

# Annual Report

Archaeological Survey and Evaluation:  
Fort Richardson and Fort Wainwright, 2004

(Unrestricted Version for Public Distribution)



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# Archaeological Survey and Evaluation: Fort Richardson and Fort Wainwright, 2004

(Unrestricted Version for Public Distribution)

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## 1.0 INTRODUCTION

In 2004, the U.S. Army Garrison Alaska (USAG-AK) initiated several proposed projects that triggered an archaeological and cultural resources analysis and survey of proposed project areas. This report details the archaeological reviews and analyses conducted for each undertaking at each post under USAG-AK's management: Fort Richardson and Fort Wainwright, including the Donnelly Training Area (DTA; within the boundaries of the former Fort Greely).

Survey and subsurface testing was conducted, following procedures defined in USAG-AK's archaeological research design (Robertson 2004) and Integrated Cultural Resources Management Plan (ICRMP) (CEMML 2001). Where archaeological sites were identified within a project's area of potential effect (APE), evaluative testing was conducted to determine eligibility for listing in the National Register of Historic Places, based on National Register Criteria detailed in 36 CFR 79, and pursuant to Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800).

Archaeological field crews, comprised of employees of the Center for Environmental Management of Military Lands (CEMML), Colorado State University, conducted surveys of areas potentially impacted (both directly and indirectly) by proposed undertakings. One crew, comprised of four archaeologists, conducted work at Fort Wainwright in the cantonment, the Yukon Training Area (YTA), and the Tanana Flats Training Area (TFTA). Two crews, each comprised of four archaeologists, conducted work at the DTA.

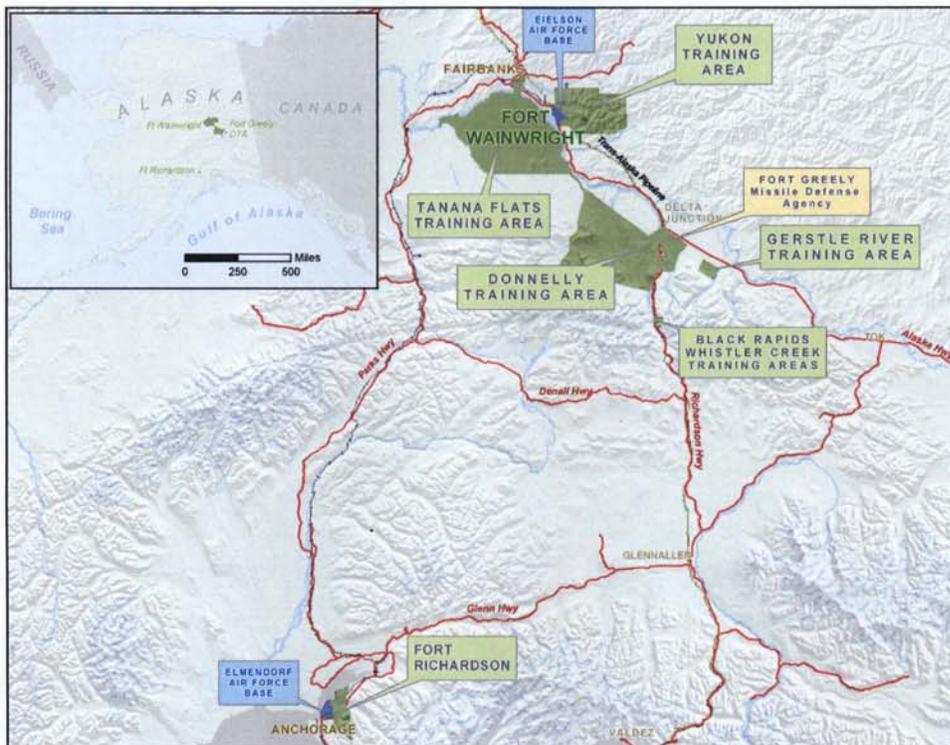


Figure 1. Location of Fort Richardson and Fort Wainwright, including Donnelly Training Area

## 2.0 FORT WAINWRIGHT

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### **Introduction**

A range construction project and a fiber optic and power cable installation project in the Yukon Training Area (YTA) were the focus of the archaeological work at Fort Wainwright in 2004. There were also several smaller archaeological survey projects that were completed in the Tanana Flats Training Area (TFTA) and within Fort Wainwright's main cantonment area. Work at the Donnelly Training Area (DTA) will be discussed in the next chapter.

### **Setting**

Fort Wainwright is located in central Alaska, north of the Alaska Range in the Tanana River valley. The Post lies 120 miles south of the Arctic Circle near the cities of Fairbanks and North Pole in the Fairbanks North Star Borough. The installation consists of the Main Post, TFTA, YTA, Dyke Range and DTA (the latter of which lies near Delta Junction, within the boundaries of the former Fort Greely).

Fort Wainwright has the northern continental climate of the Alaskan interior, characterized by short, moderate summers, long, cold winters, and little precipitation or humidity. Average monthly temperatures in Fairbanks range from -11.5°F in January to 61.5°F in July, with an average annual temperature of 26.3°F. The record low temperature is -66°F and the record high is 98°F. Average annual precipitation is 10.4in., most of which falls as rain during summer and early fall. Average annual snowfall is 67in., with a record high of 168in. during the winter of 1970-71 (Natural Resources Branch 2002).

Fort Wainwright's training lands fall within an area occupied at the time of Euro-American contact by Lower-Middle Tanana Athabascans, including 'bands' described generally as the Salcha, Big Delta-Goodpaster, Wood River and Chena bands (McKenna 1981; Andrews 1975; Mischler 1986). Traditional settlement patterns were focused on a widely mobile season round, with the fall caribou hunt playing a pivotal role in subsistence preparations for the winter, while summer activities were focused at fish camps, and in berry and root collecting and sheep hunting (McKenna 1981). These activities were frequently a communal focus, with several local 'bands' connected by common interest, geography and intermarriage. Despite anthropological attempts to define 'boundaries' for the peoples living in the lower Tanana River valley, natural terrain served as the only definable 'boundary' to settlement patterns (McKenna 1981).

As Euro-American traders, miners, missionaries and explorers moved into the Tanana River valley, the traditional lifeways of local Athabaskan groups were disrupted. Access to trade goods and the development of the fur trade not only affected traditional material culture, but also began to dramatically affect subsistence activities and settlement patterns. Similarly, the arrival of missionaries in the Alaskan interior profoundly affected traditional social organization. The introduction of mission schools for Native children and the doctrine of new religious beliefs contributed to an erosion of traditional settlement patterns and practices (McKenna 1981).

As Fairbanks grew in the first decade of the 20<sup>th</sup> century, several agricultural homesteads were developed on lands now encompassed by sections of the Fort Wainwright cantonment. These homesteads provided Fairbanks with a variety of

agricultural products and wood for fuel, but were subsumed when lands were withdrawn for the creation of Ladd Field, which later became Fort Wainwright (Price 2002).

Development in the Alaskan interior increased dramatically with the advent of World War II and subsequent military build-up in Alaska. Of particular significance was the development of airfields near Delta Junction (Fort Greely), Fairbanks (Ladd Field, later Fort Wainwright), and 26 miles southeast of Fairbanks (Eielson Air Force Base). These locations began as lend-lease bases and cold weather testing centers, but soon expanded with the increased need for military support during World War II and later the Cold War.

Archaeological research on Fort Wainwright's training areas has resulted in numerous technical reports (Bacon 1978; Bacon and Holmes 1979; Dixon et al. 1980; Frizzera 1973; Higgs et al. 1999; Holmes 1979; Potter et al. 2000; Rabich and Reger 1978; Robertson et al. 2004; Staley 1993; Yarborough 1975), scientific papers (Holmes and Anderson 1986; West 1967, 1975), and the identification of over 250 archaeological sites. Work on Fort Wainwright has been largely stratified sampling in nature, resulting at times in as little as 1 percent of the survey universe being inventoried. This work has largely focused on known sites and areas thought to be of the very highest potential for containing archaeological sites. Areas of less than ideal site potential have often been neglected and sites that may be eligible for nomination to the National Register of Historic Places have been incompletely documented or left un-evaluated. Thus, while a large number of important sites have been identified on Fort Wainwright, a number of important gaps exist in the cultural resource inventory.

Despite its incomplete nature, this rich archaeological record represents all of the accepted prehistoric cultures of the Alaskan interior. Of particular significance is the role played by archaeological resources located on Army lands in the definition of the Denali Complex of the American Paleoarctic Tradition (Anderson 1970; West 1967, 1981). Though not located on Army lands, two of the oldest well-dated sites in North America, Swan Point and Broken Mammoth, dated to between 11,500 and 12,000 before present (BP), are located just to the north of DTA East in the vicinity of Shaw Creek (Holmes 1996, 1998; Holmes et al. 1996; Yesner et al. 1999). Sites reflecting the influence of what has been termed the Northern Archaic Tradition (e.g. Anderson 1968; Workman 1978), dating to perhaps 6,000 to 2,000 BP, are also present on Fort Wainwright training lands, as are late prehistoric Athabaskan (e.g. Andrews 1975, 1987; Cook 1989; Mishler 1986; Sheppard et al. 1991; Shinkwin 1979; Yarborough 1978) and Euro-American archaeological sites (Gamza 1995; Phillips 1984). The significance of these known sites on Army Withdrawal Lands is attested by the fact that despite that nearly 100 of these sites remain to be evaluated, at least 50 individual sites and 3 archaeological districts have been deemed eligible for inclusion on the National Register of Historic Places, and a fourth archaeological district remains to be evaluated.

Historic research dealing with Fort Wainwright includes recent historic context studies that deal with homesteading (Price 2002), early mining (Neely 2001), and early transportation on Fort Wainwright (Neely 2003). Although mining was perhaps the most important economic endeavor of the late 19<sup>th</sup> century and early 20<sup>th</sup> century in the Fort Wainwright area, only three archaeological sites associated with mining have been recorded on Army managed lands in Alaska (Neely 2001). Several early transportation routes, roadhouses, and other structures associated with travel are known to exist in the vicinity of Fort Wainwright and the DTA, including the Donnelly-Washburn and Bonnifield

trails, for example (Neely 2003). Military training and construction activities have also resulted in several potential site types, including downed aircraft, defensive fighting positions, and training and target debris. The majority of these 'Base Ground Defense Sites' are difficult to assign to a specific context, and have often been consistently used for military training exercises; such sites have thus been determined ineligible for listing in the National Register of Historic Places (see Shaw 2000).

## 2.1 Fiber Optic and Power Cable Installation, Yukon Training Area

The United States Air Force (USAF), Eielson Air Force Base, has proposed to install fiber optic and power cables on poles in the YTA, Fort Wainwright, at the following locations (Figure 2):

1. along Brigadier Road (from Hill 3265 to the intersection of Brigadier, Quarry and Johnson Roads),
2. along Quarry Road (from the intersection of Quarry, Brigadier and Johnson to the intersection of Quarry Road and Skyline Drive)
3. along a short spur road (<2km) off of Brigadier Road
4. along one short spur (<1.5km) off of Skyline Drive
5. along East Beaver Creek Road (from its intersection with West Beaver Creek Road to Firing Point 16)
6. along the road to Camera Site I (from the intersection with Brigadier Road to Camera Site I)

The purpose of this action is to provide reliable power and communications capabilities to USAF remote threat emitters and communications hubs within U.S. Army Garrison Alaska's (USAG-AK) YTA. The poles for the fiber optic and power cables will be installed within a 30ft right-of-way on both sides of Brigadier, Quarry and East Beaver Creek Roads and the three shorter spur roads. The right-of-way where the poles will be placed will also be cleared of trees and other vegetation. The installation of poles and cables along this portion of the YTA road system is one phase of a larger fiber optic and power cable installation project. The Center for Environmental Management of Military Lands (CEMML) was contracted by USAF to complete a cultural resources survey for the proposed project.

### ***Survey and Field Methods***

At various times throughout June, July and August 2004, an archaeological survey crew comprised of between two and five archaeologists, employed by CEMML, conducted a cultural resources survey of the area of potential effect (APE) for the proposed project. Though all power poles will be placed within 30ft of the existing road, a survey corridor approximately 66m wide was established for this project. This includes a 30m corridor on each side of the road, in addition to the road itself (approximately 6m wide). A 30m corridor on each side of the road encompasses all probable impact areas, including staging areas (though no new staging areas are planned). The total survey area for this project was 1,002 acres.

