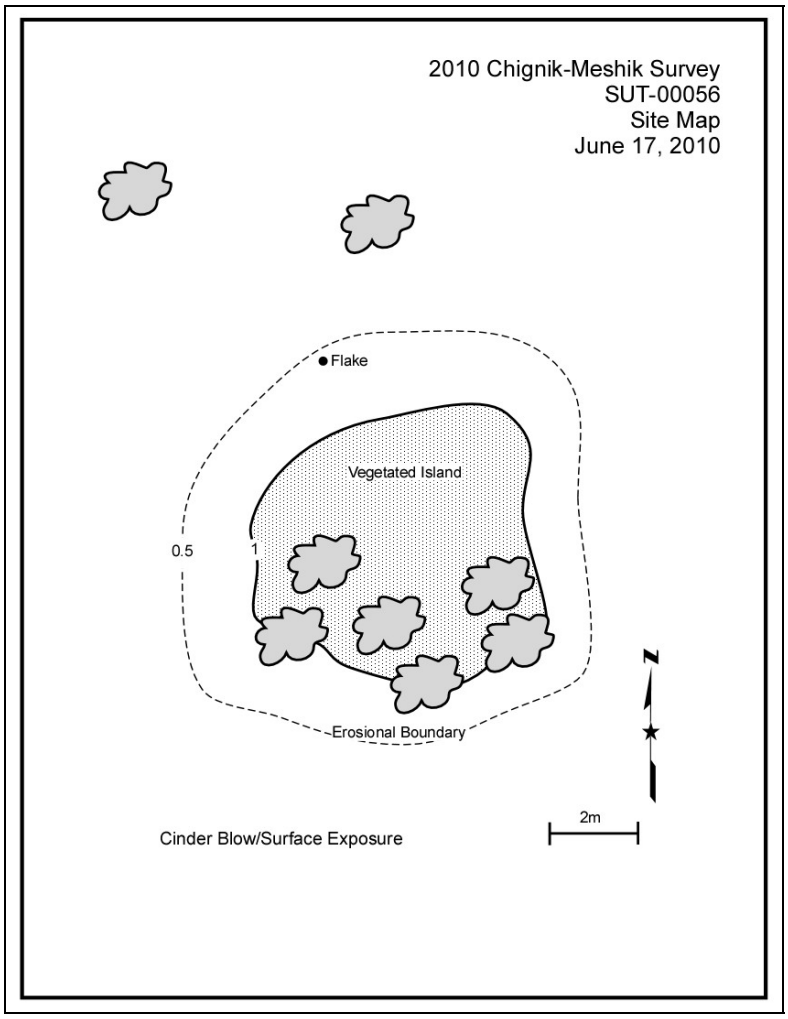


Figure 78: SUT-00056, Site Map

Approximately 11 rock piles were noted in this blowout as a part of SUT-00056 (Figures 79—82). These are assumed to be cultural since similar rock piles do not occur in any of the other numerous blow outs in the Albert Johnson Creek drainage. These rock piles are covered in moss and lichen and are surrounded by stable low-lying vegetation. The function of these piles is unknown but they appear quite old and could be prehistoric. The flake represented in Figure 78 is the same artifact represented in Figure 79.

A shovel test pit was excavated along the northern edge of the island, above where the basalt flake was found on the surface. From the ground surface down to 55cmbs the soil was homogenous dark brown silt dense with small gravel and pumice. Below 55cmbs the stratigraphy dramatically changed to dark brown pumice which continued until 70cmbs upon which the test pit was terminated. No cultural material was recovered from this shovel test and a soil profile map was not drawn.

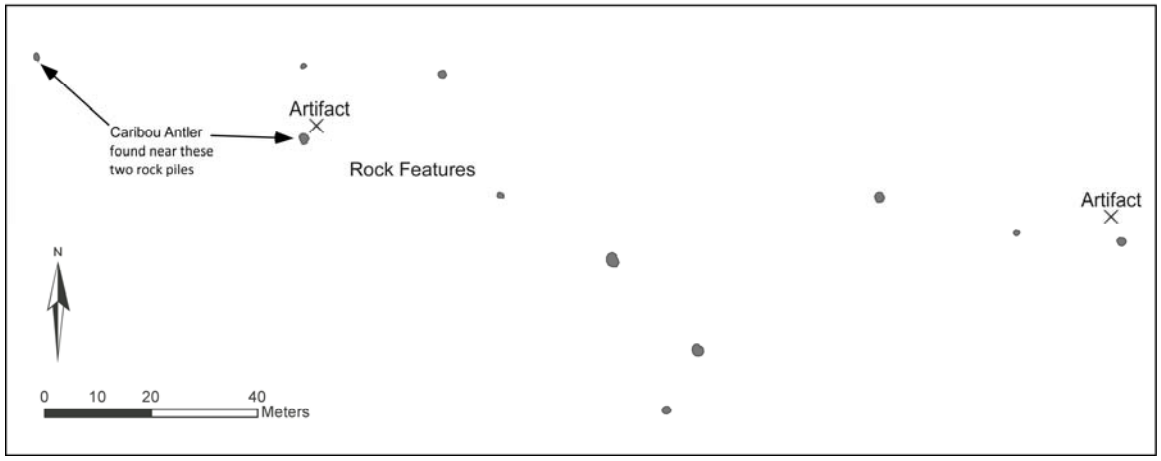


Figure 79: Map showing the 11 rock piles and the basalt artifacts found at SUT-00056

Figure 80: Typical rock pile recorded near SUT-00056

Figure 81: Typical rock pile recorded near SUT-00056

Figure 82: Typical rock pile recorded near SUT-0056

On June 18th Chisholm and Shirar headed east on foot from the main camp at Meshik Lake to set up a one night spike camp near the confluence of Albert Johnson Creek and the Aniakchak River (see Figure 74). The spike camp was necessary because this area is too far (~10km one way) to thoroughly survey in a single day from Meshik Lake. The area around this confluence was important to survey this year because we had information from Chuck Lindsay, our helicopter manager at Chignik Lake, about an unrecorded site located in the area (Barton et al. 2009:3-4). Lindsay provided GPS coordinates for this surface site, so Chisholm and Shirar headed straight for these coordinates and easily relocated and formally recorded this site (SUT-00057).

**SUT-00057** is located in a large 250m x 50m cinder blow near the confluence of Albert Johnson Creek and the Aniakchak River (see Figures 72 and 83). The terrain immediately surrounding the site is flat and there is nothing unique about this location as compared to other locales in the Albert Johnson Creek drainage. A small east-west trending creek runs about 70m north of here. This site is wind swept and there is very little deposition with approximately 99 percent surface visibility. There are grasses, wild flowers, moss, and lichen growing in the few small patches where soil is present.

Figure 83: SUT-00057, overview of eastern cluster

Artifacts at this site are present in three distinct clusters which have been labeled as east, center, and west (Figure 84). The western "cluster" at this site consists of a single flake tool made from brownish-red chert. The central cluster includes eight total artifacts spread over a ~15m in diameter area. Artifacts in this cluster include a large gray chert biface (Figure 85), a multicolor chalcedony biface (Figure 86), and flakes made of red chert (possibly jasper), white chert, orange-brown chert, and white chalcedony. The eastern cluster is the largest in terms of area at ~30m in diameter, and is comprised solely of flakes. There are two distinct concentrations of flakes within this cluster, with a light scattering of flakes in between and around the two concentrations (see Figure 84). Material types in the eastern cluster include white chert, orange-brown chert, and white chalcedony. A few white chert and white chalcedony flakes and a gray basalt projectile point (Figure 87) are scattered between the center and eastern clusters.

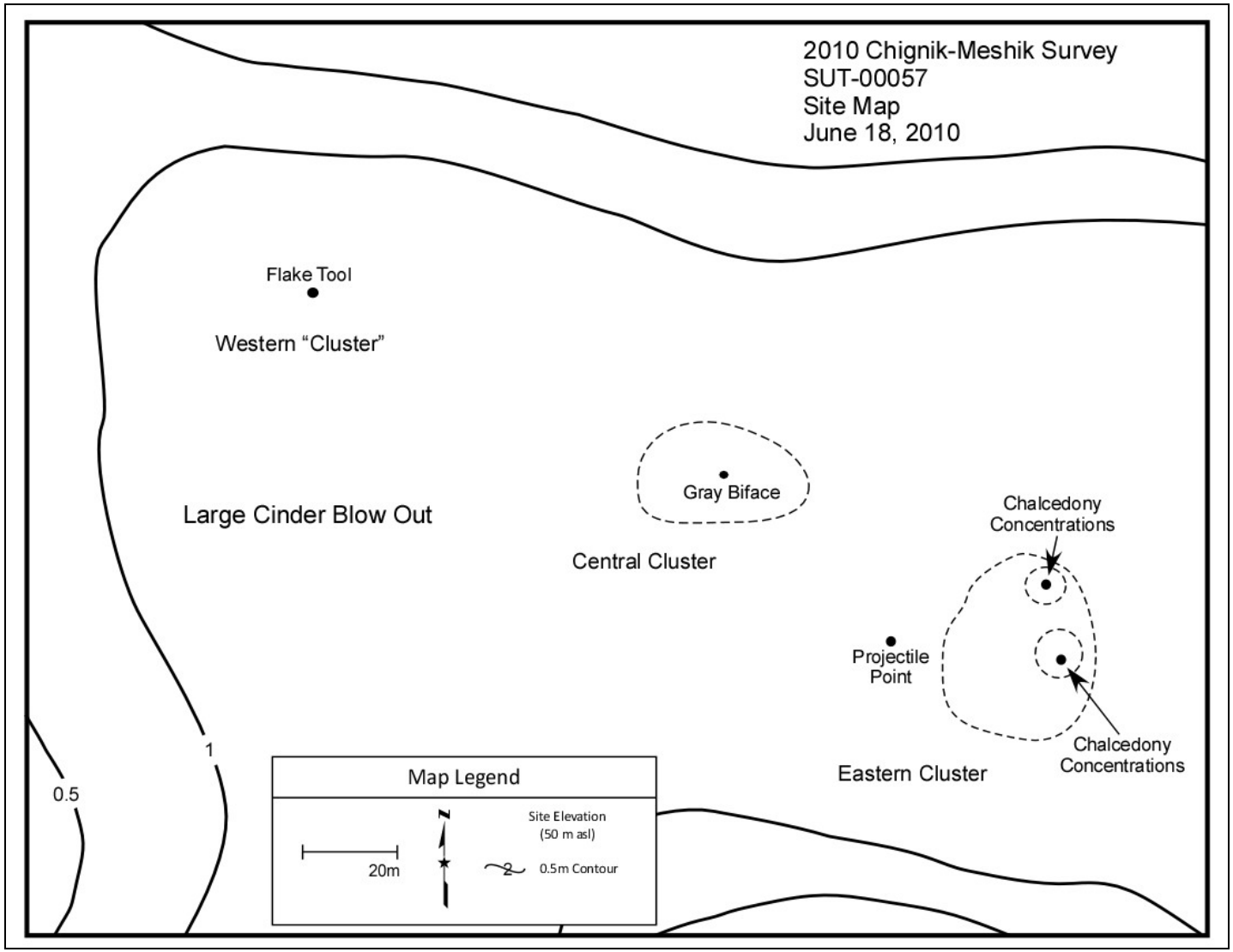


Figure 84: SUT-00057 Site Map


Figure 85: Gray chert biface recovered from the surface at SUT-00057

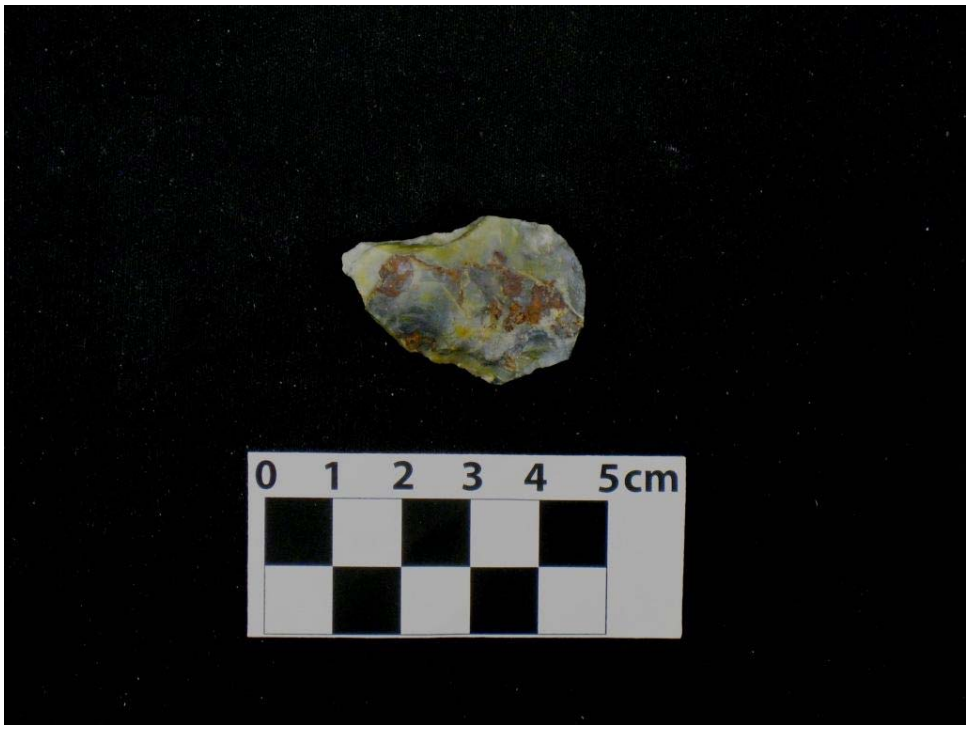


Figure 86: Multi-colored chalcedony biface recovered from the surface at SUT-00057


Figure 87: Basalt projectile point collected from the surface at SUT-00057

Due to the lack of soil deposition here no subsurface testing took place. The site was mapped and Garmin waypoints were collected for the two chalcedony flake concentrations in the eastern cluster, the gray basalt projectile point, the large gray chert biface, and the reddish-brown flake tool. A sample was collected for each material type present as were the two bifaces, the projectile point, and the flake tool. Samples of flakes from each concentration in the eastern cluster were also collected. Altogether 26 flakes, two bifaces, one projectile point, and one flake tool were collected from this site.

**SUT-00022**, a prehistoric village site located at the confluence of the Meshik River and the outlet stream that drains Meshik Lake (see Figure 72), was visited by Barton, Reid, and Carter on June 18th. This site was recorded and tested during surveys conducted during the late 1990s (VanderHoek and Myron 2004:119-121). The site consists of a total of 26 cultural depressions situated in two distinct clusters (Figures 88 and 89). Three of these features were tested when the site was originally recorded and radiocarbon dates resulting from these excavations indicate this village was occupied about 1200 years ago (VaderHoek and Myron 2004:121). The goals for visiting the site in 2010 were to complete a condition assessment, remap the site with a Trimble GPS unit, and to test one of the untested features at the site.