Parallel pedestrian transects spaced at 10-20m were walked in all areas that were not deemed too wet or too steep (>40°) to contain cultural material. The majority of the roadbed within the project area was also walked and scanned for cultural material by at least two archaeologists. Systematic subsurface testing was undertaken in areas determined to be high probability (e.g., lake margins, ridges, benches adjacent to steeper slopes) during initial review of the proposed project area, and as determined by the supervising archaeologist and field crew leader based on survey findings. Shovel tests were approximately 40cm x 40cm, and were screened through ¼in. hardware cloth. Several hundred shovel tests were excavated throughout the project area in both high and medium probability areas. No cultural remains were located through the excavation of shovel tests.

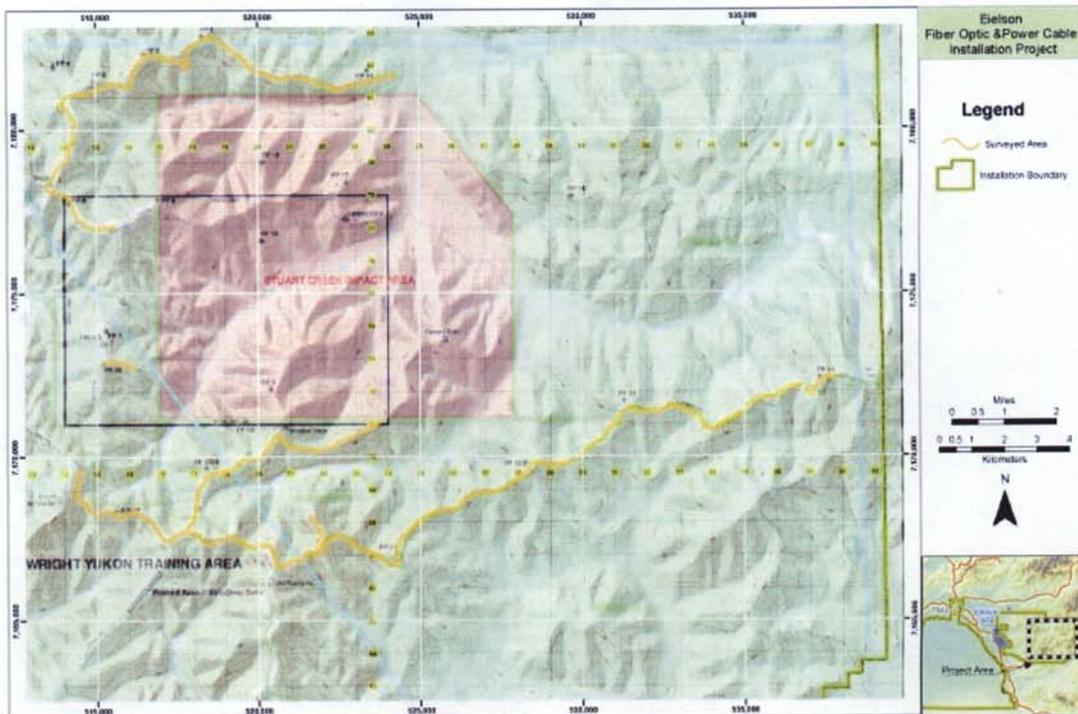


Figure 2. Fiber optic and power cable installation project area

An isolated artifact (XBD-00260) was found on the surface of \_\_\_\_\_ during pedestrian reconnaissance. The entire road surface in this area was then intensively surveyed in an attempt to locate additional artifacts. Shovel tests were excavated on either side of the road adjacent to the find and in the general vicinity. No additional cultural materials were found as a result of these investigations.

### **Cultural Resources**

There are five known sites located in proximity to the project area. All five sites were determined to be outside of the project area. Additionally, one new archaeological site was discovered during the survey for this project. These six sites are described below.

#### XBD-00093

Latitude:

Longitude:

Determination: Not eligible

This site consists of one coarse-grained beige chert flake found on the ground surface on the east side of \_\_\_\_\_ (Holmes 1979). The flake may have been a biface thinning flake. The UTM coordinates for the site are:

### **Recommendations**

This site is located north of the short spur road off of \_\_\_\_\_ that was surveyed for this project and is outside of the APE. This site was previously found to be not eligible for the National Register on July 25, 1984. Because this site lies outside the APE for the proposed project it was not re-evaluated to determine eligibility for inclusion in the

National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be re-evaluated due to the extensive period of time that has passed since its initial evaluation.

XBD-00094

Latitude:

Longitude:

Determination: Not evaluated

This site consists of artifacts found scattered on the disturbed surface of a clearing at (Holmes 1979). The artifacts included six obsidian flakes, one rhyolite flake, three chert flakes, two retouched chert flakes and three fragments of a rhyolite scraper, in addition to two chalcedony flakes found in situ in a shovel test. The UTM coordinates for the site are:

The original description and map of this site (Holmes 1979), as well as a reinvestigation of the site (Cook 1979), indicate that it is outside the 30ft right-of-way for this project. Intensive investigations were conducted in the vicinity of this site for the proposed project in 2004 and no new materials were located. The entire right-of-way for the proposed project has been disturbed by heavy machinery and previous military activities, particularly in the vicinity of . What appeared to be shovel test pits from the Holmes and Cook investigations were also relocated, outside of the right-of-way. Testing was conducted just north of the site location and the in less disturbed areas with negative results.

*Recommendations*

This site is outside of the project area, and may have been entirely destroyed. This site was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be evaluated to determine its eligibility.

XBD-00103

Latitude:

Longitude:

Determination: Not eligible

This site consists of one coarse-grained translucent beige chert flake found on the surface of a disturbed area, on a small hill north of (Holmes 1979). The location of this site is

. The UTM coordinates for the site are:

*Recommendations*

This spur-loop is not part of the proposed fiber optic and power project, and this site falls outside of the project area. This site was previously found to be not eligible for the National Register on July 25, 1984. Because this site lies outside the APE for the proposed project it was not re-evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be re-evaluated due to the extensive period of time that has passed since its initial evaluation.

XBD-00111

Latitude:

Longitude:

Determination: Not eligible

This site consists of three black chert flakes found on a disturbed surface adjacent to (Holmes 1979). This site was relocated in 2004 and one artifact was identified on the surface of . This artifact is a small piece of black basalt shatter. No subsurface testing was conducted. The UTM coordinates for the site are:

*Recommendations*

This site is located north of along an older, no longer used that is outside of the project area. This site was previously found to be not eligible for the National Register on July 25, 1984. Because this site lies outside the APE for the proposed project it was not re-evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be re-evaluated due to the extensive period of time that has passed since its initial evaluation.

XBD-00162

Latitude:

Longitude:

Determination: Not evaluated

This site consists of a single black chert flake on a hilltop in an area that had been extensively disturbed by military activities. The UTM coordinates for the site are:

*Recommendations*

This site is located north of the project area and is outside of the project area. This site is also located in the Stuart Creek Impact Area, a portion of the YTA that has not been surveyed for cultural resources due to the danger of encountering unexploded ordnance or other dangerous materials. No further action is recommended.

One new archaeological site was discovered as a result of the survey work and is described below.

XBD-00260

Latitude:

Longitude:

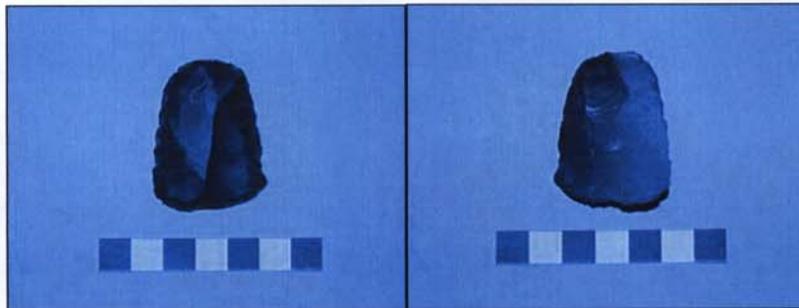
Determination: Not eligible

This site consists of an isolated find of a fine-grained, black basalt unifacial scraper found on the surface of in the YTA (Figure 3). This artifact was found on a steep road surface (approximately 40 percent slope) and likely was transported to the area with fill for road construction or eroded out of deposits further up slope. The road surface in this area was intensively examined for additional artifacts, but none were

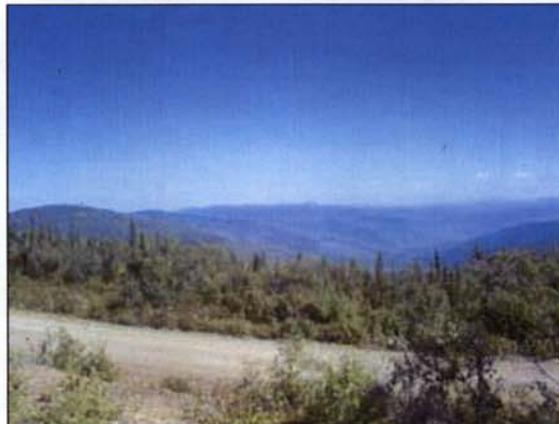
located. Shovel test pits were also excavated on both sides of the road where the artifact was found, as well as up slope and down slope of the find. The UTM coordinates for the site are:

#### *Recommendations*

Pedestrian survey and shovel tests produced a total of only one surface artifact. This finding suggests that XBD-00260 is an isolated find. The paucity of cultural material indicates that XBD-00260 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places. No further action is recommended.



*Figure 3. Unifacial scraper from XBD-00260 (left, dorsal, right, ventral)*



*Figure 4. General view of project area, Yukon Training Area*

#### **Results**

Pedestrian survey and subsurface testing of the proposed power and fiber optic cable installation project identified one isolated find (XBD-00260). Site XBD-00260 was determined not eligible for inclusion in the National Register of Historic Places, and all other known sites in the YTA are outside of the project area. No historic properties will be affected by the proposed project and it was recommended that the project proceed.

## 2.2 Cantonment Area Housing Development

USAG-AK has proposed to drill 93 test borings in association with a new family housing project on Fort Wainwright (Figure 5). This subsurface exploration will be conducted with a track-mounted drill rig with an 8in. diameter hollow auger. In order to accomplish this testing, some portions of the project area were cleared of trees with a chainsaw. Existing trails and open areas will be used for access to the extent possible. A portion of the project area had been cleared of trees and vegetation prior to pedestrian reconnaissance and testing.



Figure 5. Cantonment Housing Project Area

### **Survey and Field Methods**

In June 2004 an archaeological survey crew, comprised of between four and five archaeologists employed by CEMML, conducted a pedestrian survey of the proposed undertaking. The survey area included 90 acres of land, approximately 50 percent of which was previously disturbed through clearing.

Parallel pedestrian transects spaced at 20m were walked in all areas that were not deemed too wet or too steep ( $>40^\circ$ ) to contain cultural material. In the majority of the project area, ground visibility was 100 percent and therefore subsurface testing was undertaken only in areas where cultural material was noted or in areas determined to be high probability (e.g., lake margins, ridges, benches adjacent to steeper slopes) during initial review of the proposed project area, and as determined by the supervising archaeologist and field crew leader based on survey findings. Shovel tests were approximately 40cm x 40cm and screened through  $\frac{1}{8}$ in. hardware cloth.

Two historic sites, neither of which is eligible for the National Register, were identified during this survey. During pedestrian survey the remains of a structure (FAI-01603) were noted in the previously cleared area. The area was shovel skimmed, mapped, and four shovel tests were excavated. No additional cultural material was recovered from the testing. South of the structural remains, several cans were noted protruding from disturbed sediments on the edge of the cleared area, bordering a dry gulley (FAI-01604). Through use of a metal detector and subsurface testing, an area approximately 10m x 3m was identified as containing historic and modern cans, metal, and other debris.

### **Cultural Resources**

There were no known historic or archaeological sites located in the vicinity of the project area prior to survey and testing in 2004. In terms of the Fort Wainwright Main Post, previous cantonment area surveys conducted in settings comparable to the current project area in terrain and vegetation have failed to locate cultural resources (Reynolds 1983, 1984, 1985; Steele 1982, 1983). However, historic research regarding World War II and homestead activities on some lands currently within the cantonment area, including the project area, indicated that there was a potential for cultural resources to be located on the subject parcel. The current project area is located within the original 1939 boundaries of Ladd Field, but is not located within the current boundaries of the Ladd Field National Historic Landmark (Price 2004). Based on a circa 1942 map of Ladd Field, the general project area contained a dog kennel and a veterinary hospital. Additionally, there were no known homesteads located in the project area, though the vicinity has been identified as a possible 1913 era homesteading area (Price 2002).

Two historic archaeological sites were located during the survey of the test boring project area. The Criteria for Evaluation (36 CFR 60.4) were applied to both sites, and neither retains enough integrity to be eligible for the National Register of Historic Places. A description of each site is presented below.

#### FAI-01603

Latitude:

Longitude:

Determination: Not eligible

Site FAI-01603 is located north of

, and east of , on a flat area several meters above the Chena River and within the main Fort Wainwright cantonment. The UTM coordinates for the site are:

. This site is located approximately 350m northwest of the Chena River. The partial remains of a small structure (approximately 5ft x 5ft) were found here (Figure 6). The remains had been previously impacted by heavy machinery and the remaining timbers are essentially pulverized. Some crushed mortar or cement was present on the outside of the structural remains. Testing within and outside of the structure did not produce any additional cultural material.



Figure 6. Site FAI-01603, facing south

### *Recommendation*

The remains have lost integrity, and due to their condition it is not possible to determine what the previous function of the structure may have been or its age. Additionally, the paucity of cultural material indicates that FAI-01603 does not contain additional information that is important to our understanding of the prehistory or history of the region. This property is not eligible for inclusion in the National Register of Historic Places.

### FAI-01604

Latitude:

Longitude:

Determination: Not eligible

Site FAI-01604 is a small trash dump located north of

, and east of , on a flat area several meters above the Chena River and within the main Fort Wainwright cantonment. The UTM coordinates for the site are:



Figure 7. Site FAI-01604, facing east

This site is located approximately 250m northwest of the Chena River. The trash dump is located on the edge of an area cleared by heavy machinery, at the top of a dry gully (Figure 7). This area has been impacted by heavy machinery and it appears as though the materials were deposited in this area or pushed to their current location from nearby by previous disturbances. A metal detector and shovel tests were used to define the size of the site as 10m x 3m. Use of the metal detector in the gully behind the site did not produce any evidence of the can dump extending down into the gully.

Subsurface testing verified that the sediments in this area were disturbed, though intact deposits were present approximately 15cm below the current, disturbed surface. Undisturbed sediments contained charcoal bits and other organic material; however, charcoal was also noted on the surface of the disturbed ground throughout the project area and is likely natural. One of three shovel tests produced additional materials; several pieces of bottle glass and can fragments were found between 15-20cm below the surface. Historic era cans, of the hole-in-top type, with crimped seams dating to the turn of the century or just after, were found in the disturbed sediments. A portion of a bottleneck with an intact collar was also found. This bottle fragment had no seams visible and was not screw top, likely dating it to a pre-1903 manufacture. Machine cut nails, modern wire rope, modern can fragments, undiagnostic bottle glass, and a saw-cut piece of large mammal bone were also found in the disturbed sediments. It is estimated that 90 percent of the site has been disturbed.

### *Recommendations*

Site FAI-01604 is the remains of a small, highly disturbed trash dump. Pedestrian survey and subsurface testing both revealed disturbed deposits, and the site does not retain

any integrity. Additionally, the condition of the remains at FAI-01604 indicates that the site does not contain additional information that is important to our understanding of the prehistory or history of the region. This property is not eligible for inclusion in the National Register of Historic Places.

**Results**

Pedestrian survey and subsurface testing of the proposed project area identified two historic archaeological sites (FAI-01603 and FAI-01604) within the boundaries of the proposed drilling area. All other previously recorded archaeological sites or historic properties in the Fort Wainwright cantonment area fall outside the proposed project area. USAG-AK has determined that both FAI-01603 and FAI-01604 are not eligible for the National Register of Historic Places, and therefore no historic properties will be affected by the proposed project.

## 2.3 Tanana Flats Trespass Cabin Demolition

USAG-AK has proposed to demolish a trespass cabin located on Army lands in the TFTA. The cabin is located on \_\_\_\_\_, a tributary of the Tanana River (Figure 8). The structure will be demolished by dismantling it in place with tools such as chainsaws, axes and mallets. No heavy machinery will be used. Trash will be removed from the cabin and its surroundings by boat. Burnable materials that cannot be removed will be burned on site.

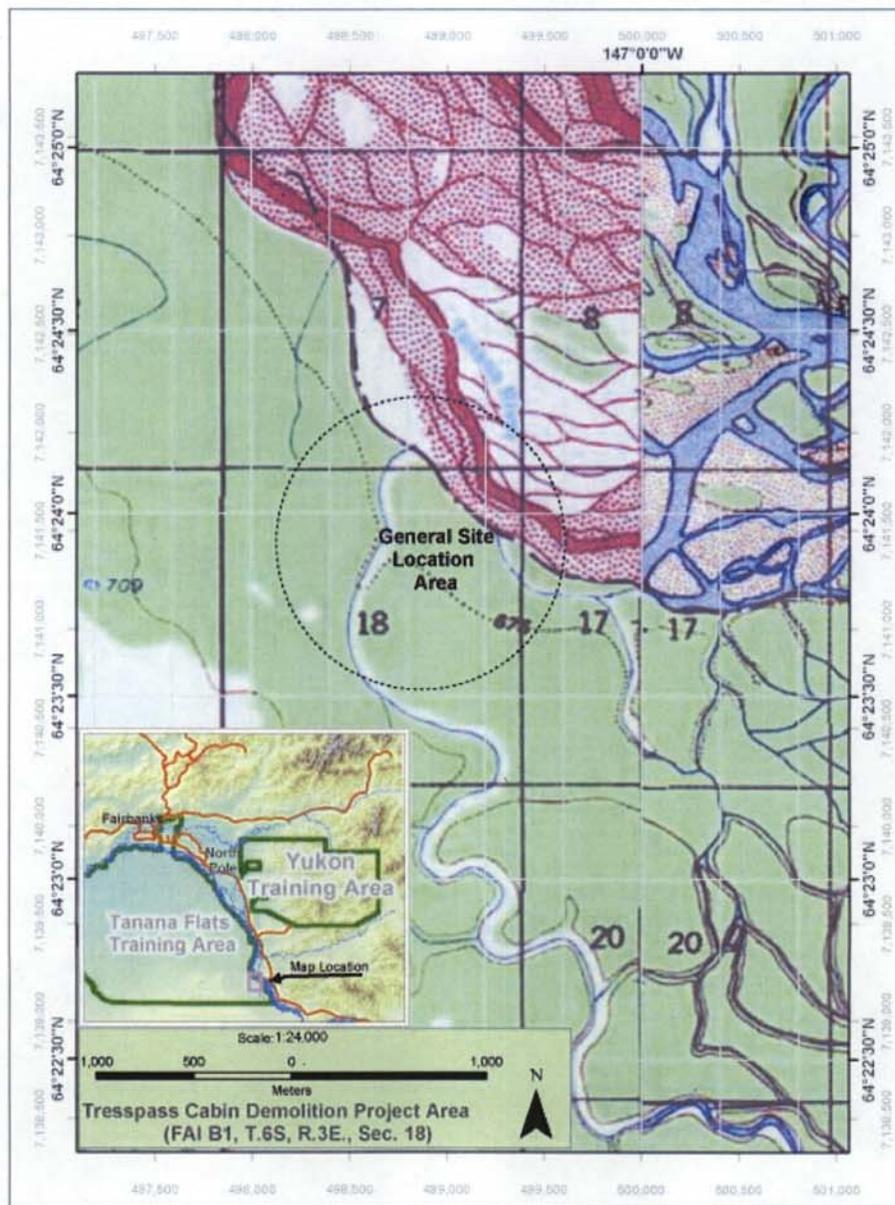


Figure 8. Trespass Cabin Demolition Project Area

### **Survey and Field Methods**

In June 2004, an archaeological survey crew, comprised of the post archaeologist and the trespass cabin demolition project manager, employed by CEMML, conducted an

investigation of the trespass cabin described above. The survey area included approximately 1 acre of land surrounding the cabin location, including the cabin.

The cabin was recorded, measured and photographed. Parallel pedestrian transects spaced at 20m were walked in all areas that were not deemed too wet or too steep (>40°) to contain cultural material. Approximately 1 acre of land surrounding the cabin was pedestrian surveyed. One two-seater outhouse is associated with the trespass cabin as well as a campfire ring located between the cabin and the creek bank. There is a variety of modern trash such as rope, cans, plastic wrap, plastic jugs, and other materials scattered around the cabin, outhouse, and campfire area.

Two shovel tests were excavated in the vicinity of the proposed demolition project. One shovel test was excavated 5m north of the cabin. Modern (less than 50 years old) metal can fragments and chunks of charcoal were found just below the vegetative mat. A second shovel test was excavated on a terrace above the creek and west of the cabin. No cultural remains were located in the second shovel test, though chunks of charcoal were encountered. It is likely that the charcoal in both shovel tests is a result of forest fires. Shovel tests were approximately 40cm x 40cm, and were screened through ¼in. hardware cloth.

### ***Cultural Resources***

The project area is located away from any known, ground-based training activities in the TFTA. Additionally, no evidence of military use of the immediate vicinity was noted during survey activities. Historic, non-military uses of the TFTA are not well known. It is unlikely that the Training Area was ever seriously explored for mineral deposits. The area consists primarily of bogs and muskegs with silt and sand deposits below. There are likely no valuable mineral deposits located within the Training Area other than, perhaps, on buttes or other hilly areas (Neely 2001). One major known mining era cultural resource within the TFTA is the Bonnifield Trail. This trail begins at the south end of Cushman Street in Fairbanks and crosses the Tanana Flats to the headwaters of Bonnifield Creek on the northern margins of the Alaska Range. There may be several roadhouses within the Training Area associated with the Trail, but they have not yet been located on the ground (Neely 2003). The Bonnifield Trail is over 25 miles west of the current project area. Homestead research to date has uncovered little regarding the TFTA (Price 2002).

The cabin slated for demolition is modern and less than 50 years old, but it has been assigned an AHRS number to facilitate a determination of eligibility and for tracking purposes. The Criteria for Evaluation (36 CFR 60.4) were applied to the cabin and it has been determined not eligible for the National Register of Historic Places. There are no other known cultural resources in the vicinity of the project area.

### ***FAI-01607***

Latitude:

Longitude:

Determination: Not eligible

This site is a one-room log cabin located on the east side of (Figure 9). The cabin is located on a flat terrace about 2m above the creek and 30m east of the creek. The UTM coordinates for the site are:

. The cabin is located in a mature spruce forest with an understory

primarily consisting of rose, horsetail, ferns and mosses. The cabin is approximately 18ft long, 17ft wide, and 9ft tall at the roof ridge. The logs used to construct the cabin were chainsaw cut and retain most of their bark on the interior and exterior. The logs are saddle notched at the corners. Moss and fiberglass were used as chinking with small diameter (1-3in.) branches nailed over the seams between logs. The cabin rests directly on the ground on large (16in. diameter) sill logs. The roof of the cabin is covered in corrugated metal roofing over milled lumber decking on 4-7in. diameter purlins. The purlins are the only logs in the structure that have been peeled. The door of the cabin is manufactured. There is one window each on the south (single lite fixed sash) and west (double single lite horizontal sliding sash) walls.



Figure 9. Trespass cabin FAI-01607, facing south

#### *Recommendations*

According to the family that claims ownership of this cabin, it was built in 1959. However, based on the condition of the logs, it may have been built even more recently. The one outbuilding associated with the cabin is a two-hole outhouse constructed of plywood and located north of the cabin. This cabin, based on appearances and purported construction date, is less than 50 years old. Additionally, it does not meet any of the criteria for eligibility and is, therefore, not eligible for the National Register of Historic Places.

#### **Results**

Pedestrian survey and subsurface testing of the proposed project area identified one modern cabin (FAI-01607). All other previously recorded archaeological sites or historic properties in the TFTA fall outside the proposed project area. USAG-AK has determined that FAI-01607 is not eligible for the National Register of Historic Places and therefore, no historic properties will be affected by the proposed demolition.