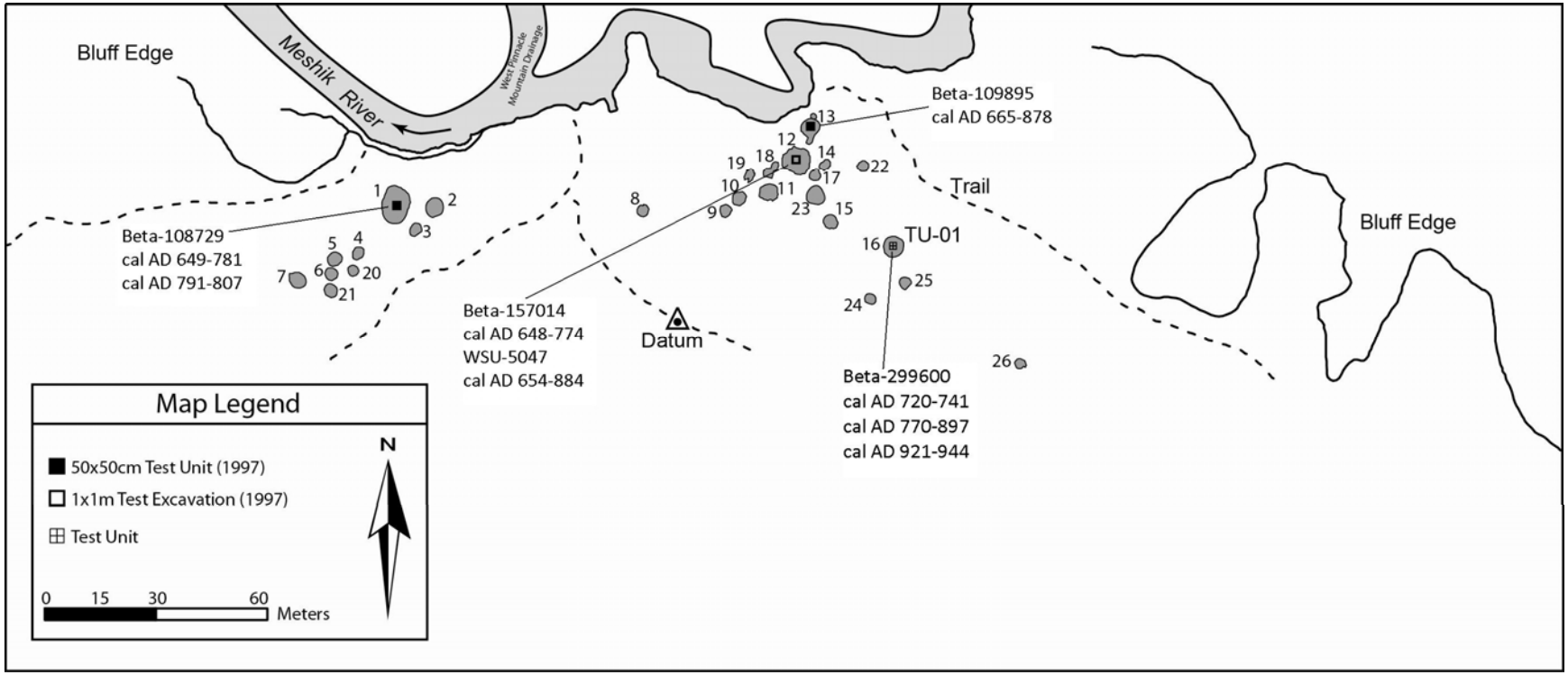


Figure 88: SUT-00022, Site Map combining 2010 Trimble data and original map from VanderHoek and Myron (2004:121)

(*dates for features 1, 12, and 13 taken from VanderHoek and Myron 2004:257)

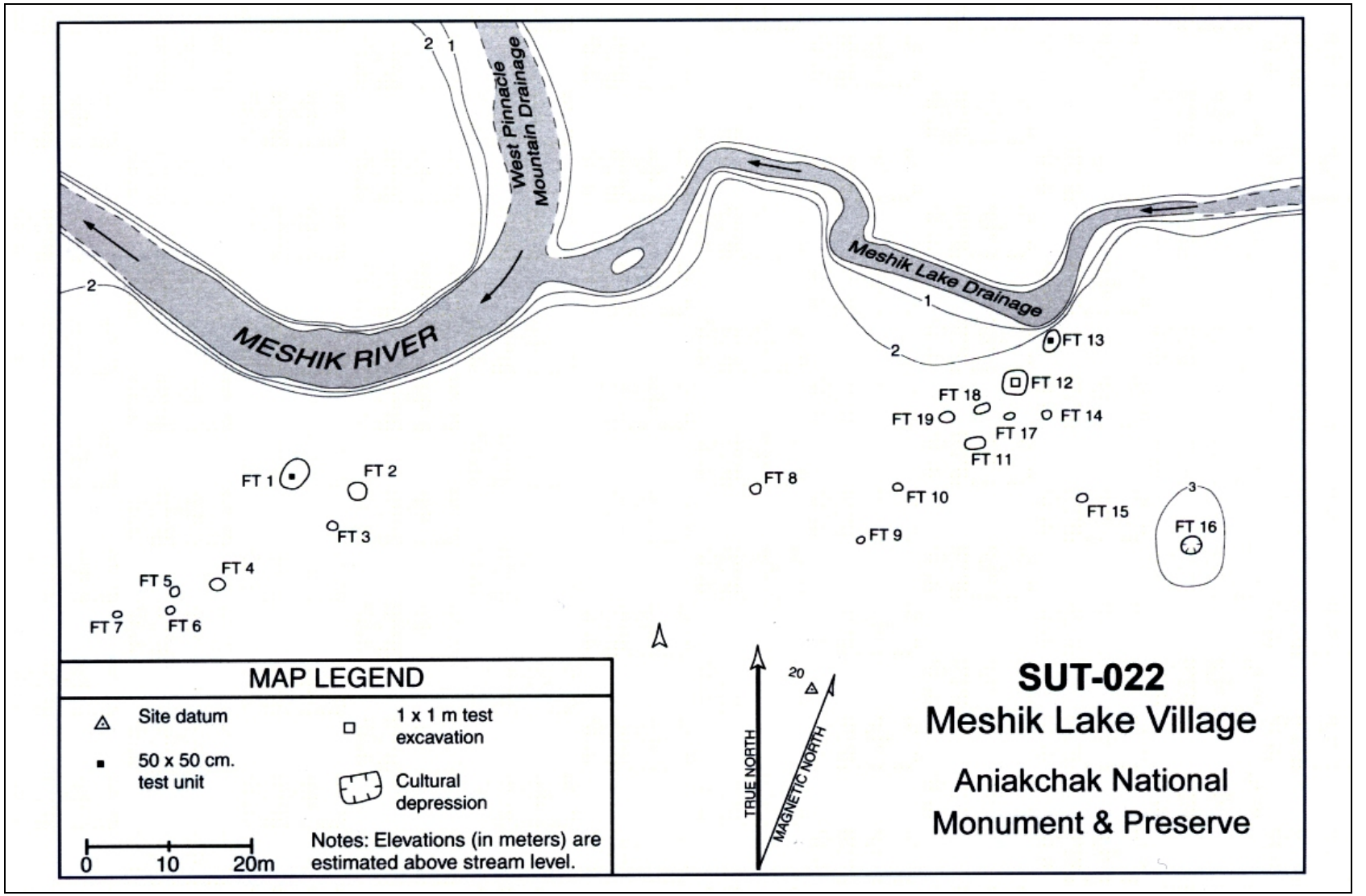


Figure 89: SUT-00022, Site map from VanderHoek and Myron 2004:121 (Figure 5-47)

In terms of condition, little seems to have changed at this site since it was originally recorded and no significant impacts have affected this site. A single test unit (TU-01) was excavated at SUT-00022 on June 18th and was placed in the center of Feature #16 which is located on the southeast edge of the site on a small knoll that rises approximately 1m above the surrounding terrain (see Figures 85 and 86). TU-01 was positive for cultural material and contained a total of 77 basalt and chert flakes and a single basalt biface which were all recovered between 70 and 90cmbs. Three flakes and the basalt biface were found in the 70-80cmbs level and 74 flakes were found in the 80-90cmbs level. Six charcoal samples were collected from TU-01. One of these samples was collected at 55cmbs and the other five were all collected between 73 and 90cmbs. All of these samples are associated with cultural material recovered from this test unit.

The charcoal sample collected at 90cmbs is associated with a charcoal rich hearth that covered the entire floor of TU-01. Rather than excavate through this feature, the test unit was terminated at this depth so that the hearth can be excavated in its entirety during future excavations. Among the six charcoal samples are pieces of willow (*Salix*), cottonwood (*Populus*), alder (*Alnus*), birch (*Betula*), unidentified hardwood, and unidentified wood. The sample collected from 90cmbs was an unidentified hardwood and was radiocarbon dated to roughly 1200 years ago, which is consistent with the previous dating of the site (see Figures 88, 90, and 91). Soil profiles were drawn for both the north and east walls of TU-01 and both show several tephras overlying the cultural level in this feature (Figures 90 and 91).

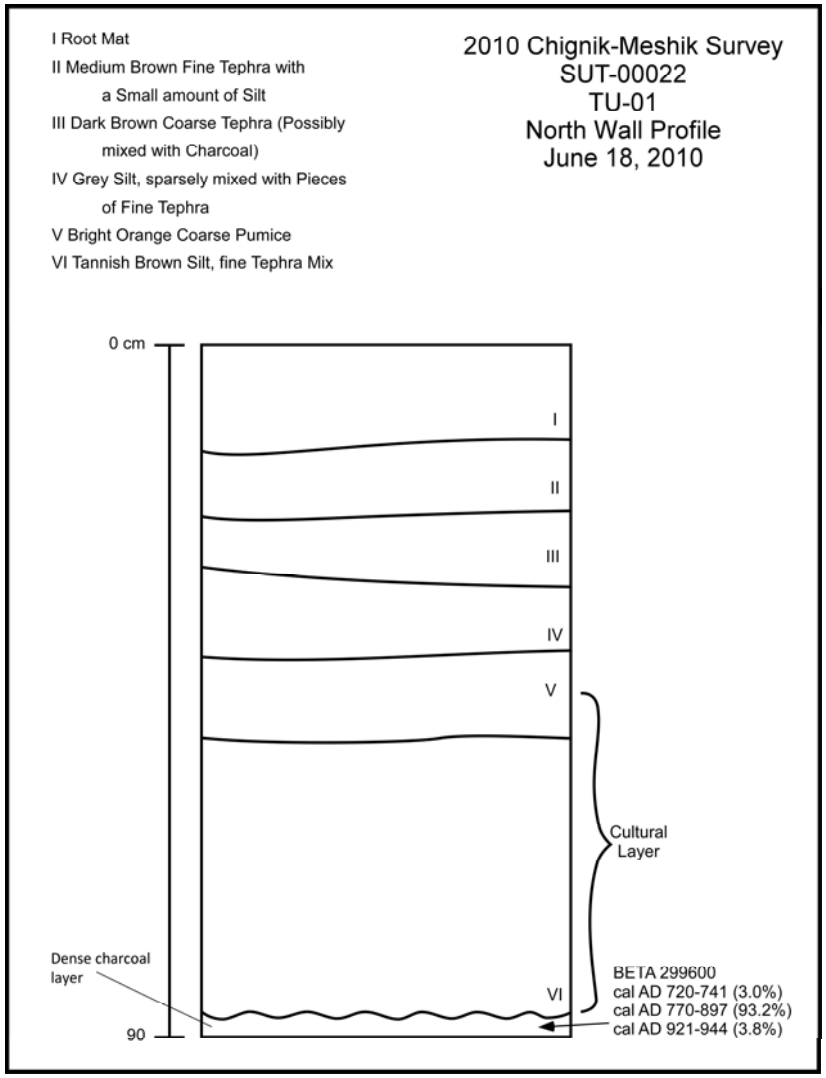


Figure 90: SUT-00022, TU-01, North Wall Soil Profile

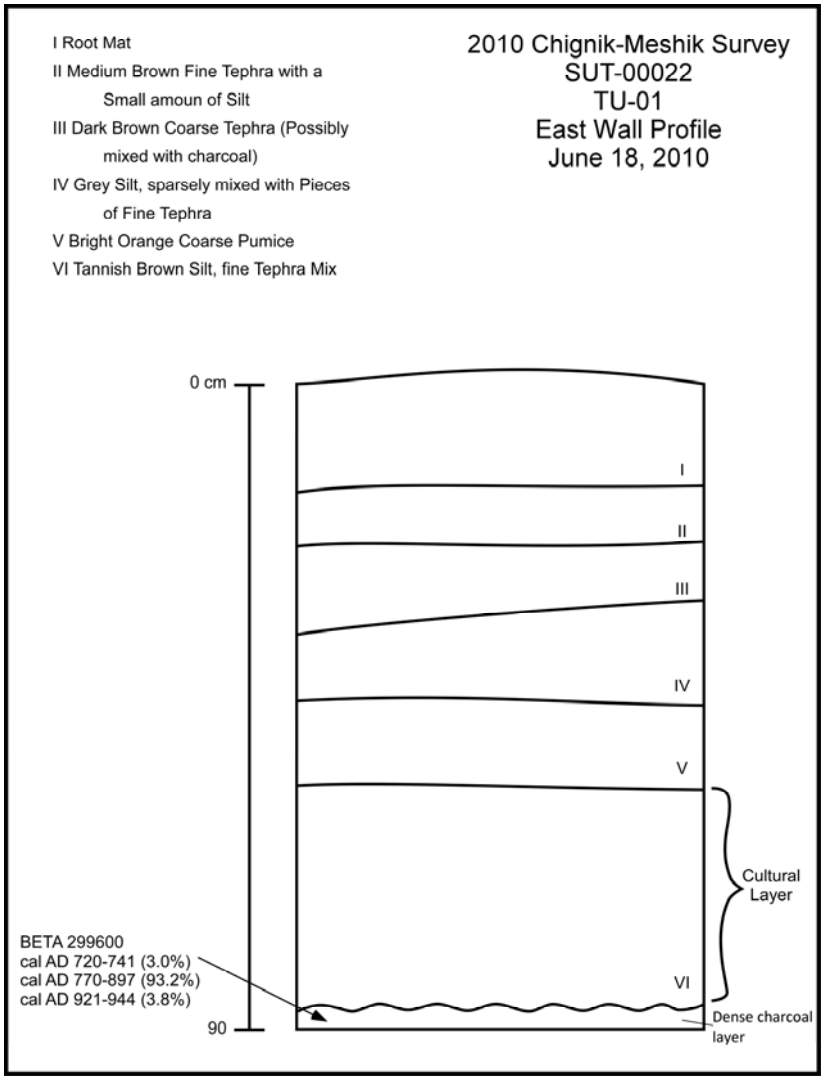


Figure 91: SUT-00022, TU-01, East Wall Soil Profile

On June 19th, based out of the spike camp, Chisholm and Shirar spent the better part of the day surveying around Albert Johnson Creek and the Aniakchak River (see Figure 74). This area around the creek and river confluence offers high terraces, knolls, and dune-like landforms with many surface exposures. A lot of time was spent surveying these exposures but no new sites were located. Along the Aniakchak River, just upstream from the confluence with Albert Johnson Creek, there are cutbanks at least 10m high that would be difficult to map but would provide significant information about the history of volcanic eruption in the region.