## 2.4 Tanana Flats Survival Shelters

USAG-AK has proposed to place five survival shelters at locations throughout the TFTA. These shelters will be placed in high-traffic, easily accessible areas (Figure 10). The purpose of placing these shelters is to provide a place where recreational land users, hunters, trappers and others can go in emergency situations to get out of the elements. These small structures will have a heating stove, fuel, and food available inside. The shelters are intended for emergency use only, and not for recreational use. The shelters are 80in. wide, 120in. long, and 74.5in. tall (Figure 11).

The survival shelters will be airlifted to their final locations via a Chinook helicopter. The shelters will be fully constructed before being unloaded from the aircraft. After being removed from the aircraft, installation of the stove and other finish work will be completed on site. The survival shelters will also be anchored to the ground with guy wires.

In order to place the shelters in their final locations, some brush and tree clearing will be required at each location in order to have a large enough helicopter landing zone and shelter placement area. This clearing work will be done by hand.

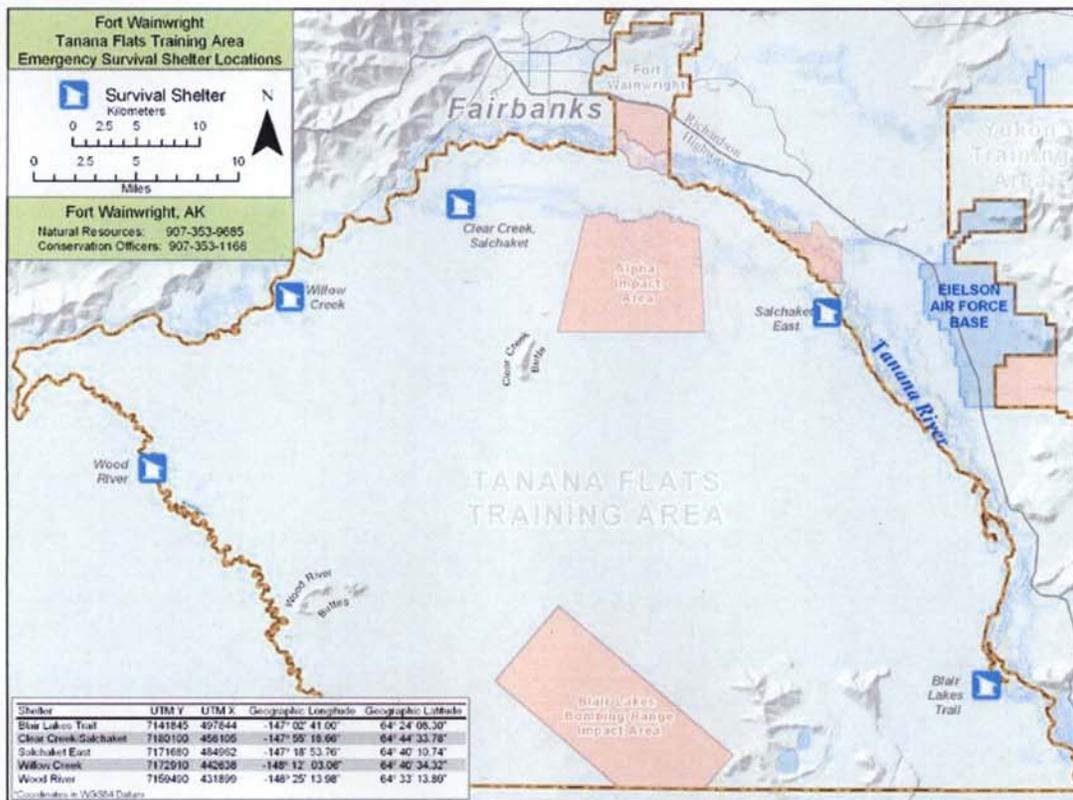


Figure 10. Location of Survival Shelters in the Tanana Flats Training Area

### Survey and Field Methods

In June 2004 the post archaeologist and the survival shelter project manager, employed by CEMML, conducted a helicopter reconnaissance of the five proposed survival shelter locations. Based on this aerial reconnaissance, the post archaeologist determined that

two of the five locations needed further on-the-ground investigations. A total of three locations were ultimately investigated on the ground.

Pedestrian transects in the proposed project areas were walked at approximately 20m intervals. All shovel tests were approximately 40cm x 40cm, and were screened through ¼in. hardware cloth.

The project areas for the survival shelter placements are located away from any known, ground-based training activities in the TFTA. Additionally, no evidence of military use of the immediate vicinity was noted during survey activities. Historic, non-military uses of the TFTA are not well documented. It is unlikely that the Training Area was ever seriously explored for mineral deposits. The area consists primarily of bogs and muskegs with silt and sand deposits below. There are likely no valuable mineral deposits located within the Training Area other than, perhaps, on buttes or other hilly areas (Neely 2001). One major known mining era cultural resource within the TFTA is the Bonnifield Trail. This trail begins at the south end of Cushman Street in Fairbanks and crosses the Tanana Flats to the headwaters of Bonnifield Creek on the northern margins of the Alaska Range. There may be several roadhouses within the Training Area associated with the Trail, but they have not yet been located on the ground (Neely 2003). The Bonnifield Trail is over 25 miles west of the current project area. Homestead research to date has uncovered little regarding the TFTA (Price 2002).



*Figure 11. Survival shelter (under construction) to be placed in the Tanana Flats Training Area*

The five final survival shelter locations are described below.

#### *Salchaket East Survival Shelter*

This proposed survival shelter location is on a narrow, almost dry, slough that connects to the main channel of Salchaket Slough, on its east end. The location is an overgrown gravel bar with dense willow and other shrub vegetation growing on it. This location was viewed from the air (Figure 12) and was not investigated on the ground. The gravel bar will need to be cleared of most of the existing vegetation in order to create a landing zone for a Chinook helicopter to deposit the cabin. The location has a low probability for containing unknown cultural resources. No further investigation is recommended.



*Figure 12. Aerial view of Salchaket East survival shelter location*

#### *5 Mile Clear Creek Survival Shelter*

This proposed survival shelter location is near the intersection of two winter trails, approximately 800m west of the Tanana River (Figure 13). The trail that the cabin will be placed adjacent to is overgrown with willow, rose, iris, fireweed, small spruce trees, and other low vegetation. The area adjacent to the trail, where the cabin will be placed, is a typical black spruce forest with scattered alder and birch trees in addition to abundant labrador, rose, mosses and other low vegetation. This location was viewed from the air and was not investigated on the ground. Spruce trees and low vegetation will need to be cleared at this location in order to create a landing zone for a Chinook helicopter. Neither of the trails that the cabin will be placed adjacent to are major nor named; they are well-used winter trails, however. The cabin is not being placed within the trails' right-of-way. The location has a low probability for containing unknown cultural resources. No further investigation is recommended.



*Figure 13. General vicinity of 5 Mile Clear Creek shelter location*

#### *Willow Creek Survival Shelter*

This proposed survival shelter location is at the boundary of a forest/grass interface (Figure 14) on the edge of a dry slough. The post archaeologist, survival cabin project manager, and a forester visited this location. On both sides of the dry slough are low ridges which are former creek banks. Between the dry slough and the current creek channel is the westernmost of these two ridges. The survival cabin will be located on the western edge of the dry slough. In order to place the cabin, several trees and some low brush will need to be removed. A short path (approximately 20m long) will also be brushed over the low ridge between the current creek channel and the cabin location. One shovel test was excavated in this area, along the path. No cultural material was found.



*Figure 14. Willow Creek survival shelter location*

The area in the vicinity of the survival shelter was also pedestrian surveyed. This survey located two culturally modified trees (CMTs), but no other signs of previous human activity. These trees were birch and had a strip of bark removed from around their trunks at some undetermined time in the past. The two trees were approximately 15m apart and located on the easternmost ridge paralleling the dry slough. The trees are approximately 100m south of the proposed survival cabin location and on the opposite side of the dry slough. These trees will not be impacted by the proposed project. Based

on the results of the pedestrian survey and testing, no further investigation is recommended.

#### *Clear Creek/Salchaket Slough Survival Shelter*

This proposed survival shelter location is along the bank of Clear Creek near its junction with Salchaket Slough. The post archaeologist, survival shelter project manager, and a forester visited this location. The shelter location is on an overgrown point bar vegetated by high grasses, berry bushes and small willow and alder trees (Figure 15). Immediately behind the proposed location is a small grove of cottonwood trees. One shovel test was excavated in this cottonwood grove. No cultural material was found. Pedestrian survey in the general vicinity located several stumps of previously cut trees, but no other evidence of past human activity. Based on the results of the pedestrian survey and testing, no further investigation is recommended.



*Figure 15. Clear Creek/Salchaket Slough survival shelter location*

#### *Wood River Survival Shelter*

This proposed survival shelter location is located on a terrace approximately 2m above the Wood River (Figure 16). The post archaeologist, survival cabin project manager, and a forestry crew visited this location. The area selected was chosen for shelter placement because it experienced a small burn and blow-down. Almost all of the trees within the area needed for a landing zone and shelter placement are already down. Only the removal of the downed trees and the cutting of a few standing trees are necessary to prepare this site.



*Figure 16. Wood River survival shelter location*

The shelter and landing zone area was well drained and fairly flat. Because of the previous burn and blow-down there were numerous exposed root wads. All exposed root wads were examined for cultural material and none was found. Three shovel tests were excavated just south of the proposed landing zone and shelter location along the same terrace where the cabin will be placed. The shovel test location was a flat area in an open spruce forest. The understory consisted primarily of horsetail, wild rose and mosses. None of the shovel tests located any cultural material and a reconnaissance of the general area surrounding the project location did not reveal any evidence of past human activity. Based on the results of the pedestrian survey and testing, no further investigation is recommended.

#### **Cultural Resources**

There are no known cultural resources located in the vicinity of any of the proposed survival shelter locations.

**Results**

Aerial reconnaissance, pedestrian survey and subsurface testing of the proposed project areas identified two culturally modified trees in the vicinity of the proposed Willow Creek survival shelter location. These trees will not be impacted by the proposed project. All other previously recorded archaeological sites or historic properties in the TFTA fall outside the proposed project areas for the placement of the survival shelters. USAG-AK has determined that no historic properties will be affected by the proposed project.

## 2.5 Birch Hill Ski Area Improvements

USAG-AK has proposed to construct a halfpipe at Birch Hill Ski Area, in the Fort Wainwright cantonment, for the purpose of skiing and snowboarding. Additionally, the snowmaking drain pond is to be repaired to its original state by removing silt and vegetation growing inside the pond. The drain line to the pond freezes underground making snowmaking operations impossible, and it is proposed that it be repaired by installing insulation and heat trace to the entire length of drain line. The parking lot will also be extended 20ft on the south and east sides by adding 1 to 2ft of fill, and fill will be added on the south side of the maintenance building.



Figure 17. Project areas for Birch Hill Ski Area improvements

### Survey and Field Methods

In May 2004, an archaeological survey crew, comprised of three archaeologists employed by CEMML, conducted a pedestrian survey of the proposed undertakings (Figures 18 and 19). The survey area included 26.01 acres of the ski hill, including the halfpipe APE of 1.17 acres and 4.203 acre APE for the parking facility, maintenance area and snowmaking pond.

Parallel pedestrian transects spaced at 20m were walked in all areas that were not deemed too wet or too steep ( $>40^\circ$ ) to contain cultural material. Systematic subsurface testing was undertaken in areas determined to be high probability (e.g., lake margins,

ridges, benches adjacent to steeper slopes) during initial review of the proposed project area, and as determined by the supervising archaeologist and field crew leader based on survey findings. Shovel tests were approximately 40cm x 40cm, and soils were screened through ¼in. hardware cloth. No cultural materials were identified or recovered during the field inventory.

### ***Cultural Resources***

Two known sites are located within 1km of the proposed project area. These include FAI-00199 and FAI-00461, neither of which is within the APE for this project. Following is a description of each recorded site near the currently proposed project area.

#### FAI-00199

Latitude:

Longitude:

Determination: Not eligible

Site FAI-00199 is located east of the Fort Wainwright Ski Slope, above the Chena River floodplain, and 1.5km north of the main Fort Wainwright complex (Dixon et al. 1980). One side notched point and two flakes of chert were observed in a gully at the base of a slope, previously disturbed by military activity and road construction. No subsurface testing has been conducted at this site. The UTM coordinates for the site are:

#### *Recommendations*

This site is located outside of the project area and will not be impacted by the proposed improvements. This site has previously been determined not eligible for the National Register on July 25, 1984. Because this site lies outside the APE for the proposed project, it was not re-evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be evaluated to determine eligibility due to the extensive period of time that has passed since its initial evaluation.