The spike camp was broke down during the afternoon and Chisholm and Shirar spent the late afternoon and early evening hiking back to the main camp at Meshik Lake. A more northerly route was taken back to camp in order to survey new ground (see Figure 74). This portion of the valley is more vegetated than in other areas, but several exposures were still encountered although no new sites were located. A large cinder blow was encountered approximately 2km east of Meshik Lake (N56.79873 W-157.88947, WGS 84) where a scatter of modern debris was found which includes a gas can, milled lumber, broken glass, and saw cut moose antlers (Figure 92, 93, and 94).

Figure 92: Gas can found at a modern hunting camp near Meshik Lake

Figure 93: Scatter of broken glass found at a modern hunting camp near Meshik Lake

Figure 94: Moose skull and cut antler found at a modern hunting camp near Meshik Lake

Barton, Reid, and Carter spent June 19th surveying areas to the west of Meshik Lake and west of the Meshik River (see Figure 74). This crew encountered several surface exposures during the day but did not find any sites on the 19th. Several areas were marked with the Trimble GPS as spots that would be good to return to and conduct subsurface testing. No shovel test pits were excavated by either crew on the 19th.

On June 20th survey was again split between two crews. Shirar, Reid, and Carter surveyed around the south and east sides of Pinnacle Mountain near the headwaters of Albert Johnson Creek (see Figure 74). Several blowouts and surface exposures were surveyed and a total of 11 informal shovel test pits were excavated (see Appendix 3). No cultural sites were found.

The second crew (Barton and Chisholm) spent June 20th testing four different spots on the north side of the Meshik River drainage. Four shovel tests were excavated, each at a different location, in order to look for cultural remains (see Appendix 3). These four tests were placed on lower terraces near the north side of Meshik Lake and the Meshik River but not new sites were located.

**SUT-00023** was visited by Barton and Chisholm on June 20th in order to conduct a condition assessment and to map the site using the Trimble GPS unit. SUT-00023 is an historic site located just off the north shore of Meshik Lake not far from our field camp (see Figure 72). This historic site was first recorded in the late 1990s and likely relates to trapping activities in the area during the 1920s and 1930s, and could be cabins used by Alec Brandal Sr., George "Bobbin" Anderson, Clemens Grunert, and Julius Anderson (VanderHoek and Myron 2004:120-123). No impacts have affected this site since it was first recorded and the site is in good condition. No testing was conducted at this site and no collections were made during 2010.

During June 21st the crew did not split up into two groups and everyone generally stayed together. We headed east out of camp to pick up surveying and testing where Shirar, Carter, and Reid left off on the 20th (see Figure 74). We excavated six shovel tests at two different locations in the headwaters area of Albert Johnson Creek (see Appendix 3). All six of these shovel tests were negative for cultural material. Several surface exposures in the headwaters area were also investigated for cultural material but no sites were found.

We decided to cross over the low pass at the head of the Albert Johnson Creek valley. This pass is north of Pinnacle Mountain and eventually drops down into the upper Meshik River valley. We conducted surface survey at several exposures through this pass but we did not

excavate any more shovel test pits. Our survey continued around Pinnacle Mountain and we arrived back at our camp approaching from the west. Our survey for the 20th took us all the way around the mountain but we found no sites despite many surface exposures and several promising landforms (see Figure 74).

On June 22nd we again split up into two separate crews. Barton and Shirar took the pack rafts and crossed Meshik Lake to the outlet and then floated out to the Meshik River. Once on the main stem of the river they continued floating for approximately 4.6km and surveyed three separate terraces looking for sites but found nothing. There are no obvious landforms to test after you float 4-5km downriver from Meshik Lake because the valley really gets flat and widens out dramatically (see Figure 74).

Chisholm, Carter, and Reid spent the 22nd surveying on foot to the southwest of Meshik Lake investigating some of the higher landforms situated between the lake and the Meshik River (see Figure 74). This area is well vegetated compared to other spots that have been visited in this area and very few surface exposures were encountered. A total of six shovel test pits were excavated on elevated landforms but no cultural material was found (see Appendix 3). Neither crew found a site on the 22nd.

On June 23rd the entire crew worked together surveying south and east of our field camp between Meshik Lake and Albert Johnson Creek (see Figure 74). We excavated two shovel tests on landforms that provided good views of the valley to the north, but we did not find any sites (see Appendix 3). We also investigated several large cinder blows that had not been visited yet. We did not find any sites but did encounter an historic/modern scatter of debris in a large surface exposure on the south side of the valley (N56.77586 W-157.88625, WGS 84). Items found on the surface here include a metal bracket, cut alder or willow, milled lumber, and nails. There are no artifacts present that date this scatter which is sparse and in a surficial context. This scatter was not recorded as a site and no other new sites were found on the 23rd.

**CHK-00113**, originally found during fixed-wing aerial reconnaissance on June 8th, is located on the southern terminus of the foothills extending south from Aniakchak Peak 17km south-southwest overlooking the Meshik River valley (Figure 95). Since this site was recognized and recorded from the air, it has not yet been visited on the ground. Aerial photographs of the site show there are 40+ circular depressions which likely represent a mixture of house and storage features (Figure 96). CHK-00058 and CHK-00059, sites recorded during surveys in the late 1990s, are located nearby (VanderHoek and Myron 2004:116-119).

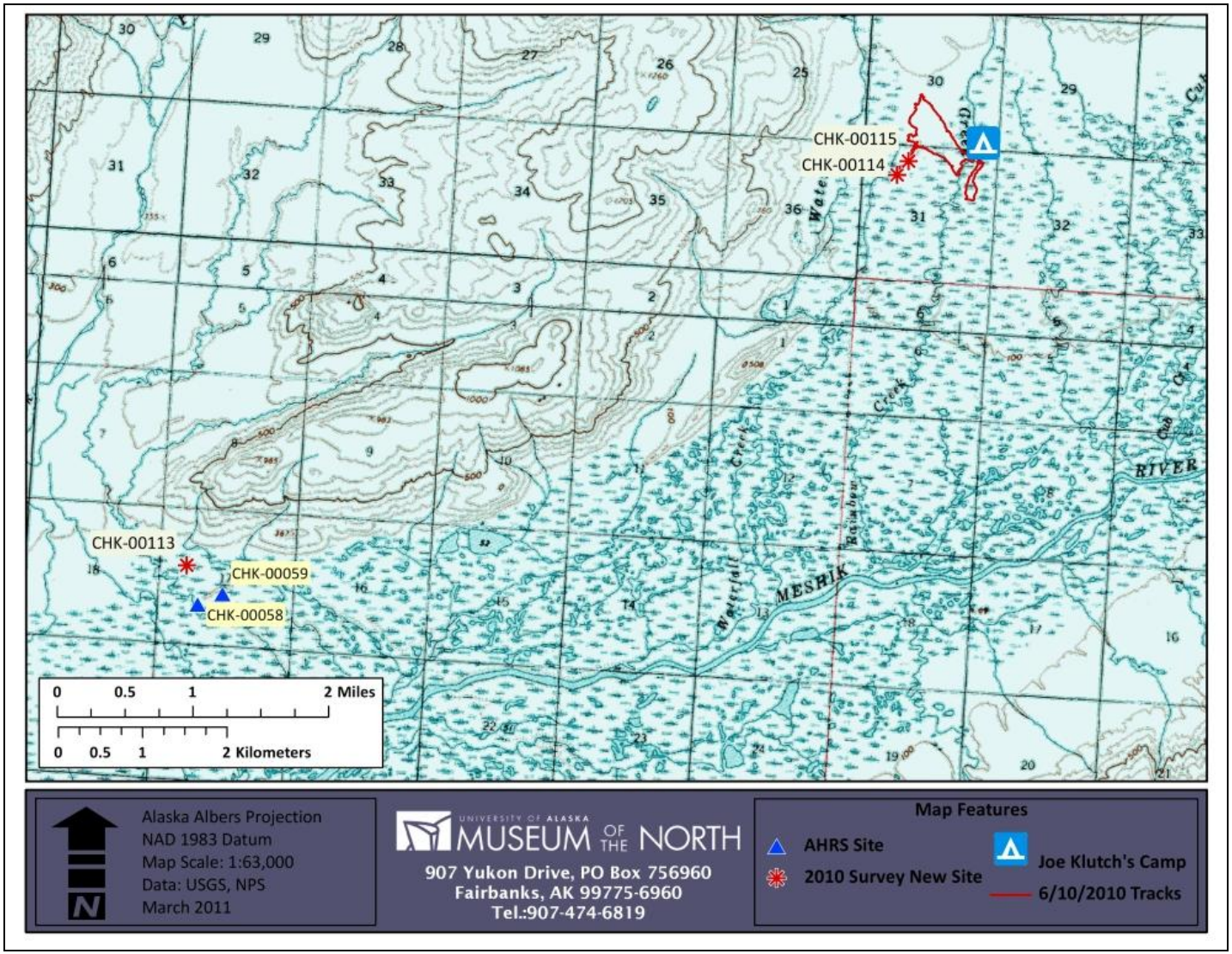


Figure 95: Map showing the middle Meshik River valley with AHRS sites

Figure 96: Aerial photograph with CHK-00113 circled in red

**CHK-00114** was recorded on June 9th by Rasic, Shirar, and Reid when they were dropped off at a landing strip at Joe Klutsch's remote camp near Rainbow Creek to conduct pedestrian survey in the area. This site is located on a knoll at the southern extent of a north-south trending ridge situated between Waterfall and Rainbow Creeks in Aniakchak National Monument and Preserve (Figures 95 and 97). CHK-00114 lies approximately 60m east of Waterfall Creek and 980m west of Rainbow Creek and this location offers a commanding view of the Meshik River valley in all directions except to the north. Wind erosion has greatly impacted this site and surface visibility is 95 percent. Vegetation on this landform is sparse, but what is present consists primarily of alder, grass, and moss/lichen. One basalt flake, one basalt biface (Figure 98), and one basalt tested cobble (Figure 99) were found within surface exposures on the southern portion of this knob (Figure 100). These artifacts were mapped and photographed but not collected.

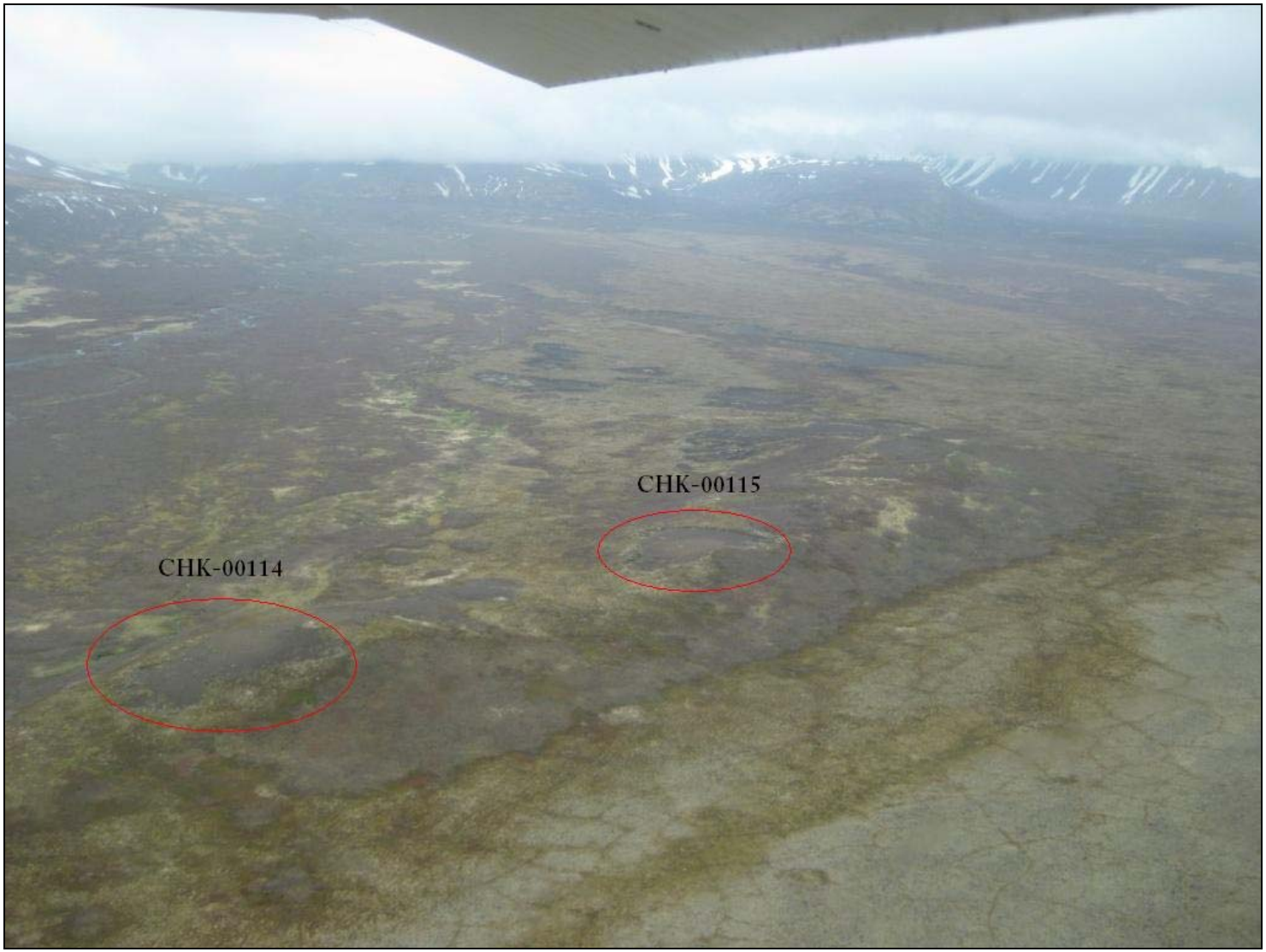


Figure 97: Aerial photograph with CHK-00114 and CHK-00115 circled in red


Figure 98: CHK-00114, basalt biface found on the surface


Figure 99: CHK-00114, basalt tested cobble found on the surface

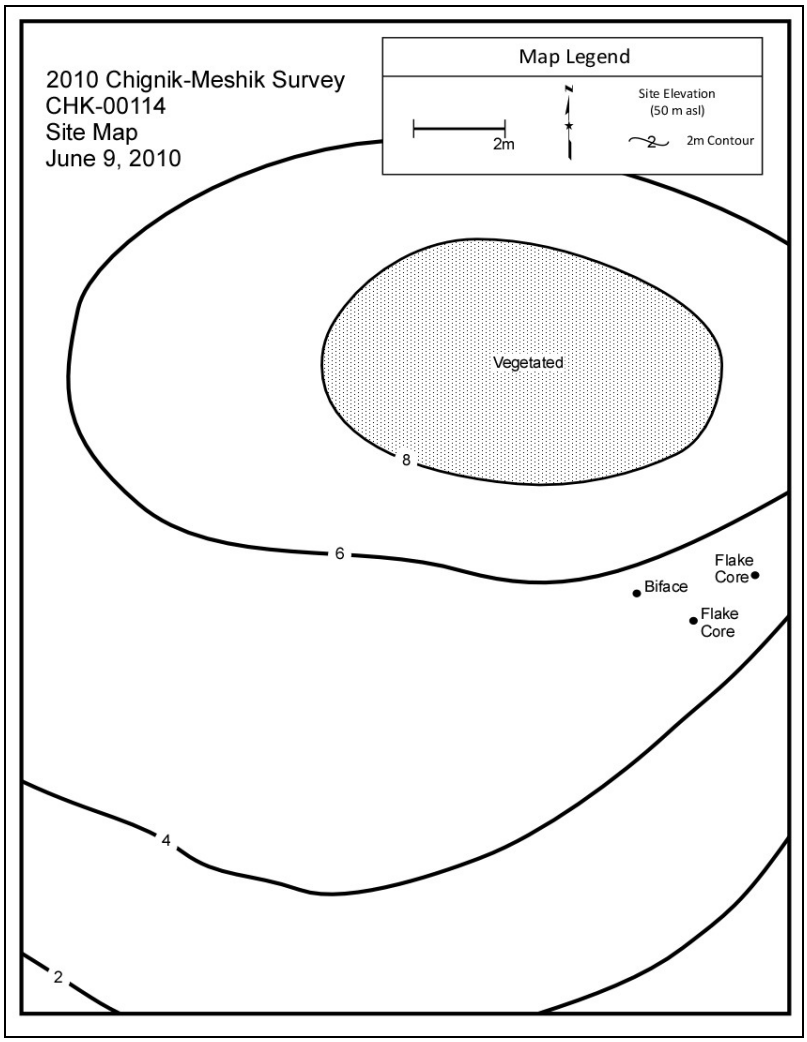


Figure 100: CHK-00114, Site Map

**CHK-00115** was also found during pedestrian survey conducted by Rasic, Shirar, and Reid on June 9th. This site is situated on the middle portion of a north-south trending moraine situated between Rainbow and Waterfall Creeks which is the same landform CHK-00114 is located on (see Figures 95 and 97). This is a relatively low landform which only rises approximately 20m above the surrounding terrain. Joe Klutsch's camp can be seen to the east of here and there are good views of the Meshik River valley in all directions. This landform has several large cinder blows and surface exposures, and artifacts were found along the eastern edge of the largest of these blowouts. Five basalt flakes were found on the surface in two different small scatters labeled as "A" and "B" (Figures 101 and 102). These flakes were mapped, photographed, and left in place in the field. Due to wind erosion, roughly 90 percent of the surface is visible in the immediate area which means there is very poor soil stability.

Figure 101: CHK-00115, three basalt flakes found on the surface

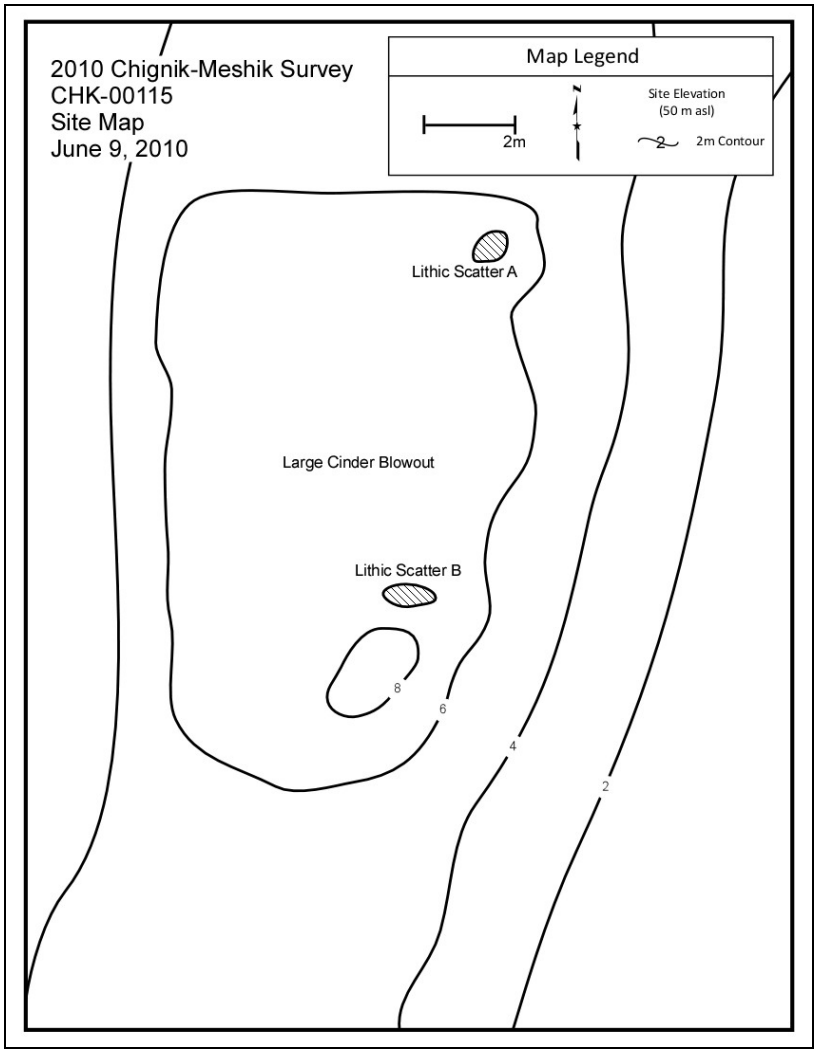


Figure 102: CHK-00115, Site Map

## Summary and Discussion

In total, 16 new sites were documented during survey in the Chignik-Meshik Rivers region during the 2010 field season (Table 1) (Appendix 5). Eleven of these sites are villages that consist of cultural depressions buried by vegetation, yet still visible on the surface. The other five sites are surface lithic scatters located on extremely deflated landforms. All of these sites are prehistoric in nature but two did exhibit historic components (CHK-00108 and CHK-00110). Only 10 of these sites were visited on the ground. The remaining six sites were recorded from the air (with as much detail as possible) but were not visited on the ground due to time constraints. Of the 10 new sites that were visited, collections were made from eight.

Four previously recorded sites were also visited during the 2010 field season (Table 2). Three of these sites are prehistoric and consist of villages with buried cultural depressions still visible on the surface. The fourth site (SUT-00023) is a cluster of historic-aged features that likely represent a trapping base camp from the early to mid-20$^{th}$ century (VanderHoek and Myron 2004:120-123). Collections were made from the three prehistoric village sites but nothing was collected from the historic trapping camp. Altogether, 14 sites were visited on the ground and collections were made at eleven of these during the 2010 field season (see Tables 1 and 2). A catalog listing all of the 2010 collections is presented below in Appendix 1.

Twenty-seven 50x50cm square test units were excavated and a total of twenty-two different features from eight different village sites were tested during the 2010 field season. The types of features tested can be divided into five different categories: multi-room style houses (see Figures 63 and 103), “keyhole” style house (see Figures 63 and 103), single-room houses, historic houses, and cache pits. Altogether, nine single-room houses, five multi-room houses, four “keyhole” style houses, two cache pits, and one single-room historic house were tested. Artifacts were found and collected from nineteen of these features and charcoal was found and collected from fifteen (Table 3).

From the fifteen features where wood and/or charcoal was present, sixty-two samples were collected. A sixty-third sample was collected from an eroded exposure at CHK-00111. All sixty-three of these samples were submitted to Dave Tennessen for analysis and identification and the results of this analysis are presented in Appendix 2. The sixty-three samples were broken down into 112 identifiable fractions which included: alder (*Alnus*), birch (*Betula*), willow (*Salix*), cottonwood (*Populus*), spruce (*Picea*), unidentified hardwood, unidentified softwood, and unidentified wood (see Appendix 2).

Table 1: List of new sites recorded during 2010 field season

| AHRS # | Site Name | Location | Latitude | Longitude | GPS Datum | Description |
|---|---|---|---|---|---|---|
| CHK-00103 | D | Upper Chignik River | removed | removed | WGS 84 | House depressions |
| CHK-00104 | D3 | Broad Creek | removed | removed | WGS 84 | House depressions |
| CHK-00105* | D5 or R061110A | Upper Chignik River | removed | removed | WGS 84 | House depressions |
| CHK-00106 | Dep | Upper Chignik River | removed | removed | WGS 84 | House depressions |
| CHK-00107 | Depb | Bearskin Creek | removed | removed | WGS 84 | House depressions |
| CHK-00108* | BL-01 | Black Lake | removed | removed | WGS 84 | House depressions |
| CHK-00109* | BL-02 | Black Lake | removed | removed | WGS 84 | House depressions |
| CHK-00110* | BL-03 | Black Lake | removed | removed | WGS 84 | House depressions, prehistoric and historic |
| CHK-00111* | BLVD-01 | Boulevard Creek | removed | removed | WGS 84 | House depressions |
| CHK-00112* | 10JR01 | Charles Creek | removed | removed | WGS 84 | Lithic scatter |
| CHK-00113 | D6 | Meshik River Valley | removed | removed | WGS 84 | House depressions |
| CHK-00114 | 10DR01 | Meshik River Valley | removed | removed | WGS 84 | Lithic scatter |
| CHK-00115 | 10SS01 | Meshik River Valley | removed | removed | WGS 84 | Lithic scatter |
| CHK-00116 | UC Depressions | Upper Chignik River | removed | removed | WGS 84 | House depressions |
| SUT-00056* | 10SS02 | Meshik Lake | removed | removed | WGS 84 | Lithic scatter |
| SUT-00057* | AJC-01 | Albert Johnson Creek | removed | removed | WGS 84 | Lithic scatter |

* denotes that collections were made during 2010

Table 2: List of previously recorded sites that were visited and/or tested during 2010 field season

| AHRS # | Site Name | Location | Latitude | Longitude | GPS Datum | Description |
|---|---|---|---|---|---|---|
| CHK-00005* | None | Chignik Lake | removed | removed | WGS 84 | House depressions |
| CHK-00014* | None | Chignik Lake | removed | removed | WGS 84 | House depressions |
| SUT-00022* | Meshik Lake Village | Meshik Lake | removed | removed | WGS 84 | House depressions |
| SUT-00023 | None | Meshik Lake | removed | removed | WGS 84 | Historic features |

* denotes that collections were made during 2010

Table 3: List of village sites and features tested and if artifacts and charcoal were found in each

| **CHK-00005** | | | | |
|---|---|---|---|---|
| Test Unit | Feature Type | Feature # | Artifacts | Charcoal |
| TU-01 | Single room house | LC01A | Yes | Yes (n=17) |
| TU-02 | Single room house | LC05A | Yes | Yes (n=3) |
| **CHK-00014** | | | | |
| Test Unit | Feature Type | Feature # | Artifacts | Charcoal |
| TU-01 | Single room house | 1 | Yes | Yes (n=2) |
| TU-02 | Single room house | 6 | Yes | Yes (n=1) |
| **CHK-00111** | | | | |
| Test Unit | Feature Type | Feature # | Artifacts | Charcoal |
| TU-01 | Keyhole house | 12 | Yes | No |
| TU-02 | Multi-room house | 4 | No | Yes (n=4) |
| **CHK-00105** | | | | |
| Test Unit | Feature Type | Feature # | Artifacts | Charcoal |
| TU-01 | Single room house | LC10F | Yes | No |
| TU-02 | Single room house | LC10O | Yes | Yes (n=2) |
| TU-03 | Single room house | L10B | Yes | No |
| **CHK-00108** | | | | |
| Test Unit | Feature Type | Feature # | Artifacts | Charcoal |
| TU-01 | Multi-room house | 1 | Yes | Yes (n=4) |
| TU-02 | Keyhole house | 20 | Yes | No |
| TU-03 | Single room house | 17 | Yes | Yes (n=2) |
| TU-04 | Multi-room house | 12 | Yes | Yes (n=2) |
| TU-05 | Midden test | NA | No | No |
| TU-06 | Cache pit | 8 | No | No |
| **CHK-00109** | | | | |
| Test Unit | Feature Type | Feature # | Artifacts | Charcoal |
| TU-01 | Multi-room house | 37 | Yes | Yes (n=6) |
| TU-02 | Keyhole house | 3 | No | Yes (n=1) |
| TU-03 | Multi-room house | 37 | Yes | Yes (n=4) |
| TU-04 | Keyhole house | 3 | No | No |
| TU-05 | Midden Test | NA | No | No |
| **CHK-00110** | | | | |
| Test Unit | Feature Type | Feature # | Artifacts | Charcoal |
| TU-01 | Multi-room house | 23 | Yes | No |
| TU-02 | Keyhole house | 15 | Yes | Yes (n=3) |
| TU-03 | Multi-room house | 23 | Yes | Yes (n=1) |
| TU-04 | Cache Pit | 8 | Yes | Yes (n=1) |
| TU-05 | Keyhole house | 15 | Yes | Yes (n=3) |
| TU-06 | Historic house | 22 | Yes | No |
| **SUT-00022** | | | | |
| Test Unit | Feature Type | Feature # | Artifacts | Charcoal |
| TU-01 | Single room house | 25* | Yes | Yes (n=6) |

* VanderHoek and Myron's FT16 (2004:121)

The five newly recorded village sites that were visited on the ground are all in similar condition in that they appear to be undisturbed and generally intact with no major immediate threats, either natural or manmade. CHK-00111 did exhibit some disturbances due to bear digging on the site but these are not considered as a threat to the site as a whole. There was a scatter of surface artifacts located along the beach below CHK-00108, which could indicate a portion of the site has eroded in the past, but presently no features are being affected by erosion.

The three previously recorded village sites and the historic trapping camp that was revisited during 2010 all appear to be in the same condition as when they were first documented. SUT-00022 and CHK-00014 are both in good condition with no disturbances. When CHK-00005 was first recorded, Dumond (1992:92) noted that artifacts were eroding out of a portion of the bluff edge. A few basalt flakes were seen eroding from a small portion of the bluff edge in 2010, but it appears that most of the erosion at this site has stabilized. The six village sites that were only recorded from the air appear to be in good shape and unaffected by any major disturbances. That being so, these sites should be visited and evaluated on the ground as soon as possible in order to provide a more specific condition assessment.

All eight of the village sites that were visited are buried and intact which means that additional testing would be productive. Most of the features that were tested in 2010 contained either artifacts (86%) or dateable material (68%) indicating that further testing would add to the artifact assemblage(s) available for interpretation, and would also provide material for more dating. No midden deposits were found at any of these eight village sites but only two test pits (TU-05 at CHK-00108 and TU-05 at CHK-00109) were excavated outside of a feature. Future work at village sites in the region should include more testing outside of features to try and locate midden deposits. Somewhat surprisingly, only two small pieces of bone were recovered during testing in 2010, and one of those came from the historic feature at CHK-00110. The assemblage collected in 2010 primarily consists of stone tools, stone debitage, charcoal and wood samples, soil and tephra samples, and a small collection of historic artifacts. A complete catalog for these collections is presented in Appendix 1.