#### FAI-00461

Latitude:

Longitude:

Determination: Not evaluated

Site FAI-00461 is Historic Recreational Building #1187, located at Fort Wainwright. The building was constructed in 1942 during WWII to provide a recreational ski facility at Ladd Field's Ski Hill. Site FAI-00461 is a wood frame, shallow gable roofed building measuring 20ft wide by 120.6ft long.

#### *Recommendations*

This site is located outside of the project area and will not be impacted by the proposed improvements. Because this site lies outside the APE for the proposed project, it was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be evaluated to determine eligibility.

**Results**

Pedestrian survey and subsurface testing of the proposed project areas failed to identify any cultural resources within the boundaries of the halfpipe and parking facility, maintenance area and snowmaking pond proposed project areas. All previously recorded archaeological sites or historic properties fall outside the proposed project areas. USAG-AK has determined that the proposed projects will have no effect on historic properties.



*Figure 18. View of parking area, maintenance facility, and snowmaking pond project areas*



*Figure 19. Birch Hill Ski Slope, location of proposed halfpipe*

## 2.6 Yukon Training Area, Multi Purpose Training Range Firing Fan

USAG-AK has proposed to construct an Infantry Platoon Battle Course (IPBC) and an Infantry Squad Battle Course (ISBC) at the YTA on Fort Wainwright, Alaska. The ranges will be sited just east of Eielson Air Force Base, along Manchu and Quarry Roads.

The ISBC will include a Breach Facility, an Urban Assault Course and a Shoot House. Weapons fired on this course will use small arms ammunition (e.g., 9mm tracer (AT4 subcaliber), 5.56mm (M-16), 7.62mm (M-60 machine gun), 40mm training practice round – orange smoke (M-203)) using non-dudged ammunition. Small explosive charges (up to 5 pounds of C4) will be used at the Breach Facility.

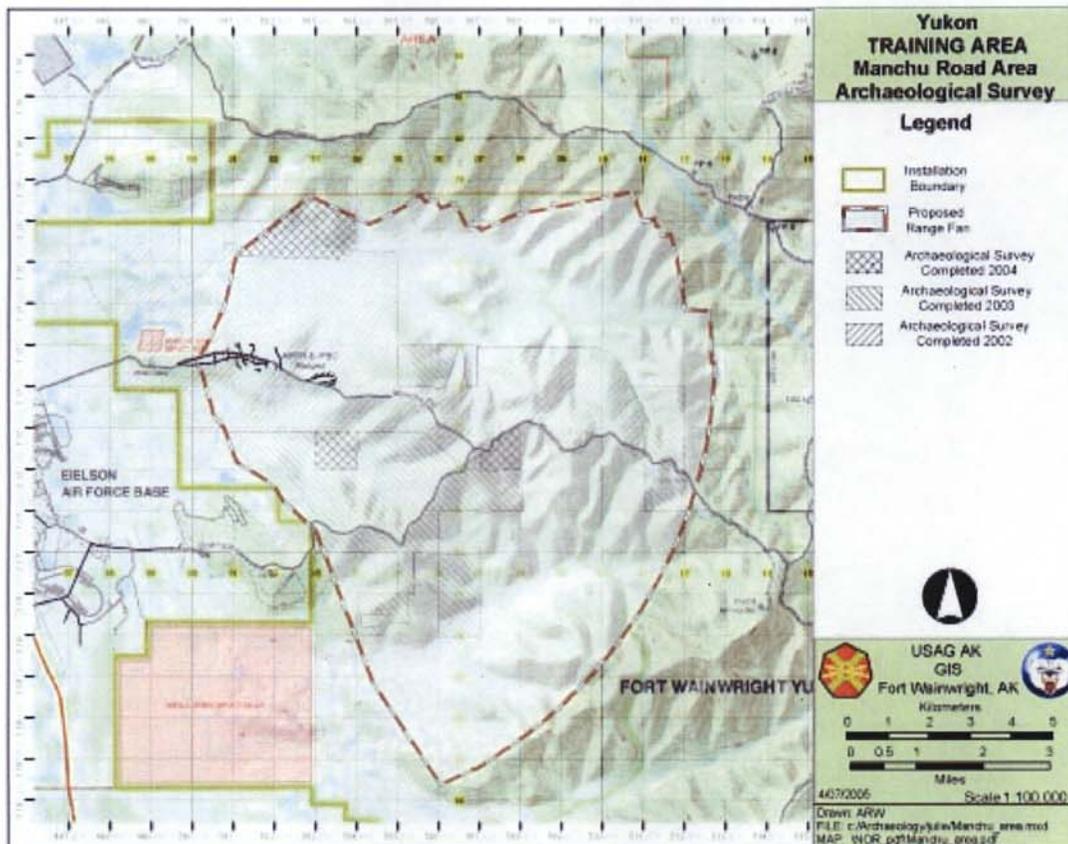


Figure 20. Map of archaeological survey completed in the Yukon Training Area proposed range fan

The IPBC is a larger-scale course designed for more combat realism and larger unit (platoon) training. Weapons fired on this course will be the same as those on the ISBC. Both courses will include an After-Action Review Facility to allow the control, monitoring, and reviewing of simulations and training operations. Supporting facilities for both courses will also include communications, electric service, an ammo breakdown facility, control tower, warm-up facility, crushed aggregate access roads and parking areas, and self-contained dry-flush, Arctic latrines.

The firing fan for the proposed ranges has been partially inventoried for historic properties during the 2002 and 2003 field seasons. This inventory work continued in 2004 when approximately 963 additional acres were surveyed.

### ***Survey and Field Methods***

In July and August 2004, an archaeological survey crew, comprised of three to four archaeologists employed by CEMML, conducted a pedestrian survey of a portion of the proposed range fan (Figure 20).

Parallel pedestrian transects spaced at 20m were walked in all areas that were not deemed too wet or too steep (>40°) to contain cultural material. Systematic subsurface testing was undertaken in areas determined to be high probability (e.g., lake margins, ridges, benches adjacent to steeper slopes) during initial review of the proposed project area, and as determined by the supervising archaeologist and field crew leader based on survey findings. Shovel tests were approximately 40cm x 40cm, and soils were screened through ¼in. hardware cloth. No cultural materials were identified or recovered during the field inventory.

### ***Cultural Resources***

Two known sites are located within the boundaries of the proposed project area. These sites are XBD-00095 and XBD-00104.

#### XBD-00095

Latitude:

Longitude:

Determination: Not evaluated

This site consists of two grey chert flakes, one of which is a biface thinning flake, found on the surface of a road cut (Holmes 1979). The UTM coordinates for the site are:

#### *Recommendations*

A CEMML archaeology crew attempted to relocate this site in the summer of 2003. No remains of the site were relocated and it was likely destroyed due to additional disturbance in the area. This site has likely been destroyed and is therefore not eligible for the National Register. No further action is recommended.

#### XBD-00104

Latitude:

Longitude:

Determination: Not eligible

This site consists of two grey chert flakes, one of which is probably a biface thinning flake, found on the surface of a material source (Holmes 1979). The UTM coordinates for the site are: This site was previously found to be not eligible for the National Register on July 25, 1984.

#### *Recommendations*

A CEMML archaeology crew attempted to relocate this site in the summer of 2003. No remains of the site were relocated and it was likely destroyed due to additional disturbance in the area. This site was previously determined not eligible for the National

Register on July 25, 1984. This site has likely been destroyed and is therefore not eligible for the National Register. No further action is recommended.

***Results***

Additional testing and survey on approximately 963 acres within the proposed range firing fan in the YTA did not identify any cultural resources. Additional survey and testing is proposed for the upcoming field seasons.

## 2.7 Birch Hill Section 110 Inventory

In order to assist USAG-AK in meeting its National Historic Preservation Act (NHPA) Section 110 responsibilities, CEMML completed some inventory activities in the Birch Hill area of the Fort Wainwright cantonment (Figure 21). Approximately 180 acres on Birch Hill were inventoried in 2004. While numerous military training features, such as individual fighting positions (foxholes), were encountered during survey activities, no National Register eligible cultural resources were located.

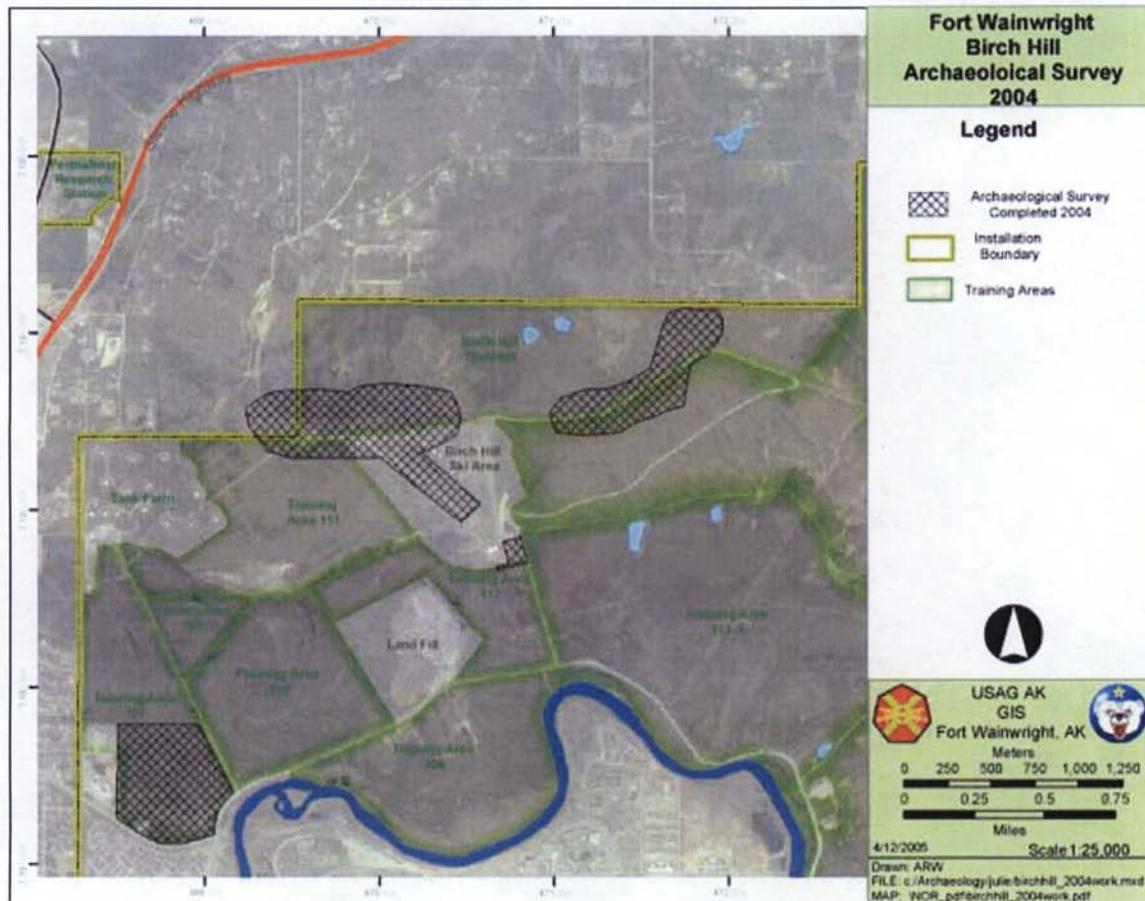


Figure 21. Archaeological survey completed on Birch Hill and in the vicinity

Section 110 cultural resources inventories will continue to be carried out on USAG-AK lands as funding and other constraints allow.

### 3.0 FORT WAINWRIGHT (DONNELLY TRAINING AREA)

#### **Introduction**

U.S. Army Garrison Alaska (USAG-AK) has proposed one major range development project, as well as several smaller projects on lands at Fort Wainwright's Donnelly Training Area (DTA).

The DTA is approximately 105 miles southeast of Fairbanks near the City of Delta Junction in Interior Alaska. The DTA consists of the West and East Training Areas and three outlying training sites: Gerstle River Training Area, Black Rapids Training Area, and Whistler Creek Rock Climbing Area (Figure 22). For purposes of this report, only the DTA East and West are discussed.

The DTA West is an 894 square-mile parcel bounded by the Delta River to the east and the Little Delta River to the west. It covers approximately 571,995 acres. The East Training Area is an 81 square-mile parcel stretching east of the Delta River to Granite Creek. It covers approximately 51,590 acres.

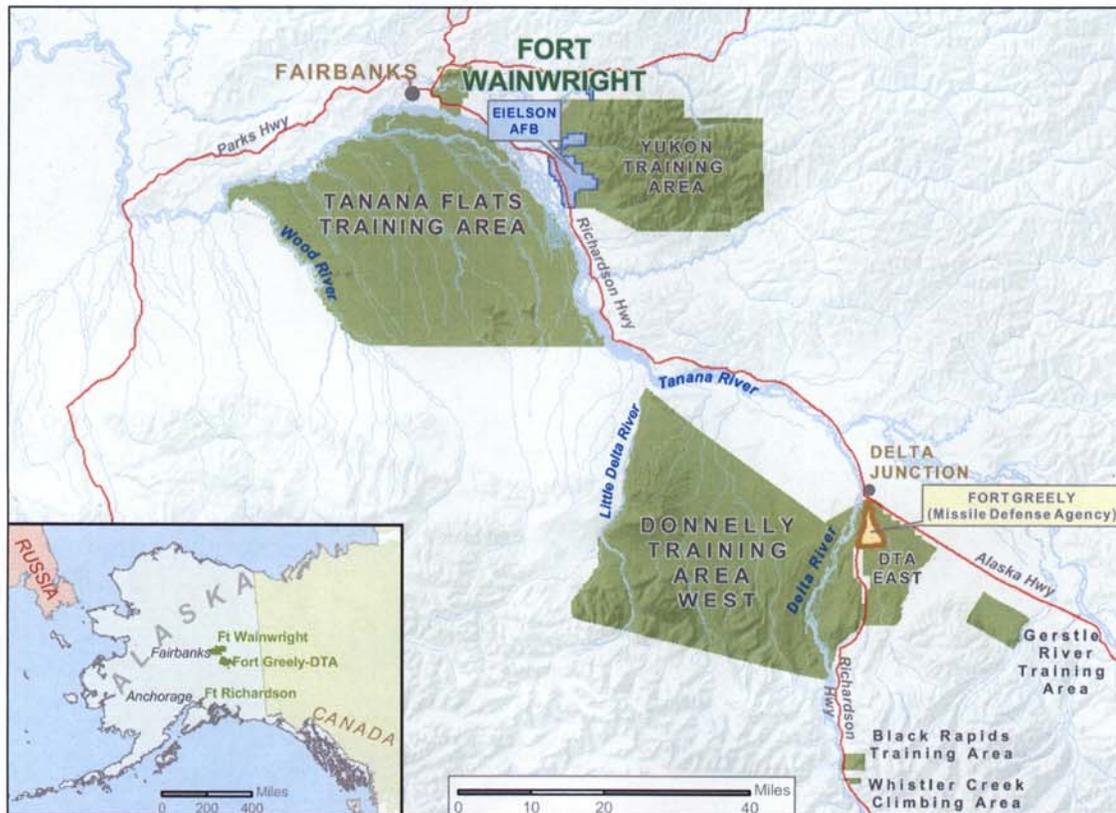


Figure 22. Location of U.S. Army forts and training lands in Alaska

The DTA's major range development project, the Battle Area Complex (BAX), is a range designed for gunnery training of vehicle-mounted weapon systems and dismounted infantry platoons, either independently of or simultaneous with supporting vehicles. There are three alternatives considered for the siting of the BAX project: North Texas Range (or Big Lake area), Eddy Drop Zone, and Donnelly Drop Zone. Survey of the construction footprints and parts of the firing fans for these three alternatives was

conducted in the summers of 2002 and 2003 (Hedman et. al. 2003; Robertson et. al. 2004). The focus of the 2004 field season was site evaluations to determine eligibility for inclusion in the National Register of Historic Places for sites associated with the BAX project. A full description of the evaluations is presented in Section 3.1.

Smaller projects within the DTA included 3 road upgrade projects (Beales Road, 12 Mile Crossing, and 33 Mile Loop Trail). Archaeological surveys of the proposed projects were conducted in May, June, July, August and September of 2004. A total of 10 new archaeological sites were identified and recorded in the areas surveyed during the 2004 summer field season. Two of these sites were evaluated for eligibility to the National Register of Historic Places, pursuant to 36 CFR 800.

The road upgrades along Beales Road are located approximately 7-10km south of Delta Junction, and 1km west of the Richardson Highway in DTA East. No new archaeological sites were located along Beales Road during the course of the 2004 survey. Three prehistoric sites have been previously recorded within 1km of the proposed project area. However, there are no sites located in the APE for the Beales Road upgrade project. A full description of the survey is presented in Section 3.2.

The road upgrades along 12 Mile Crossing are located approximately 21km south of Delta Junction, and 1km east of the Richardson Highway in DTA East. Two new archaeological sites were located along 12 Mile Crossing during the course of the 2004 survey. Both sites were evaluated for eligibility for listing in the National Register of Historic Places, based on criteria outlined in 36 CFR 60.4. A full description of the survey and evaluations is presented in Section 3.3.

Road upgrades are proposed along 33 Mile Loop Trail, which begins approximately 1km south of Delta Junction. Three prehistoric sites have been previously recorded within 1km of the proposed project area. However, there are no sites located in the project area for the 33 Mile Loop Trail upgrade project. A full description of the survey and evaluations is presented in Section 3.4.

A total of 2,610 acres were surveyed during the 2004 summer field season, and a total of 10 new archaeological sites were identified. In addition, several sites were revisited to recheck site information. A full description of the 2004 survey, including new sites and revisions of previously recorded sites, is presented in Sections 3.5 and 3.6.

### 3.1 Battle Area Complex (BAX)

USAG-AK has proposed to construct a BAX on lands at Fort Wainwright's DTA. The BAX is designed for gunnery training and would meet qualification requirements of crew-served, vehicle-mounted weapon systems. The BAX range would also support dismounted infantry platoon tactical live-fire operations, either independently of or simultaneous with supporting vehicles. Units would acquire skills needed to detect, identify, engage and defeat stationary and moving targets in a tactical array. Primary features of the BAX include course roads with crossover capability, stationary armor targets, moving armor targets, stationary infantry targets, moving infantry targets, machine gun bunkers, and breaching obstacles. All targets would be fully automated and the event-specific target scenario would be computer-driven and scored from the control facility. The range operating system would be fully capable of providing instrumented after-action reviews. In addition to the range, the BAX would include an after-action review facility, ammunition breakdown building, ammunition loading dock, operations/storage building, arctic latrines, bleacher enclosure, bivouac and unit staging area, covered mess area, building information systems, electric service, water and septic system, storm drainage, and general site improvements.

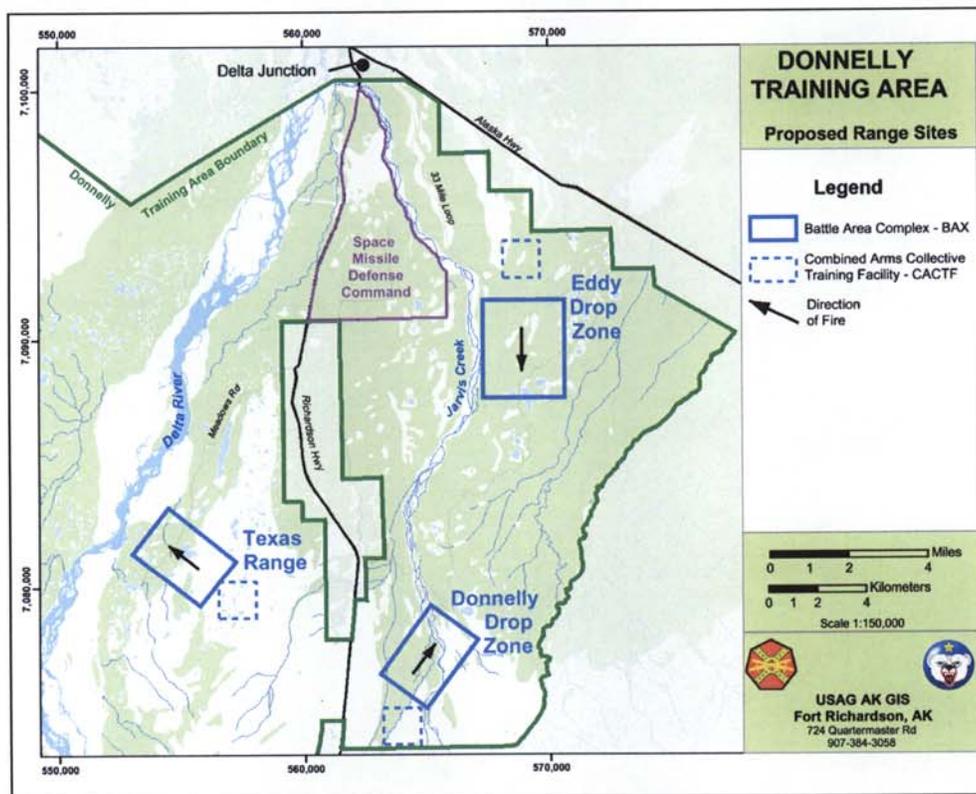


Figure 23. Location of the three BAX alternatives

There are three alternatives being considered for the siting of this project: North Texas Range (or the Big Lake area), Eddy Drop Zone and Donnelly Drop Zone (Figure 23). Survey for the construction footprints of the three BAX alternatives was conducted in 2002 and 2003 (Hedman et al. 2003; Robertson et al. 2004). The focus in 2003 was completion of the surveys for the firing fans or "surface danger zones" for the alternatives. The firing fan for the Texas Range alternative is located in an active impact

area and was not surveyed due to safety concerns. The firing fans for the Eddy Drop Zone alternative (firing south) and Donnelly Drop Zone alternative (firing north) overlap and this area received the majority of the resources for survey in 2003 (Robertson et al. 2004).

The focus of the 2004 field season was to complete site evaluations and determinations of eligibility (DOEs) for listing in the National Register of Historic Places (NRHP) for sites located in the construction footprint and firing fans for the three alternatives of the BAX project.

*Table 1. 2004 DOEs for BAX Project*

<b>SITE #</b>	<b>LOCATION</b>	<b>NRHP STATUS</b>
XMH-00842	BAX Footprint Eddy DZ	Not Eligible
XMH-00878	BAX Footprint Eddy DZ	Eligible
XMH-00904	BAX Footprint Eddy DZ	Eligible
XMH-00912	BAX Footprint Eddy DZ	Not Eligible
XMH-00916	BAX Footprint Eddy DZ	Not Eligible
XMH-00919	BAX Footprint Eddy DZ	Eligible
XMH-00945	BAX Footprint Eddy DZ	Eligible
XMH-01160	BAX Footprint Eddy DZ	Not Eligible
XMH-00279	BAX Firing Fans	Eligible
XMH-00292	BAX Firing Fans	Eligible
XMH-00920	BAX Firing Fans	Eligible
XMH-01092	BAX Firing Fans	Eligible
XMH-01093	BAX Firing Fans	Eligible
XMH-01094	BAX Firing Fans	Not Eligible
XMH-01101	BAX Firing Fans	Not Eligible
XMH-01102	BAX Firing Fans	Not Eligible
XMH-01103	BAX Firing Fans	Not Eligible
XMH-01107	BAX Firing Fans	Eligible
XMH-01109	BAX Firing Fans	Eligible
XMH-01110	BAX Firing Fans	Eligible
XMH-01112	BAX Firing Fans	Not Eligible
XMH-01113	BAX Firing Fans	Not Eligible
XMH-01115	BAX Firing Fans	Eligible
XMH-01116	BAX Firing Fans	Eligible
XMH-01127	BAX Firing Fans	Not Eligible
XMH-01145	BAX Firing Fans	Eligible
XMH-01146	BAX Firing Fans	Eligible
XMH-00939	BAX Footprint Big Lake Area	Eligible
XMH-00940	BAX Footprint Big Lake Area	Not Eligible
XMH-00941	BAX Footprint Big Lake Area	Not Eligible
XMH-00948	BAX Footprint Big Lake Area	Not Eligible

**Cultural Resources**

Determinations of eligibility for the National Register for 31 archaeological sites (Table 1) were completed in the summer of 2004 (Figure 24). The determinations of eligibility for these sites are presented below.