All eight of these village sites are very similar in most ways, but two sites stand out from the other six. The house depressions at CHK-00110 are shaped differently than the houses recorded at all the other village sites (Figure 103). The “keyhole” style structures at CHK-00110 are much more rounded and circular in shape whereas at other sites they are more rectangular.

The multi-room houses at CHK-00110 appear to have two main centralized rooms while at other sites these features only have a single main room.

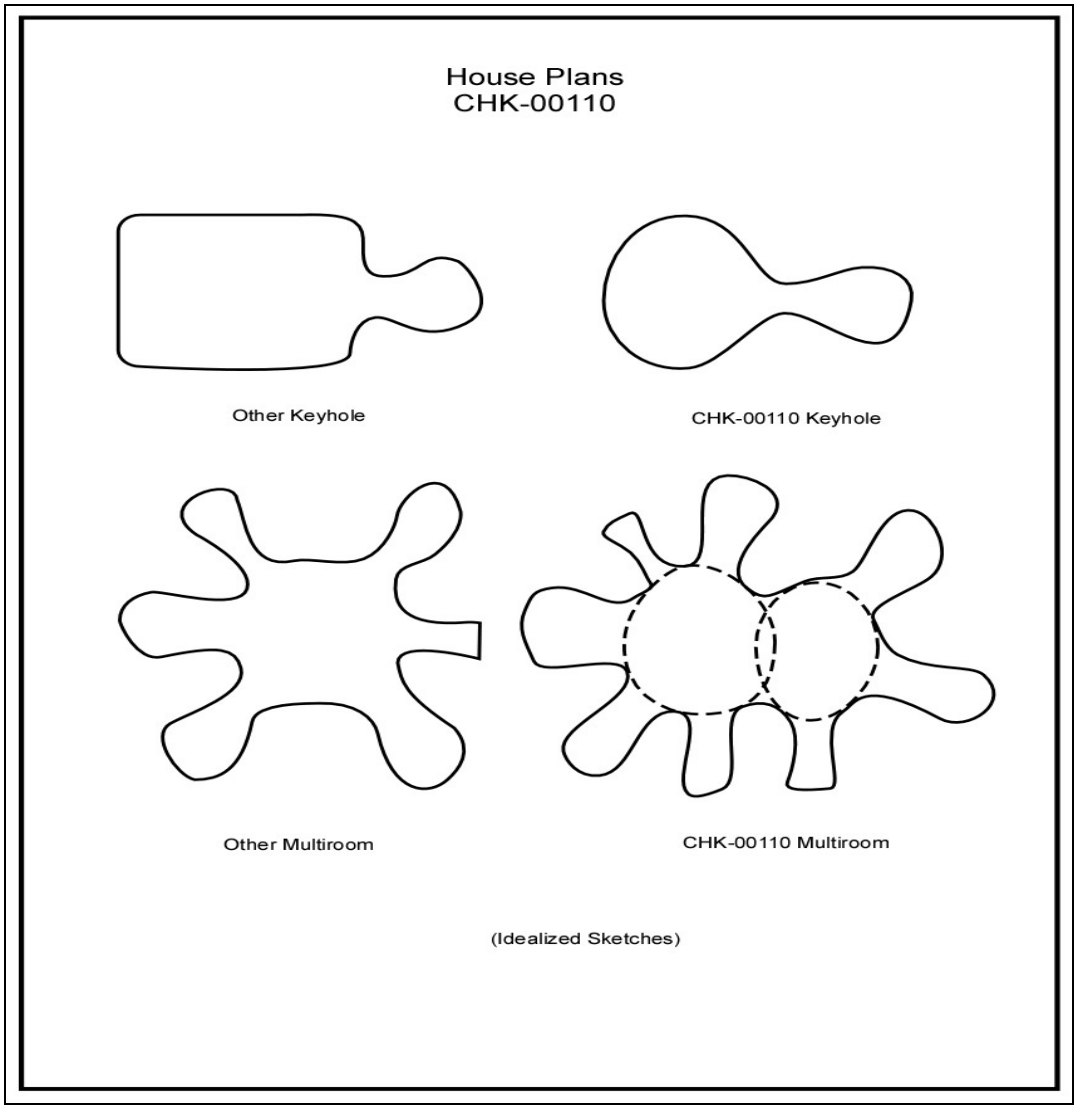


Figure 103: Illustration showing the differences in house depressions

Not enough testing has been conducted to effectively address why the house features at this site appear different on the surface. The houses at CHK-00110 could have been built using a slightly altered technique, but one that still relates to an overall theme or method of construction in the region. On the other hand, the "keyhole" structures here may simply appear more rounded because they collapsed differently after abandonment. The multi-room houses do appear larger, but it could simply be a situation where a second house was built on top of an older house during a period of reoccupation. Until more extensive excavation takes place at CHK-00110, this question will have to remain unanswered.

CHK-00110 is also unique in that the "keyhole" structure that was tested here had contrasting stratigraphy between the two rooms. Two units were excavated in this feature, one in each room. TU-05 exhibited potential for an upper and lower component, each associated with a band of silt (Figure 104). TU-02, excavated in the larger room of this feature, showed the same upper gray-brown band at 35cmbs but did not exhibit the lower band at approximately 60cmbs (Figure 105). Between the two test units, charcoal samples were collected from both of these layers. Radiocarbon dates from these two layers are nearly identical which points toward a single component within this feature. Despite these overlapping dates Feature 15 at CHK-00110 is still intriguing given the differences in stratigraphy between the two rooms, the differences in artifact depth, and the fact that all of the other "keyhole" style features tested throughout the project area yielded few artifacts and no charcoal suitable for dating.

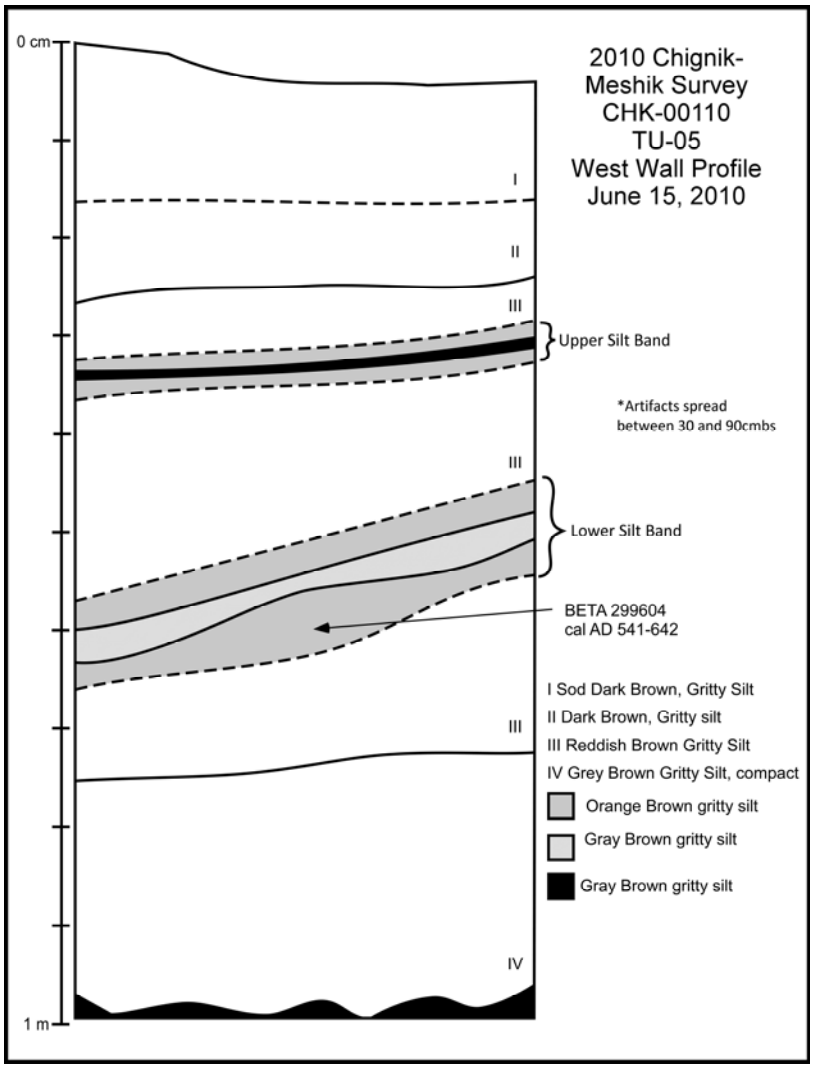


Figure 104: CHK-00110, TU-05, West Wall Soil Profile

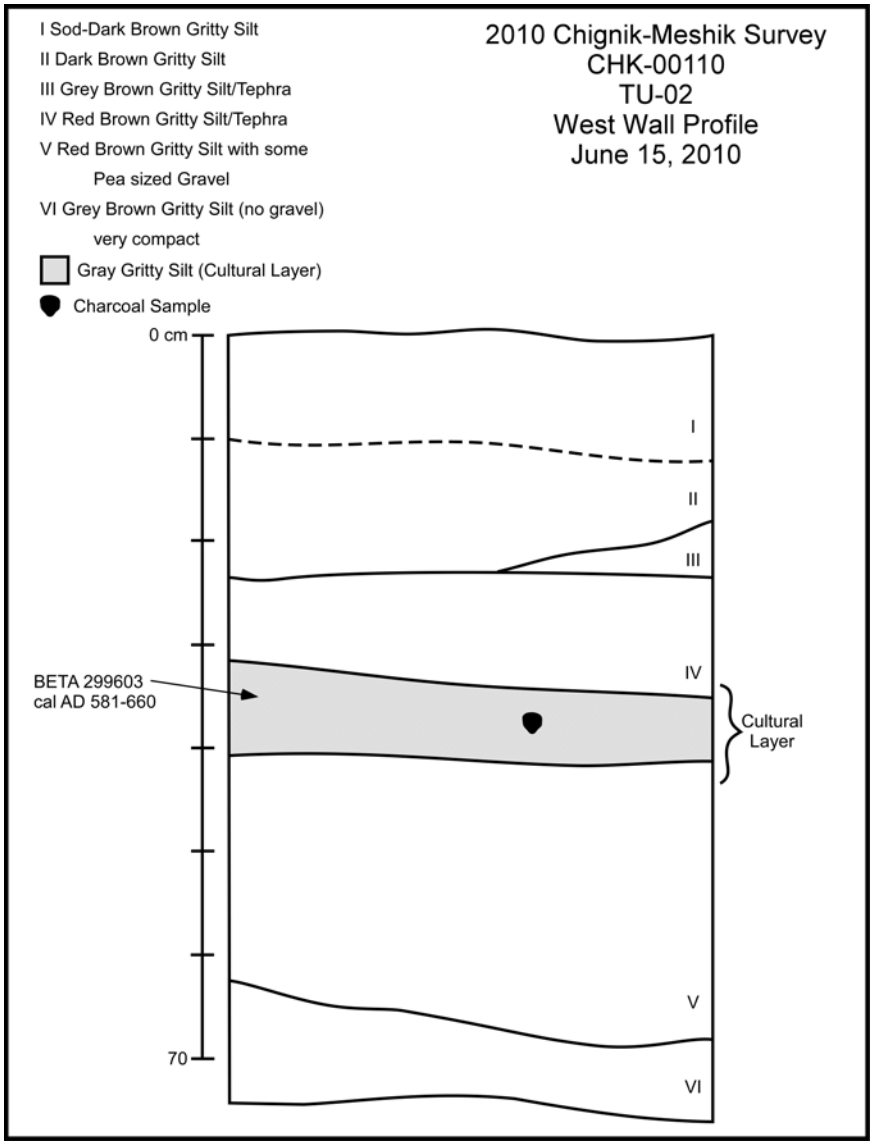


Figure 105: CHK-00110, TU-02, West Wall Soil Profile

CHK-00005 is the second site that stands out from the rest. Only four cultural depressions were noted at this site and the three that are identified as houses are not out of the ordinary. One of the interesting aspects about CHK-00005 is the amount of artifacts that were recovered from here. A total of 1053 flakes and stone tools were recovered from the two test units that were excavated at this site, not including wood, charcoal, and soil samples (see Appendix 1). The site with the next largest assemblage is CHK-00105 with 102 flakes and stone tools. Even sites that had five or six test units, like CHK-00108 (n=6), CHK-00109 (n=5), and CHK-00110 (n=6), did not produce near the same density of artifacts with 34, 4, and 62 flakes and stone tools recovered respectively.

Another interesting aspect at CHK-00005 is the depth at which artifacts were being found. The cultural layer in TU-01 began at 40cmbs and continued down to the base of excavation at 100cmbs. Three 40-60cm deep soil probes were placed in the floor at the base of excavation and charcoal (interpreted as cultural) was found in each one between total depths of approximately 120 and 150cmbs (Figure 106). Similarly, artifacts were found in TU-02 to a depth of 90cmbs which is where excavation was terminated, meaning the cultural layer likely continues in this feature as well (Figure 107).

The combination of depth and density in regard to the cultural remains at CHK-00005 is a unique circumstance, at least for sites and features tested in the project area thus far. A piece of charcoal collected at 140cmbs in one of the soil probes in TU-01 was radiocarbon dated to approximately 4700 cal BP, which is by far the oldest known cultural deposit in the Chignik and Meshik River valleys to date. The thick cultural deposit at this site indicates intense use and long-term occupation, likely as a fishing camp since several net sinkers were found here. Given the strategic location of this site for fishing, right above the outlet of Chignik Lake, this site was likely occupied for generations, at least on a seasonal basis. More testing and excavation at this site, combined with more radiocarbon dating, would provide significant information about how long this site has been used, what season or seasons this site was occupied, and the range of activities that were being carried out here.

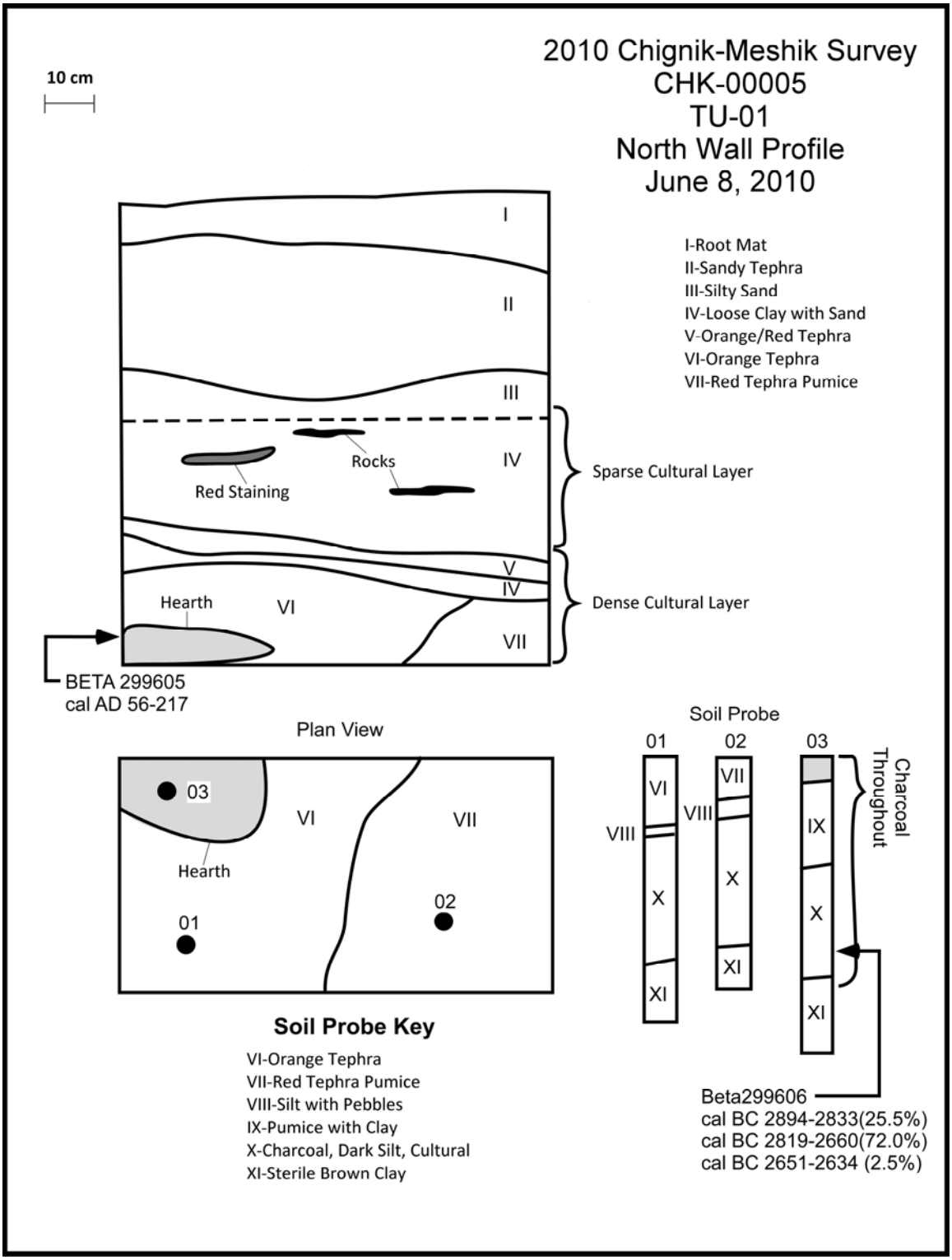


Figure 106: CHK-00005, TU-01, North Wall Soil Profile

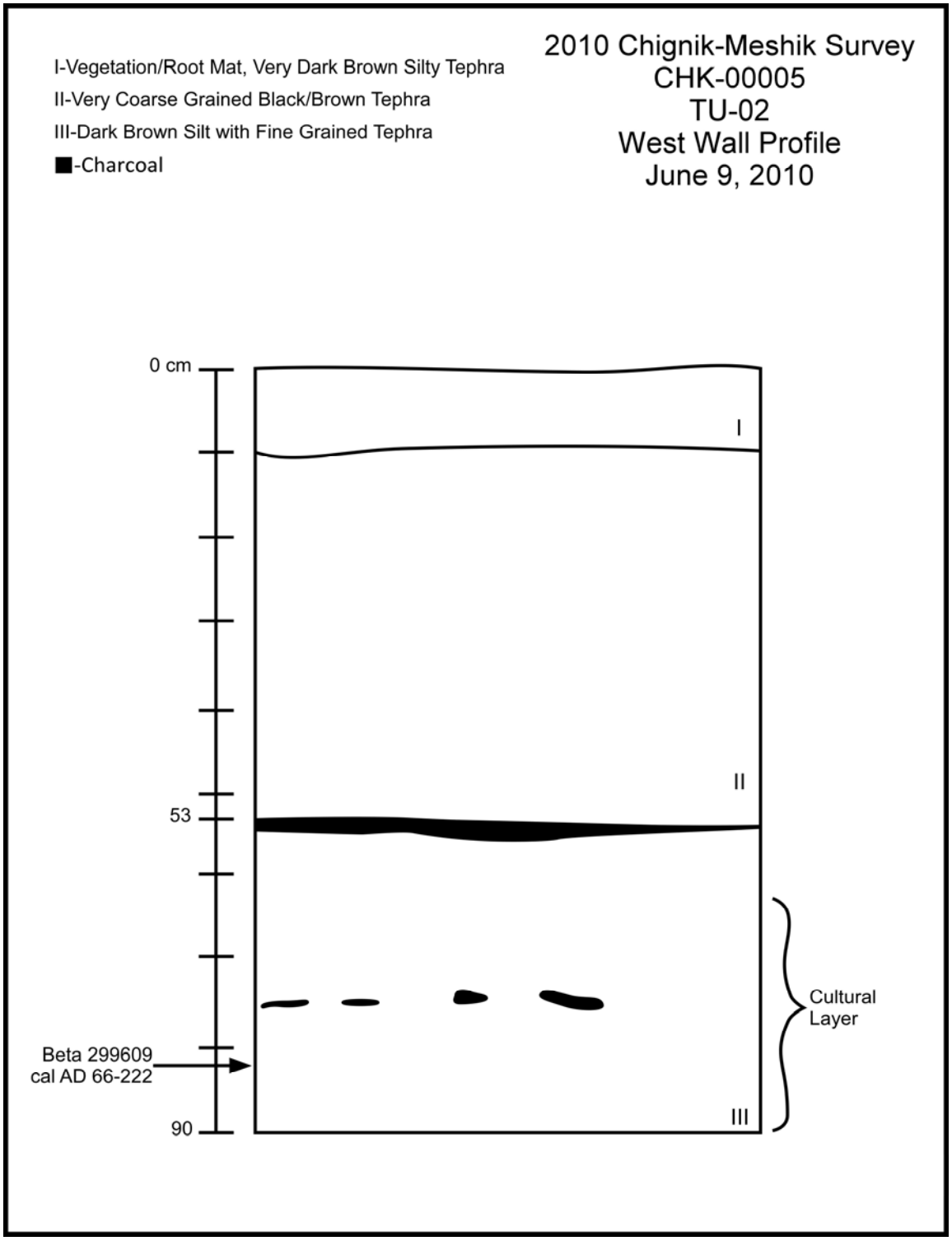


Figure 107: CHK-00005, TU-02, West Wall Soil Profile

The five surface sites that were recorded in 2010 are all on extremely deflated landforms with little potential for buried remains. The depositional integrity at all five of these sites is virtually non-existent meaning research potential is relatively low. However, all five sites are located in either the Meshik River valley or the Albert Johnson Creek valley where few sites have been recorded despite relatively intense survey effort. The rarity of sites in this region, likely due to the many catastrophic events that have occurred here (i.e. volcanic eruptions and flooding), make these sites more significant than if they were located in an area where archaeological remains are more common.

A total of sixteen radiocarbon dates were run on charcoal samples collected from house features at eight different sites (Tables 4 and 5). Five different multi-room houses were tested during the 2010 field season and dateable charcoal was recovered from all five. Six separate samples of hardwood charcoal from these five multi-room houses were submitted to Beta Analytic for AMS dating. The results of these analyses are presented in Table 4 and confirm that these houses were built and occupied during the Late Prehistoric. A Late Prehistoric association was hypothesized for these houses based on their similarity to "Koniag" style structures located further north on the Alaska Peninsula and on Kodiak Island.

A total of nine single room houses were tested at five different sites during 2010 and charcoal was recovered from seven of these house ruins. Eight separate samples of hardwood charcoal from seven single room house features were submitted to BETA Analytic for AMS dating. The radiocarbon results are presented in Table 5 and confirm that these single room houses were built and occupied during two main time periods. The single room houses at CHK-00005 and CHK-00105 (n=3) date to an older time period roughly equivalent to cal BP 1800. The single room houses at CHK-00108, CHK-00014, and SUT-00022 (n=4) date to a younger time period that is roughly cal BP 1000. These single room houses seemingly relate to other sites on the central Alaska Peninsula that belong to the "Norton Tradition."

The eighth sample that was dated from this group is also from CHK-00005 but it was collected from a soil probe that was placed through the floor of one of the single room houses (feature LC01A). This soil probe revealed that the cultural remains continued below the house deposit with charcoal recovered up to 140cmbs. A sample of hardwood charcoal from this 140cmbs level was dated to cal BP 4700. This date shows that CHK-00005 is a multi-component site with at least two occupations but possibly more. The soil probes that were placed through the bottom of house feature LC01A obviously extended past the "Norton" component at this

site. It is difficult to say what cultural tradition this deeper component relates to, but the radiocarbon data indicates an “Aleutian,” “Kachemak Bay,” or perhaps “Arctic Small Tool” association. More testing is necessary at this site before a cultural affiliation can be determined but also to reveal whether there are even older cultural components represented at this site.

The final two radiocarbon dates run on charcoal samples collected during 2010 are both from the same “keyhole” style feature tested at CHK-00110. Altogether four different “keyhole” shaped features were tested but only feature 15 at CHK-00110 produced dateable charcoal. Two test units were excavated in this feature and a sample of hardwood charcoal from each unit was submitted for dating. One sample was collected from 35cmbs and the other came from 70cmbs. Based on this stratigraphic separation it appeared there would be two separate components represented, however these two dates are nearly identical and likely represent the same cultural component. The “keyhole” style feature at CHK-00110 dates to about cal BP 1400 which is similar (but not identical) to some of the dates from the single room features hypothesized to have a “Norton” affiliation. These “keyhole” style features as a whole are curious not only in their shape but also because there are almost no artifacts or even charcoal to be found in them. Overall they seem to have a different function than the single and multi-room features which clearly served as dwellings given the higher densities of artifacts, abundant charcoal, and usually obvious cultural layers.

Table 4: Radiocarbon results for multi-room features tested in 2010

| Site # | TU # | Feature #/Type | Depth | BETA # | Sample # | Species ID | 13C/12C Ratio | Conventional Age | Calibrated Age |
|---|---|---|---|---|---|---|---|---|---|
| CHK-00108 | TU-01 | 1<br>Multi-room | 25cmbs | 292747 | 2010-52 | alnus | -26.7‰ | 370±40 | AD 1446-1530 (52.7%)<br>AD 1539-1630 (47.3%) |
| CHK-00108 | TU-04 | 12<br>Multi-room | 24cmbs | 292743 | 2010-10 | unidentified hardwood | -24.5‰ | 290±40 | AD 1483-1665 (98.0%)<br>AD 1784-1795 (2.0%) |
| CHK-00109 | TU-03 | 37<br>Multi-room | 50cmbs | 292745 | 2010-42 | alnus | -24.4‰ | 150±40 | AD 1666-1784 (48.1%)<br>AD 1795-1892 (33.9%)<br>AD 1908-1953 (18.0%) |
| CHK-00109 | TU-01 | 37<br>Multi-room | 30cmbs | 292748 | 2010-60 | alnus | -25.7‰ | 380±40 | AD 1442-1529 (58.1%)<br>AD 1543-1634 (41.9%) |
| CHK-00110 | TU-03 | 23<br>Multi-room | 22cmbs | 292744 | 2010-17 | unidentified hardwood | -25.4‰ | 250±40 | AD 1514-1600 (25.4%)<br>AD 1617-1683 (44.3%)<br>AD 1735-1805 (24.6%)<br>AD 1933-1951 (5.7%) |
| CHK-00111 | TU-02 | 4<br>Multi-room | 28cmbs | 292746 | 2010-46 | alnus | -24.3‰ | 280±40 | AD 1485-1668 (95.2%)<br>AD 1781-1797 (4.4%)<br>AD 1947-1950 (0.4%) |

Table 5: Radiocarbon results for single-room and keyhole style features tested in 2010

| Site # | TU # | Feature #/ Type | Depth | BETA # | Sample # | Species ID | 13C/12C Ratio | Conventional Age | Calibrated Age |
|---|---|---|---|---|---|---|---|---|---|
| CHK-00005 | TU-01 | LC01A single-room | 90cmbs | 299605 | 2010-21 | alnus | -25.1‰ | 1890±30 | AD 56-217 |
| CHK-00005 | TU-01 SP-03 | LC01A single-room | 140cmbs | 299606 | 2010-63 | alnus | -22.4‰ | 4190±40 | BC 2894-2833 (25.5%)<br>BC 2819-2660 (72.0%)<br>BC 2651-2634 (2.5%) |
| CHK-00005 | TU-02 | LC05A single-room | 82cmbs | 299609 | 2010-61 | alnus | -25.0‰ | 1880±30 | AD 66-222 |
| CHK-00014 | TU-01 | 1 single-room | 60cmbs | 299607 | 2010-38 | unidentified hardwood | -26.3‰ | 1150±30 | AD 780-792 (4.3%)<br>AD 804-973 (95.7%) |
| CHK-00014 | TU-02 | 6 single-room | 62cmbs | 299608 | 2010-40 | Alnus | -24.2‰ | 1200±30 | AD 712-745 (6.5%)<br>AD 767-895 (92.2%)<br>AD 925-936 (1.3%) |
| CHK-00105 | TU-02 | LC10O single-room | 65cmbs | 299601 | 2010-07 | unidentified hardwood | -23.1‰ | 1970±30 | BC 44-AD 85 (99.9%)<br>AD 110-110 (0.1%) |
| CHK-00108 | TU-03 | 17 single-room | 52cmbs | 299602 | 2010-11 | salix/populus | -26.5‰ | 1040±30 | AD 899-919 (7.2%)<br>AD 949-959 (1.5%)<br>AD 960-1032 (91.3%) |
| CHK-00110 | TU-02 | 15 keyhole | 35cmbs | 299603 | 2010-14 | unidentified hardwood | -25.4‰ | 1420±30 | AD 581-660 |
| CHK-00110 | TU-05 | 15 keyhole | 70cmbs | 299604 | 2010-20 | salix/populus | -23.7‰ | 1480±30 | AD 541-642 |
| SUT-00022 | TU-01 | 16 single-room | 90cmbs | 299600 | 2010-04 | unidentified hardwood | -25.2‰ | 1190±30 | AD 720-741 (3.0%)<br>AD 770-897 (93.2%)<br>AD 921-944 (3.8%) |

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# Appendix 1: List of collections made in 2010