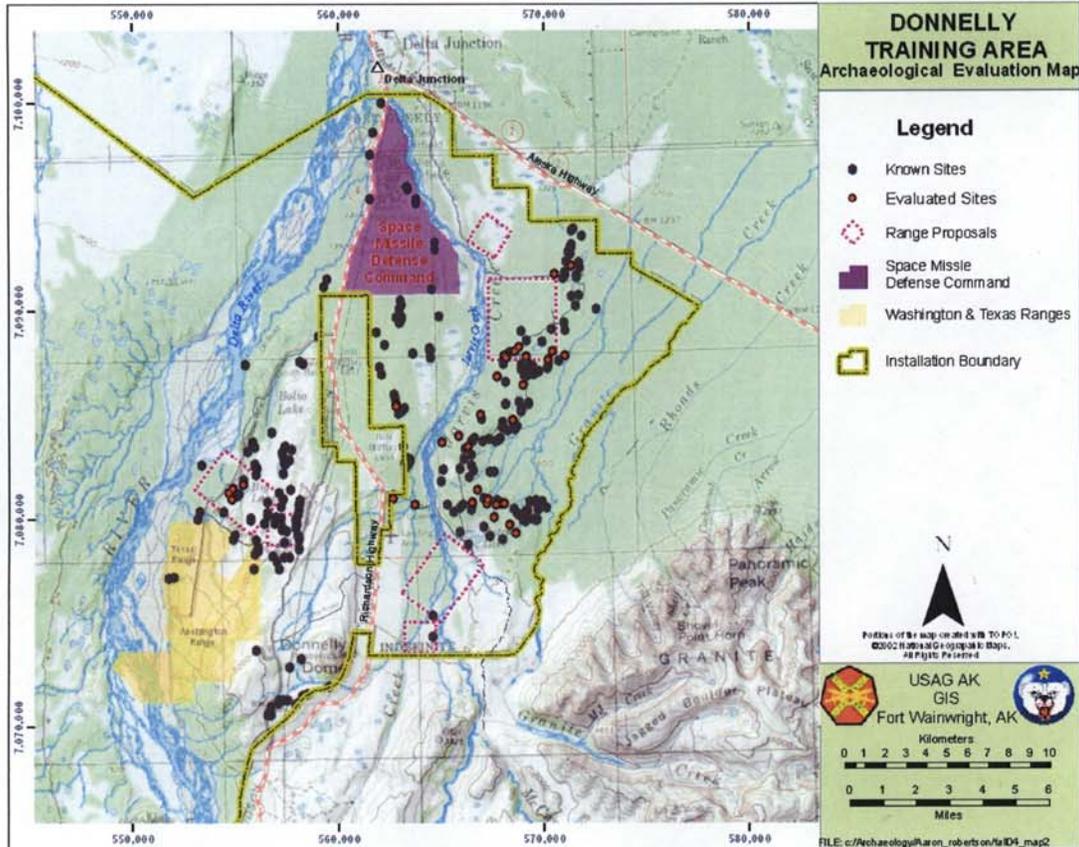


Figure 24. Location of archaeological sites evaluated for National Register eligibility

**XMH-00279**

Latitude:

Longitude:

Determination: Eligible

Site XMH-00279 is located on a narrow knoll overlooking a nearly dried-up unnamed lake located 50m to the south. The viewshed at the site is largely obstructed by trees; however, the Granite Mountains are visible to the southeast. The vegetation consists of a mixed forest with dwarf trees, moss, lichen, and dwarf scrub. Surface visibility is approximately 5 percent on the site. The UTM coordinates for the site are:



Figure 25. General view of site XMH-00279, facing north

Site XMH-00279 was identified in a 1979 survey and consists of one black chert flake recovered from a shovel test pit (Holmes 1979). This site was revisited in 2002, and because location information for the site was several hundred meters off, the site was inadvertently given a new AHRs number (XMH-00918). Later investigation revealed that XMH-00279 and XMH-00918 are the same site. The site was evaluated for eligibility for listing in the National Register in the summer of 2004 under its original site number, XMH-00279.

Site XMH-00279 consists mainly of lithic debitage. Two flakes were found on the surface and an additional six flakes were found subsurface in either shovel test pits or the excavation unit (including the original flake from 1979). One quartzite uniface was found at the site in the excavation unit. The uniface is white in color, 44.8mm long, 37.8mm wide, and weighs 18g. Chert and basalt were present among the debitage. All artifacts encountered were collected from the site. No density plots were calculated at the site.

Shovel tests were systematically placed throughout the site area at intervals of 10m. Three shovel tests were placed at 5m intervals in order to determine the best location for placement of the excavation unit. A total of 16 shovel tests were excavated at the site in 2004. The depth of the shovel tests varied across the site, but all were excavated to glacial till. A total of two shovel tests were positive, with one containing one flake and the other containing two flakes. Subsurface artifacts were found at depths of 1-15cm in all positive shovel tests.

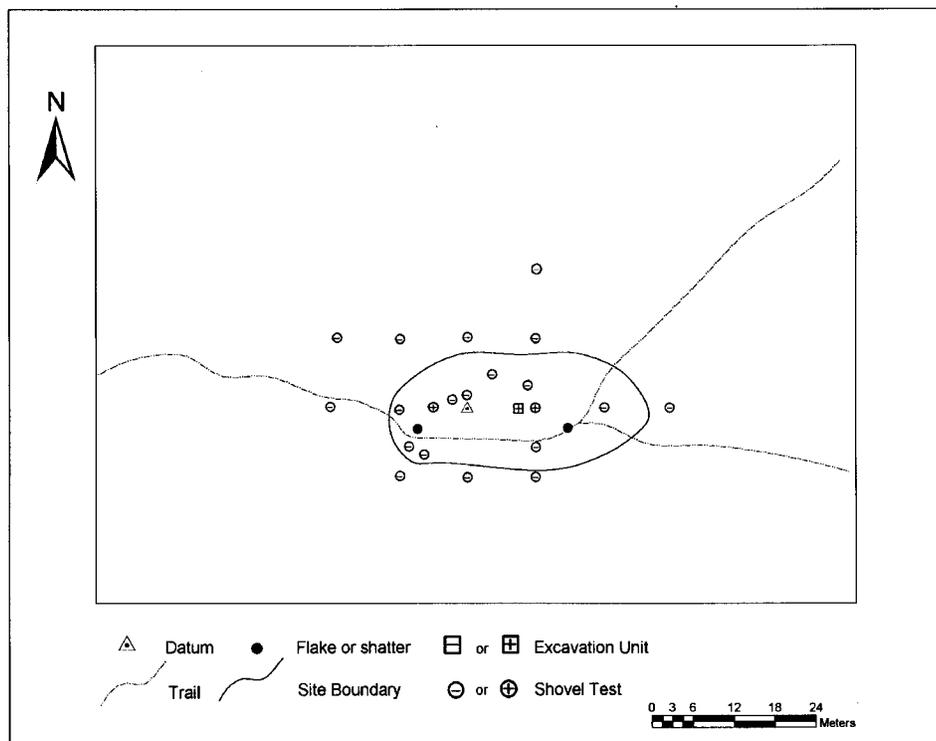
One 1m x 1m test unit was excavated at XMH-00279. The unit was placed to the east of the site datum, between the two positive shovel test pits excavated during the evaluation. The unit was excavated in 10cm levels until glacial till was reached. The glacial till layer was 5-10cm thick followed by a layer of moderately compacted, yellow brown, sandy loess. An additional level was dug through this loess. The test unit contained three artifacts. A chert flake was recovered from level one at a depth of 1-10cm below the unit datum. A quartzite uniface was recovered from level two at a depth of 10-20cm below the unit datum. Another chert flake was recovered from level two at a depth of 15cm below the unit datum. No subsurface features were identified at the site.

Soil thickness varied from 20-150cm across the site. The highest elevations of the site had shallower deposits that averaged only 30cm. Soil in this area consists of a loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellowish brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a very high density of gravels and cobbles. Soil down slope from the top of the site showed more deposition, averaging 50cm, with four shovel tests exceeding 95cm in depth. Soil in these areas consists of loosely compacted, dark brown, organically rich loess that is present to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted dark brown loess with a low density of gravels and cobbles. Below this loess deposit, the soil turns to moderately compacted yellow brown loess, also with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a very high density of gravels and cobbles. The shovel test pits that were 100cm or greater in depth are thought to have had small (5-10cm) lenses of glacial till before transitioning to a thick layer of yellow brown sandy loess with a very low density of gravels and cobbles.

### **Findings**

A total of 9 artifacts were recovered from XMH-00279. Two were recorded on the surface and seven were recovered from below the surface. Based on the results of survey and testing, the site area is estimated at approximately 20m x 35m.

Site XMH-00279 is a small lithic site with both surface and buried components where late stage lithic reduction occurred. With buried cultural material, XMH-00279 is in a position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-00279 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.



*Figure 26. Site map of XMH-00279*

### **XMH-00292**

Latitude:

Longitude:

Determination: Eligible

Site XMH-00292 is located on a northeast-southwest trending ridge which has an approximately 180° unobstructed view to the south. The Granite Mountains are visible to the southeast, Donnelly Dome to the south, and the Alaska Range to the southwest. The nearest water source is \_\_\_\_\_, located 750m to the north of the site. Surface visibility at the site is high due to wind erosion and the disturbance caused by \_\_\_\_\_ extending across the landform. The UTM coordinates for the site are:

Site XMH-00292 was identified during a 1979 survey. It consisted of 12 chert flakes and one siltstone flake found on the surface (Holmes 1979). This site was revisited in 2002. Location information for the site was several hundred meters off and the site was inadvertently given a new AHRS number (XMH-00885). A second site was located at the southern end of the same landform, more than 50m from XMH-00292. It was given the AHRS number XMH-00886. Later investigation revealed that XMH-00292 and XMH-00885 are the same site and that surface material linked XMH-00292 with XMH-00886. Therefore, site XMH-00292 encompasses both XMH-00885 and XMH-00856. Both XMH-00885 and XMH-00886 were evaluated for eligibility for the National Register in the summer of 2004 under the original site number XMH-00292.

Site investigation of XMH-00292 identified two bifaces (one complete projectile point and one biface fragment), a chert microblade and more than 50 flakes. Of these, one biface fragment and a chert microblade were found on the surface. One projectile point and 12 flakes were found in shovel test pits. Chert, basalt, rhyolite, quartzite, and obsidian (a non-locally occurring material type) were present among the debitage. Thirteen of the more than 40 flakes found on the surface were collected in 2004 because they were in the roadway. Two flakes found in the shovel tests were collected. No density plots were placed at the site.

Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 48 shovel tests were excavated. The depth of shovel tests varied, but all were excavated to glacial till. A total of two shovel tests were positive in 2004 with each containing one artifact. Both positive shovel tests were profiled. Subsurface artifacts were found 10-30cm below the surface in both positive shovel tests. An additional 3 positive shovel tests had been excavated in 2002.



*Figure 27. General view of site XMH-00292, facing east*

No subsurface features were identified at the site. Soil thickness varied from 5-45cm in depth across the site. The northern and southern ends of the site have sustained considerable wind erosion, and soil deposition averaged 15cm in these areas. Soil in these areas consists of loosely compacted, brown, organically rich loess to an average depth of 5cm. Below this organic layer, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles. Soil between either end of the landform and off the roadway shows more deposition, averaging 35cm. Soil in these areas is composed of loosely compacted, dark brown, organically rich loess that is present to an average of 10cm below the surface. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles. The roadway has been bladed down to glacial till and showed no deposition whatsoever.