Table 6: Field catalog for collections made during the 2010 field season*

| AHRS # | Name | TU | FEA | Date | Collector | Depth | Description | Quad | Comments |
|---|---|---|---|---|---|---|---|---|---|
| NA | NA | NA | NA | NA | LB | Surface | Raw Material | | Beach near fuel Depot |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 40-50cmbs | Lithics | | Level Bag, Basalt |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 52cmbs | Charcoal | | |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 54cmbs | Charcoal | SW | |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 58cmbs | Charcoal | CENTER | |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 58cmbs | Charcoal | SE | |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 58cmbs | Charcoal | NW | |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 58cmbs | Charcoal | NE/E | |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 50-60cmbs | Lithics | | Level Bag |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 61cmbs | Charcoal | NE | |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 63cmbs | Charcoal | SE | |
| CHK-00005 | NA | TU-01 | LC05A | 6/7/10 | LC | 60-70cmbs | Lithics | | Level Bag |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | DR | 70-80cmbs | Lithics | | Level Bag |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | DR | 75cmbs | Charcoal | SW | |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | DR | 75cmbs | Charcoal | NE | |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | DR | 78cmbs | Charcoal | NW/SW | |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | LC | 80-90cmbs | Lithics | | Level Bag, 2 Bags |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | DR | 80cmbs | Charcoal | NW | |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | DR | 80cmbs | Charcoal | SW | |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | LC | 90-100cmbs | Lithics | | Level Bag |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | LC | 90cmbs | Charcoal | NW | 5cm from large biface and charcoal band |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | LC | 90cmbs | Charcoal | SW/SE | Located near artifacts |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | LB | 97cmbs | Charcoal | | In a dense charcoal band |
| CHK-00005 | NA | TU-01 | LC05A | 6/8/10 | LB | 140cmbs | Charcoal | | In an unexcavated cultural deposit, recovered in SP03 |
| CHK-00005 | NA | TU-02 | LC01A | 6/8/10 | LC | 60-70cmbs | Lithics | | Level Bag |
| CHK-00005 | NA | TU-02 | LC01A | 6/8/10 | DR | 64cmbs | Charcoal | NE | |

| AHRS # | Name | TU | FEA | Date | Collector | Depth | Description | Quad | Comments |
|---|---|---|---|---|---|---|---|---|---|
| CHK-00005 | NA | TU-02 | LC01A | 6/8/10 | LC, DR | 70-80cmbs | Lithics | | Level Bag |
| CHK-00005 | NA | TU-02 | LC01A | 6/8/10 | LC, DR | 75cmbs | Charcoal | NW | |
| CHK-00005 | NA | TU-02 | LC01A | 6/8/10 | LC, DR | 80-90cmbs | Lithics | | Level Bag, 2 Bags |
| CHK-00005 | NA | TU-02 | LC01A | 6/8/10 | LC | 82cmbs | Charcoal | NW | |
| CHK-00111 | BLVD-01 | TU-01 | 12 | 6/10/10 | DR | 30-40cmbs | Lithics | | Level Bag |
| CHK-00111 | BLVD-01 | TU-01 | 12 | 6/10/10 | DR | 50-60cmbs | Lithics | | Level Bag |
| CHK-00111 | BLVD-01 | TU-02 | 4 | 6/10/10 | FC | 24cmbs | Charcoal | W | |
| CHK-00111 | BLVD-01 | TU-02 | 4 | 6/10/10 | FC | 25cmbs | Charcoal | W | Found with FCR |
| CHK-00111 | BLVD-01 | TU-02 | 4 | 6/10/10 | FC | 28cmbs | Charcoal | N Wall | Found with FCR |
| CHK-00111 | BLVD-01 | TU-02 | 4 | 6/10/10 | FC | 30cmbs | Charcoal | NE | |
| CHK-00111 | BLVD-01 | EXP-05 | NA | 6/10/10 | LB | ~40cmbs | Lithics | | Artifacts collected from slump deposit, disturbed by bear digging |
| CHK-00111 | BLVD-01 | EXP-05 | NA | 6/10/10 | LB | ~40cmbs | Charcoal | | Collected from bear digging |
| CHK-00014 | NA | TU-01 | 1 | 6/10/10 | FC | 58cmbs | Charcoal | | |
| CHK-00014 | NA | TU-01 | 1 | 6/10/10 | FC | 50-60cmbs | Lithics | | Level Bag |
| CHK-00014 | NA | TU-01 | 1 | 6/10/10 | FC | 60cmbs | Charcoal | SE | |
| CHK-00014 | NA | TU-01 | 1 | 6/10/10 | FC | 60-80cmbs | Lithics | | Level Bag |
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | FC, DR | 60-70cmbs | Lithics | | Level Bag |
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | LC | 62cmbs | Charcoal | NE | |
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | DR, FC | 70-80cmbs | Lithics | | Level Bag |
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | LC | NA | Sediment Sample | | Strat 2 |
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | LC | NA | Sediment Sample | | Strat 3 |
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | LC | NA | Sediment Sample | | Strat 4 |
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | LC | NA | Sediment Sample | | Strat 5 |

| AHRS # | Name | TU | FEA | Date | Collector | Depth | Description | Quad | Comments |
|---|---|---|---|---|---|---|---|---|---|
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | LC | NA | Sediment Sample | | Strat 6 |
| CHK-00014 | NA | TU-02 | 6 | 6/10/10 | LC | NA | Sediment Sample | | Strat 8 |
| CHK-00112 | 10JR01 | NA | NA | 6/10/10 | JR, JJ | Surface | Projectile Point | | Basalt |
| NA | IT0610B | NA | NA | 6/10/10 | SS | 0-30cmbs | Sediment Sample | | |
| NA | IT0610B | NA | NA | 6/10/10 | SS | 30-40cmbs | Rock | | |
| NA | IT0610B | NA | NA | 6/10/10 | SS | 30-40cmbs | Sediment Sample | | |
| NA | IT0610B | NA | NA | 6/10/10 | SS | 40-52cmbs | Rock | | Till |
| NA | IT0610B | NA | NA | 6/10/10 | SS | 40-52cmbs | Sediment Sample | | Till |
| NA | LB10-01 | NA | NA | 6/11/10 | LB | Surface | Chert | | Rock Samples |
| CHK-00105 | R061110A | TU-01 | LC10F | 6/11/10 | FC | 10-20cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-01 | LC10F | 6/11/10 | FC | 40-50cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-01 | LC10F | 6/11/10 | FC | 60-70cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-01 | LC10F | 6/11/10 | FC | 70-80cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-01 | LC10F | 6/11/10 | FC | 40-50cmbs | Net Sinker | | |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 30-40cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | FC | 25cmbs | Sediment | | Strat 2 |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 20-30cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 39cmbs | Sediment | | Strat 3 |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 42cmbs | Sediment | | Strat 4 |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 47cmbs | Sediment | | Strat 5 |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 51cmbs | Sediment | | Strat 6 |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 65cmbs | Charcoal | W | |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 65cmbs | Sediment | | Strat 7 |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 60-70cmbs | Lithics | | Level Bag |

| AHRS # | Name | TU | FEA | Date | Collector | Depth | Description | Quad | Comments |
|---|---|---|---|---|---|---|---|---|---|
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 74cmbs | Sediment | | Strat 10 |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 79cmbs | Charcoal | W | |
| CHK-00105 | R061110A | TU-02 | LC10O | 6/11/10 | DR | 70-80cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-03 | L10B | 6/11/10 | DR | 40-50cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-03 | L10B | 6/11/10 | DR | 50-60cmbs | Lithics | | Level Bag |
| CHK-00105 | R061110A | TU-03 | L10B | 6/11/10 | DR | 60-70cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-01 | 1 | 6/13/10 | FC, SS | 10-20cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-01 | 1 | 6/13/10 | FC, SS | 12cmbs | Charcoal | NE | |
| CHK-00108 | BL-01 | TU-01 | 1 | 6/13/10 | FC, SS | 19cmbs | Charcoal | S | |
| CHK-00108 | BL-01 | TU-01 | 1 | 6/13/10 | FC, SS | 20-30cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-01 | 1 | 6/13/10 | FC, SS | 22cmbs | Charcoal | W Wall | Good to date, from profile |
| CHK-00108 | BL-01 | TU-01 | 1 | 6/13/10 | FC, SS | 25cmbs | Charcoal | N Wall | House floor sample, good to date |
| CHK-00108 | BL-01 | TU-02 | 20 | 6/13/10 | FC, SS | 20-30cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-02 | 20 | 6/13/10 | FC, SS | 30-40cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-03 | 17 | 6/13/10 | LC | 20-30cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-03 | 17 | 6/13/10 | LC, LB | 30-40cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-03 | 17 | 6/13/10 | LC | 40-50cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-03 | 17 | 6/13/10 | DR | 52cmbs | Charcoal | NW | |
| CHK-00108 | BL-01 | TU-03 | 17 | 6/13/10 | LB | 50-60cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-03 | 17 | 6/13/10 | DR | 56cmbs | Charcoal | N Wall | |
| CHK-00108 | BL-01 | TU-03 | 17 | 6/13/10 | LB | 60-70cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-03 | 17 | 6/13/10 | LC | 70-80cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-04 | 12 | 6/13/10 | FC, SS | 10-20cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-04 | 12 | 6/13/10 | FC, SS | 20cmbs | Charcoal | N Wall | |
| CHK-00108 | BL-01 | TU-04 | 12 | 6/13/10 | FC, SS | 20-30cmbs | Lithics | | Level Bag |
| CHK-00108 | BL-01 | TU-04 | 12 | 6/13/10 | FC, SS | 24cmbs | Charcoal | S Wall | Next to flake |
| CHK-00108 | BL-01 | NA | NA | 6/13/10 | LB | Surface | Biface | | Obsidian |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | DR | 0-10cmbs | Lithics | | |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | LB | 10-20cmbs | Bone | | |

| AHRS # | Name | TU | FEA | Date | Collector | Depth | Description | Quad | Comments |
|---|---|---|---|---|---|---|---|---|---|
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | LB | 19cmbs | Charcoal | NE | |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | LB | 26cmbs | Charcoal | SW | |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | LB | 30cmbs | Charcoal | NW | |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | DR | 30cmbs | Charcoal | | From W wall |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | LB | 34cmbs | Charcoal | SE Wall | From bottom of charcoal layer |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | LB | 40-50cmbs | Wood | | From screen |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | LB | 46cmbs | Wood | | Burnt |
| CHK-00109 | BL-02 | TU-01 | 37 | 6/14/10 | LC | 53cmbs | Charcoal | SE | |
| CHK-00109 | BL-02 | TU-02 | 3 | 6/14/10 | LC | 52cmbs | Charcoal | SE | |
| CHK-00109 | BL-02 | TU-03 | 37 | 6/14/10 | LB | 20-30cmbs | Lithics | | Level Bag |
| CHK-00109 | BL-02 | TU-03 | 37 | 6/14/10 | LB | 25cmbs | Charcoal | NE | |
| CHK-00109 | BL-02 | TU-03 | 37 | 6/14/10 | LB | 30-40cmbs | Lithics | | Level Bag |
| CHK-00109 | BL-02 | TU-03 | 37 | 6/14/10 | LB | NA | Sediment | | Tephra, Strat D |
| CHK-00109 | BL-02 | TU-03 | 37 | 6/14/10 | LB | 48cmbs | Charcoal | SW | |
| CHK-00109 | BL-02 | TU-03 | 37 | 6/14/10 | LB | 50cmbs | Charcoal | NW | |
| CHK-00109 | BL-02 | TU-03 | 37 | 6/14/10 | LB | 52cmbs | Charcoal | NE | |
| CHK-00110 | BL-03 | TU-01 | 23 | 6/15/10 | DR | 30-40cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-01 | 23 | 6/15/10 | LC | 40-50cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-02 | 15 | 6/15/10 | FC, SS | 30-40cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-02 | 15 | 6/15/10 | FC, SS | 30cmbs | Flake | | |
| CHK-00110 | BL-03 | TU-02 | 15 | 6/15/10 | FC, SS | 34cmbs | Flake | NE | |
| CHK-00110 | BL-03 | TU-02 | 15 | 6/15/10 | FC, SS | 35cmbs | Charcoal | | Good to date, from profile |
| CHK-00110 | BL-03 | TU-02 | 15 | 6/15/10 | FC, SS | 36cmbs | Charcoal | SW | |
| CHK-00110 | BL-03 | TU-02 | 15 | 6/15/10 | FC, SS | 40-50cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-02 | 15 | 6/15/10 | FC, SS | 55cmbs | Charcoal | SE | |
| CHK-00110 | BL-03 | TU-03 | 23 | 6/15/10 | LC | 0-20cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-03 | 23 | 6/15/10 | LC | 22cmbs | Charcoal | SE | |
| CHK-00110 | BL-03 | TU-04 | 8 | 6/15/10 | LC | 50-60cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-04 | 8 | 6/15/10 | LC | 60cmbs | Charcoal | SW | |

| AHRS # | Name | TU | FEA | Date | Collector | Depth | Description | Quad | Comments |
|---|---|---|---|---|---|---|---|---|---|
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 30-40cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 40-50cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 50-60cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 60cmbs | Charcoal | N Wall | Good to date, from profile, associated with second band |
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 60-70cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 62cmbs | Charcoal | SW Wall | Associated with artifacts and lower gray band |
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 70cmbs | Charcoal | Center | From the lower gray band |
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 70-80cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-05 | 15 | 6/15/10 | FC, SS | 80-90cmbs | Lithics | | Level Bag |
| CHK-00110 | BL-03 | TU-06 | 22 | 6/15/10 | LB, LC | 0-20cmbs | Iron, Bone | | 2 Bags |
| SUT-00056 | 10SS02 | NA | NA | 6/17/10 | SS | Surface | Flake | | |
| SUT-00056 | 10SS02 | NA | NA | 6/17/10 | LB | Surface | Stone | | Found in rock pile |
| SUT-00022 | NA | TU-01 | 25 | 6/18/10 | DR | 55cmbs | Charcoal | NE | Immediately above tephra |
| SUT-00022 | NA | TU-01 | 25 | 6/18/10 | DR | 70-80cmbs | Lithics | | Level Bag |
| SUT-00022 | NA | TU-01 | 25 | 6/18/10 | DR | 73cmbs | Charcoal | SW | 6cm below orange tephra |
| SUT-00022 | NA | TU-01 | 25 | 6/18/10 | LB | 80cmbs | Charcoal | SW | 17cm below orange tephra |
| SUT-00022 | NA | TU-01 | 25 | 6/18/10 | LB | 80-90cmbs | Lithics | | Level Bag, on top of charcoal feature |
| SUT-00022 | NA | TU-01 | 25 | 6/18/10 | LB | 85cmbs | Charcoal | NE | 9cm below orange tephra, next to lithics |
| SUT-00022 | NA | TU-01 | 25 | 6/18/10 | LB | 89cmbs | Charcoal | N | 28cm below orange tephra |
| SUT-00022 | NA | TU-01 | 25 | 6/18/10 | LB | 90cmbs | Charcoal | N | 13cm below orange tephra, found in large hearth feature |
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Flake Tool | | Brown chert, W Cluster |
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Lithics | | Central Cluster |
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Lithics | | Central Cluster |

| AHRS # | Name | TU | FEA | Date | Collector | Depth | Description | Quad | Comments |
|---|---|---|---|---|---|---|---|---|---|
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Biface | | Gray Chert, Central Cluster |
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Biface | | Chalcedony, Central Cluster |
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Projectile Point | | Basalt, E Cluster |
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Lithics | | Orange Chert, E Cluster |
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Lithics | | Chalcedony, E Cluster, Concentration 1 |
| SUT-00057 | AJ-01 | NA | NA | 6/18/10 | SS, LC | Surface | Lithics | | Chalcedony, E Cluster, Concentration 2 |
| NA | IT0620C | NA | NA | 6/20/10 | SS | 15-35cmbs | Tephra | | Sample |
| NA | IT0620C | NA | NA | 6/20/10 | SS | 40-55cmbs | Tephra | | Sample |
| NA | ITDR03 | NA | NA | 6/22/10 | DR | 25cmbs | Tephra | | Sample |

*This should not be considered a finalized listing. Items collected during 2010 will be assigned formal UAMN and NPS catalog numbers at a later date.

# Appendix 2: Wood and charcoal identifications

Table 7: Wood and Charcoal Identifications for 2010 Collections

| AHRS # | Sample # | Code | Unit # | Depth | Identification |
|---|---|---|---|---|---|
| SUT-00022 | 2010-01 | n/a | TU-01 | 73cmbs | Unidentified hardwood |
| SUT-00022 | 2010-02 | 2b | TU-01 | 55cmbs | Unidentified hardwood |
| SUT-00022 | 2010-02 | 2d | TU-01 | 55cmbs | Salix/Populus |
| SUT-00022 | 2010-02 | 3b | TU-01 | 55cmbs | Unidentified hardwood |
| SUT-00022 | 2010-02 | 3d | TU-01 | 55cmbs | Salix/Populus |
| SUT-00022 | 2010-03 | 2b | TU-01 | 89cmbs | Unidentified hardwood |
| SUT-00022 | 2010-03 | 3a | TU-01 | 89cmbs | Unidentified wood |
| SUT-00022 | 2010-03 | 3b | TU-01 | 89cmbs | Unidentified hardwood |
| SUT-00022 | 2010-04 | 2b | TU-01 | 90cmbs | Unidentified hardwood |
| SUT-00022 | 2010-04 | 3a | TU-01 | 90cmbs | Unidentified wood |
| SUT-00022 | 2010-04 | 3b | TU-01 | 90cmbs | Unidentified hardwood |
| SUT-00022 | 2010-05 | 2b | TU-01 | 85cmbs | Unidentified hardwood |
| SUT-00022 | 2010-05 | 3b | TU-01 | 85cmbs | Unidentified hardwood |
| SUT-00022 | 2010-06 | 2e | TU-01 | 80cmbs | Alnus/Betula |
| CHK-00105 | 2010-07 | 3b | TU-02 | 65cmbs | Unidentified hardwood |
| CHK-00105 | 2010-08 | n/a | TU-02 | 79cmbs | No identifiable charcoal |
| CHK-00108 | 2010-09 | 2b | TU-04 | 20cmbs | Unidentified hardwood |
| CHK-00108 | 2010-10 | 2b | TU-04 | 24cmbs | Unidentified hardwood |
| CHK-00108 | 2010-11 | 2d | TU-03 | 52cmbs | Salix/Populus |
| CHK-00108 | 2010-12 | 3b | TU-03 | 56cmbs | Salix/Populus |
| CHK-00108 | 2010-12 | 3d | TU-03 | 56cmbs | Unidentified hardwood |
| CHK-00110 | 2010-13 | 2b | TU-02 | 55cmbs | Unidentified hardwood |
| CHK-00110 | 2010-14 | 2b | TU-02 | 35cmbs | Unidentified hardwood |
| CHK-00110 | 2010-14 | 3a | TU-02 | 35cmbs | Unidentified wood |
| CHK-00110 | 2010-14 | 3b | TU-02 | 35cmbs | Unidentified hardwood |
| CHK-00110 | 2010-15 | 3b | TU-02 | 36cmbs | Unidentified hardwood |
| CHK-00110 | 2010-16 | 3a | TU-05 | 60cmbs | Unidentified hardwood |
| CHK-00110 | 2010-17 | 2b | TU-03 | 22cmbs | Unidentified hardwood |
| CHK-00110 | 2010-17 | 2d | TU-03 | 22cmbs | Salix/Populus |
| CHK-00110 | 2010-17 | 2e | TU-03 | 22cmbs | Alnus/Betula |
| CHK-00110 | 2010-17 | 3b | TU-03 | 22cmbs | Unidentified hardwood |
| CHK-00110 | 2010-17 | 3d | TU-03 | 22cmbs | Salix/Populus |
| CHK-00110 | 2010-18 | 2b | TU-04 | 60cmbs | Unidentified hardwood |
| CHK-00110 | 2010-19 | 2b | TU-05 | 62cmbs | Unidentified hardwood |
| CHK-00110 | 2010-19 | 3a | TU-05 | 62cmbs | Unidentified wood |
| CHK-00110 | 2010-19 | 3b | TU-05 | 62cmbs | Unidentified hardwood |
| CHK-00110 | 2010-20 | 2d | TU-05 | 70cmbs | Salix/Populus |
| CHK-00005 | 2010-21 | 2h | TU-01 | 90cmbs | Alnus |
| CHK-00005 | 2010-22 | 3b | TU-01 | 54cmbs | Unidentified hardwood |
| CHK-00005 | 2010-22 | 3h | TU-01 | 54cmbs | Alnus |
| CHK-00005 | 2010-23 | 2h | TU-01 | 58cmbs | Alnus |
| CHK-00005 | 2010-24 | 2h | TU-01 | 52cmbs | Alnus |
| CHK-00005 | 2010-25 | 2b | TU-01 | 58cmbs | Unidentified hardwood |
| CHK-00005 | 2010-26 | 3h | TU-01 | 140cmbs | Alnus |

| AHRS # | Sample # | Code | Unit # | Depth | Identification |
|---|---|---|---|---|---|
| CHK-00005 | 2010-27 | 3b | TU-01 | 63cmbs | Unidentified hardwood |
| CHK-00005 | 2010-28 | 2h | TU-01 | 61cmbs | Alnus |
| CHK-00005 | 2010-29 | 3b | TU-01 | 58cmbs | Unidentified hardwood |
| CHK-00005 | 2010-30 | 2h | TU-01 | 58cmbs | Alnus |
| CHK-00005 | 2010-31 | 2b | TU-01 | 80cmbs | Unidentified hardwood |
| CHK-00005 | 2010-32 | 2j | TU-01 | 97cmbs | Picea |
| CHK-00005 | 2010-33 | 2b | TU-01 | 80cmbs | Unidentified hardwood |
| CHK-00005 | 2010-34 | 2h | TU-01 | 90cmbs | Alnus |
| CHK-00005 | 2010-35 | n/a | TU-01 | 75cmbs | Unidentifiable carbonized material |
| CHK-00005 | 2010-36 | 2b | TU-01 | 75cmbs | Unidentified hardwood |
| CHK-00005 | 2010-36 | 3b | TU-01 | 75cmbs | Unidentified hardwood |
| CHK-00005 | 2010-37 | 2b | TU-01 | 78cmbs | Unidentified hardwood |
| CHK-00014 | 2010-38 | 2b | TU-01 | 60cmbs | Unidentified hardwood |
| CHK-00014 | 2010-39 | 2b | TU-01 | 58cmbs | Unidentified hardwood |
| CHK-00014 | 2010-39 | 2h | TU-01 | 58cmbs | Alnus |
| CHK-00014 | 2010-40 | 2b | TU-02 | 62cmbs | Unidentified hardwood |
| CHK-00014 | 2010-40 | 2h | TU-02 | 62cmbs | Alnus |
| CHK-00014 | 2010-40 | 3a | TU-02 | 62cmbs | Unidentified wood |
| CHK-00014 | 2010-40 | 3b | TU-02 | 62cmbs | Unidentified hardwood |
| CHK-00109 | 2010-41 | 3b | TU-03 | 25cmbs | Unidentified hardwood |
| CHK-00109 | 2010-42 | n/a | TU-03 | 50cmbs | Alnus |
| CHK-00109 | 2010-43 | 3b | TU-03 | 52cmbs | Unidentified hardwood |
| CHK-00109 | 2010-44 | 2b | TU-03 | 48cmbs | Unidentified hardwood |
| CHK-00111 | 2010-45 | 2b-1 | TU-02 | 25cmbs | Unidentified hardwood |
| CHK-00111 | 2010-45 | 2b-2 | TU-02 | 25cmbs | Unidentified hardwood |
| CHK-00111 | 2010-45 | 3a | TU-02 | 25cmbs | Unidentified wood |
| CHK-00111 | 2010-45 | 3b | TU-02 | 25cmbs | Unidentified hardwood |
| CHK-00111 | 2010-46 | 2a | TU-02 | 28cmbs | Unidentified wood |
| CHK-00111 | 2010-46 | 2h | TU-02 | 28cmbs | Alnus |
| CHK-00111 | 2010-46 | 3a | TU-02 | 28cmbs | Unidentified wood |
| CHK-00111 | 2010-47 | 2b | TU-02 | 24cmbs | Unidentified hardwood |
| CHK-00111 | 2010-47 | 3a | TU-02 | 24cmbs | Unidentified hardwood |
| CHK-00111 | 2010-48 | 2b | TU-02 | 30cmbs | Unidentified hardwood |
| CHK-00111 | 2010-48 | 2b-2 | TU-02 | 30cmbs | Unidentified hardwood |
| CHK-00111 | 2010-49 | 2a | EXP-005 | Surface | Unidentified wood |
| CHK-00111 | 2010-49 | 2b | EXP-005 | Surface | Unidentified hardwood |
| CHK-00111 | 2010-49 | 3a | EXP-005 | Surface | Unidentified wood |
| CHK-00111 | 2010-49 | 3b | EXP-005 | Surface | Unidentified hardwood |
| CHK-00108 | 2010-50 | 2b | TU-01 | 22cmbs | Unidentified hardwood |
| CHK-00108 | 2010-50 | 3b | TU-01 | 22cmbs | Unidentified hardwood |
| CHK-00108 | 2010-50 | 3c | TU-01 | 22cmbs | Unidentified softwood |
| CHK-00108 | 2010-51 | 2c | TU-01 | 12cmbs | Unidentified softwood |
| CHK-00108 | 2010-51 | 3b | TU-01 | 12cmbs | Unidentified hardwood |
| CHK-00108 | 2010-51 | 3c | TU-01 | 12cmbs | Unidentified softwood |

| AHRS # | Sample # | Code | Unit # | Depth | Identification |
|---|---|---|---|---|---|
| CHK-00108 | 2010-52 | 2b | TU-01 | 25cmbs | Unidentified hardwood |
| CHK-00108 | 2010-52 | 2h | TU-01 | 25cmbs | Alnus |
| CHK-00108 | 2010-52 | 3a | TU-01 | 25cmbs | Unidentified wood |
| CHK-00108 | 2010-52 | 3b | TU-01 | 25cmbs | Unidentified hardwood |
| CHK-00108 | 2010-53 | 2b | TU-01 | 19cmbs | Unidentified hardwood |
| CHK-00109 | 2010-54 | 2b | TU-01 | 19cmbs | Unidentified hardwood |
| CHK-00109 | 2010-55 | n/a | TU-02 | 53cmbs | Unidentifiable, too degraded |
| CHK-00109 | 2010-56 | 2b | TU-01 | 26cmbs | Unidentified hardwood |
| CHK-00109 | 2010-57 | 2b | TU-01 | 30cmbs | Unidentified hardwood |
| CHK-00109 | 2010-58 | 2b | TU-01 | 34cmbs | Unidentified hardwood |
| CHK-00109 | 2010-58 | 2h | TU-01 | 34cmbs | Alnus |
| CHK-00109 | 2010-59 | 2h | TU-01 | 46cmbs | Alnus |
| CHK-00109 | 2010-60 | 2h | TU-01 | 30cmbs | Alnus |
| CHK-00005 | 2010-61 | 2h | TU-02 | 82cmbs | Alnus |
| CHK-00005 | 2010-61 | 3b | TU-02 | 82cmbs | Unidentified hardwood |
| CHK-00005 | 2010-61 | 3h | TU-02 | 82cmbs | Alnus |
| CHK-00005 | 2010-62 | 2b | TU-02 | 75cmbs | Unidentified hardwood |
| CHK-00005 | 2010-62 | 2c | TU-02 | 75cmbs | Unidentified softwood |
| CHK-00005 | 2010-62 | 2h | TU-02 | 75cmbs | Alnus |
| CHK-00005 | 2010-62 | 3a | TU-02 | 75cmbs | Unidentified wood |
| CHK-00005 | 2010-62 | 3b | TU-02 | 75cmbs | Unidentified hardwood |
| CHK-00005 | 2010-63 | 2b | TU-02 | 64cmbs | Unidentified hardwood |
| CHK-00005 | 2010-63 | 3a | TU-02 | 64cmbs | Unidentified wood |
| CHK-00005 | 2010-63 | 3b | TU-02 | 64cmbs | Unidentified hardwood |

# Appendix 3: Negative shovel test locations

Table 8: Negative test locations from the 2010 field season*

| Test ID | General Location | Recorder | Date | Lat | Long |
|---|---|---|---|---|---|
| IT0610A | Cathedral Creek | SS | 6/10/2010 | removed | removed |
| IT0610B | Cathedral Creek | SS | 6/10/2010 | removed | removed |
| IT0610C | Cathedral Creek | SS | 6/10/2010 | removed | removed |
| IT0610D | Cathedral Creek | SS | 6/10/2010 | removed | removed |
| IT0620A | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620B | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620C | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620D | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620E | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620F | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620G | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620H | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620I | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620J | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| IT0620K | Upper Albert Johnson Creek | SS | 6/20/2010 | removed | removed |
| STP-01 | Upper Meshik River | LB | 6/20/2010 | removed | removed |
| 003,LB | Upper Meshik River | LB | 6/20/2010 | removed | removed |
| 004, LB | Upper Meshik River | LB | 6/20/2010 | removed | removed |
| 005, LB | Upper Meshik River | LB | 6/20/2010 | removed | removed |
| IT0621A | Upper Albert Johnson Creek | SS | 6/21/2010 | removed | removed |
| IT0621B | Upper Albert Johnson Creek | SS | 6/21/2010 | removed | removed |
| ITDR01 | Southwest of Meshik Lake | DR | 6/22/2010 | removed | removed |
| ITDR02 | Southwest of Meshik Lake | DR | 6/22/2010 | removed | removed |

| Test ID | General Location | Recorder | Date | Lat | Long |
|---|---|---|---|---|---|
| ITDR03 | Southwest of Meshik Lake | DR | 6/22/2010 | removed | removed |
| ITDR04 | Southwest of Meshik Lake | DR | 6/22/2010 | removed | removed |
| ITDR05 | Southwest of Meshik Lake | DR | 6/22/2010 | removed | removed |
| ITDR06 | Southwest of Meshik Lake | DR | 6/22/2010 | removed | removed |
| IT0623A | Southeast of Meshik Lake | SS | 6/23/2010 | removed | removed |
| IT0623B | Southeast of Meshik Lake | SS | 6/23/2010 | removed | removed |

* Several negative shovel test pits were not recorded with GPS but this list represents every geographical location that was tested

# Appendix 4: AHRS data cards for sites found in 2010

NOTE: all records from the Alaska Heritage Resources Survey (AHRS) have been removed from this publicly accessible document. To access this information, please contact the Alaska State Office of History & Archaeology, or visit http://dnr.alaska.gov/parks/oha/ahrs/ahrs.htm

# Appendix 5: Radiocarbon Data Sheets

NOTE: these records have been removed. Please contact the authors for access to the original laboratory data.