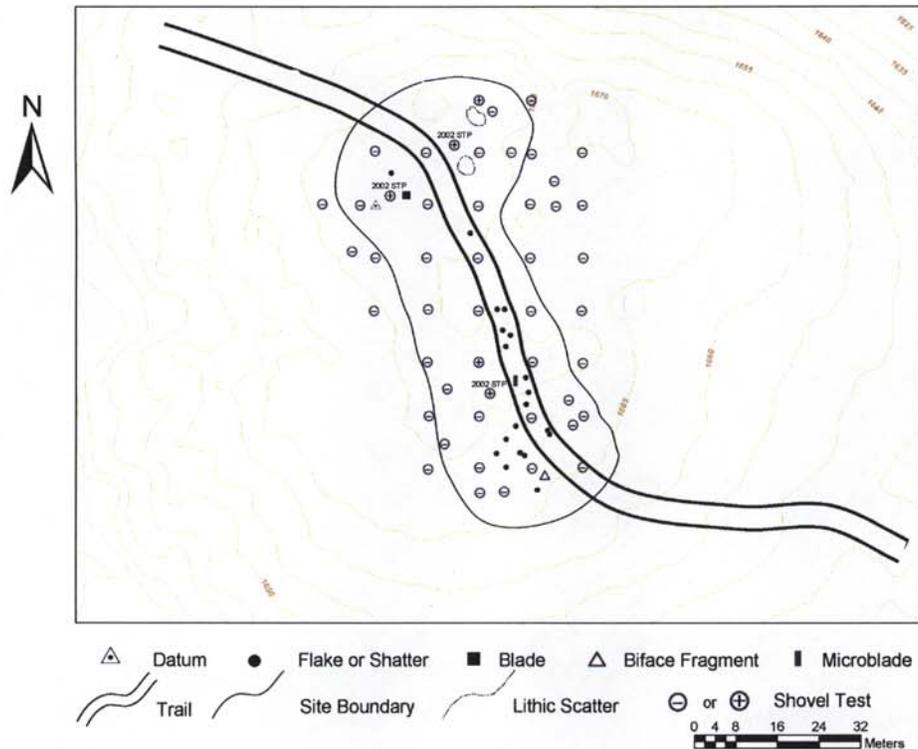


Figure 28. Site map of XMH-00292

Table 2. Lithic assemblage recorded from XMH-00292

Artifact Class	Frequency	% of Assemblages
Bifaces		
Projectile points	1	<1%
Biface fragments	1	<1%
Microblade Cores and Microblades		
Microblades	1	<1%
Debitage		
Flakes	60	99%
Total	63	100%

### Findings

More than 63 artifacts were recorded at XMH-00292. At least 50 were recorded from the surface and 13 were recovered from below the surface, including a complete biface in 2002. The materials at the site include chert, basalt, rhyolite, quartzite and obsidian. Based on the results of survey and testing, the site area is estimated at approximately 80m x 20m.

Site XMH-00292 is a large lithic site with both surface and buried components. Both microblade production and late stage lithic reduction of non-locally occurring material types occurred at the site. With microblade production, non-local material types, and buried cultural material, XMH-00292 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date

human use of the site, potentially contributing to a broader regional context. Site XMH-00292 is an intact archaeological site with integrity despite evidence of previous impacts. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

#### XMH-00842

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-00842 is located on a military trail . The closest water source is , which is 200m to the south. The vegetation consists of a mixed forest with moss, lichen, dwarf scrub and grasses. There is approximately 70-80 percent surface visibility at the site. The site was identified during a 1998 survey and consists of one red chert secondary flake found on the surface of a heavily disturbed area (Higgs et al. 1999). This site was revisited in 2004 and no new artifacts were located. UTM coordinates for the site are:

#### **Findings**

Pedestrian survey and eight shovel tests produced a total of only one surface artifact. This finding suggests that XMH-00842 is an isolated find. The paucity of cultural material and the highly disturbed context indicates that XMH-00842 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

#### XMH-00878

Latitude:

Longitude:

Determination: Eligible

Site XMH-00878 is located on a north-south trending ridge. The site is on the highpoint of the ridge and continues to the west towards a bluff edge. To the west the bluff slopes down very dramatically to generally flat terrain that continues for over 1km to . The nearest water source is , located approximately 300m to the east, which can not be seen from the site. The site has an approximately 180° unobstructed view to the west and an excellent view of Creek. Views are limited in all other directions. Wind erosion has affected the edge of the bluff, as well as parts of the highest point of the site, denuding it of trees. Some surface visibility is present in these eroded areas. Mechanical disturbance has occurred at the site as well. Trees have been knocked over in a 10m wide corridor that extends the length of the site. There are also three survey markers, including one with a concrete foundation. This site disturbance occurred in the past two years.



*Figure 29. General view of XMH-00878, facing west*

Site XMH-00908 is located 200m south of XMH-00878's datum and was originally identified as a separate site. The phase 2 evaluation located surface artifacts along the

ridge between the two sites, incorporating it into the boundaries of XMH-00878. Therefore, XMH-00878 and XMH-00908 are the same site. Additional sites have also been identified on high points in the vicinity. These sites are XMH-00907, located less than 200m to the south, and XMH-00945 less than 200m to the east. The UTM coordinates for XMH-00878 are:

A total of 85 artifacts were recorded at XMH-00878, four of which are associated with microblade production. A total of 37 artifacts were found on the surface, including 35 flakes and two tools – one fine-grained basalt unifacially worked scraper, and one large gray chert flake that appears to have a small amount of retouch and use wear along one of the edges. Both of these tools were collected. The materials at the site include gray rhyolite, gray chert, obsidian, purple medium-grained quartzite, black fine-grained basalt, and quartz. The majority of the flakes (53 of 78) were tertiary flakes, 11 (of 78) were secondary, and 2 (of 78) were large (7-8 cm) primary flakes.

One moderate to low-density artifact concentration was observed at the north end of the site on its high point approximately 25m east of the bluff's edge. The concentration consisted of 10 flakes within a 10m area, five of which were gray chert tertiary flakes. The remaining five are secondary flakes of chert, rhyolite, or quartzite.

Shovel tests were systematically placed throughout the site at intervals of either 5m or 10m where slope and vegetation allowed. A total of 124 shovel tests were excavated at the site with 16 total positive tests, from which 48 artifacts were recovered.

Artifacts include a unifacially worked obsidian scraper, 2 microblade rejuvenation flakes, 2 microblade sections, and 43 flakes. Six shovel tests were placed at 5m intervals near positive shovel tests in the center of the site where subsurface artifacts were concentrated.

*Table 3. Lithic assemblage recorded from XMH-00878*

Artifact Class	Frequency	% of Assemblages
Unifaces		
Scrapers	2	2%
Unifacially retouched flakes	1	1%
Microblade Cores and Microblades		
Microblade core rejuvenation flakes	2	2%
Microblades	2	2%
Debitage		
Flakes	79	93%
Total	86	100%

The depths of the shovel tests varied, but in all cases were excavated down to glacial till. Subsurface artifacts were found at an average depth of 10-20cm. One 1m x 1m test unit was excavated and one artifact was recovered. This unit was placed adjacent to a positive shovel test, in the vicinity of five other positive shovel tests. The unit was excavated in 10cm levels until reaching glacial till throughout the entire floor of the unit. Soil in this unit consisted of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil is moderately compacted dark brown silt with reddish mottled silty soil to an average depth of 12cm. One obsidian tertiary flake was recovered from this layer. Below this, glacial till is encountered to an

average depth of 25cm. The unit was excavated to a depth of 30cm. A total of 49 artifacts were recovered from the site. Flakes were recovered from below the surface in shovel tests and the excavation unit (48 in the shovel tests and 1 in the test unit).

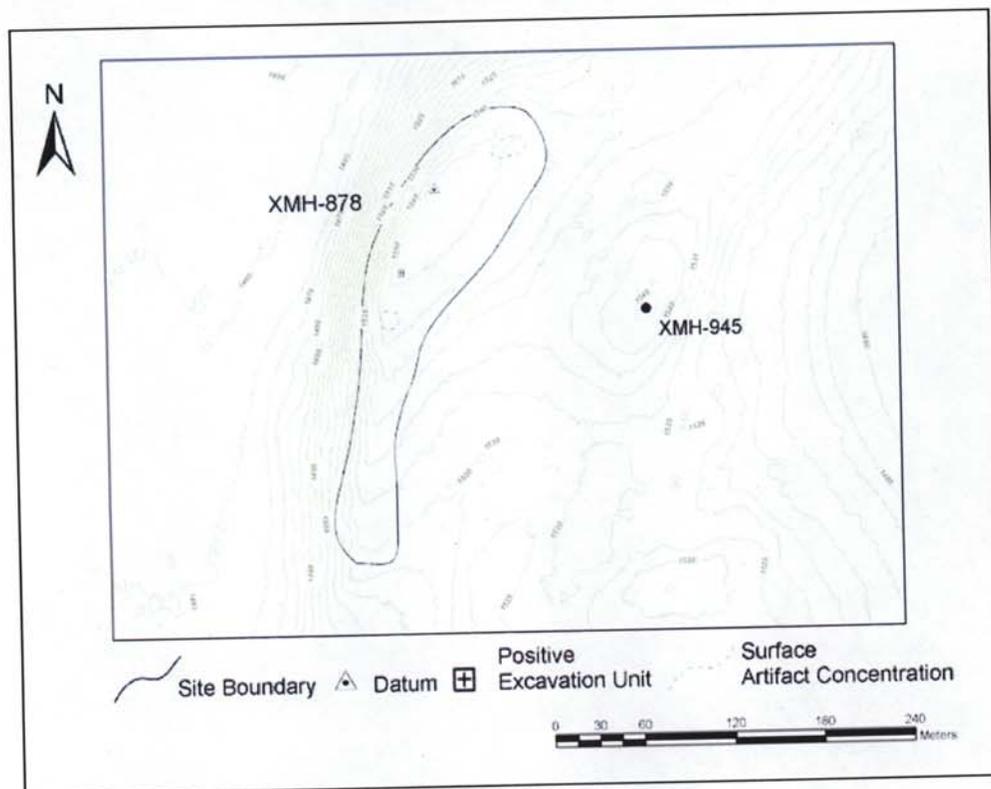


Figure 30. Site map of XMH-00878

### Findings

A total of 86 artifacts were recovered from XMH-00878. Thirty-seven were recovered from the surface and 49 were recovered from below the surface. A total of three tools were found including one obsidian scraper, one basalt scraper, and one retouched chert flake. Also found were two microblade rejuvenation flakes and two microblade sections. The remaining finds were lithic debitage. Based on the results of survey and testing, the site area is estimated at approximately 300m x 30m.

Site XMH-00878 is a large lithic site with both surface and buried components. Both microblade production and late stage lithic reduction of non-locally occurring material types occurred at the site. With microblade production, non-local material types, and buried cultural material, XMH-00878 is in a position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-00878 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

XMH-00904

Latitude:

Longitude:

Determination: Eligible

Site XMH-00904 is located on a narrow northwest-southeast trending ridge. There are no landmarks visible from the site due to dense tree cover surrounding the area. The nearest water source is , located 400m to the east. The vegetation consists of a mixed forest with moss, lichen, and dwarf scrub. Surface visibility is approximately 25 percent on the site. The UTM coordinates for the site are:



*Figure 31. General view of site XMH-00904, facing east*

Site XMH-00904 consists entirely of lithic debitage. One flake was found on the surface during the phase 1 survey and an additional 41 flakes were recovered from subsurface testing. No tools were found at the site. Materials consisted of gray chert, reddish-brown chert, banded chert, basalt, quartz, and obsidian. All but one flake at the site (1 of 42) was a tertiary flake.

Shovel tests were systematically placed throughout the site area at intervals of 10m. Three shovel tests were placed along the northwestern edge of the landform to determine if the site extended any further beyond the test grid. A total of 42 shovel tests were excavated at the site. The depth of the shovel tests varied, but all were excavated to glacial till. A total of five shovel tests were positive with artifact densities ranging from one flake to 18 flakes. Subsurface artifacts were found at depths of 3-25cm in all positive shovel tests.

One 1m x 1m test unit was excavated at site XMH-00904. The test unit was placed 10m north and 22m west of the datum. The unit was excavated in 10cm levels. The test unit contained 13 artifacts from levels one and two at depths ranging from 5-20cm. No subsurface features were identified at the site. Soil thickness varied from 12-50cm across the site. The top (near datum), eastern, and southern portions of the site have sustained considerable wind erosion and soil deposition only averaged 10-20cm in depth. Soil in this area is loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon the soil is moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles. There is more soil deposition on the western and northern portions of the site, averaging 30cm. Soil in these areas is loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil is of moderately compacted brown loess with a low density of gravels and cobbles to an average depth of 15cm. Below this is moderately compacted yellow brown loess, also with a low density of gravels and cobbles, to an average depth of 30cm. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

### Findings

A total of 42 artifacts were recovered from XMH-00904. One flake was recovered from the surface and 41 were recovered from below the surface. No tools were found at the site; however, the size of the subsurface component at XMH-00904 is large and there is a strong possibility of encountering tools through further investigations. Based on the results of the survey and testing, the site area is estimated at approximately 35m x 35m.

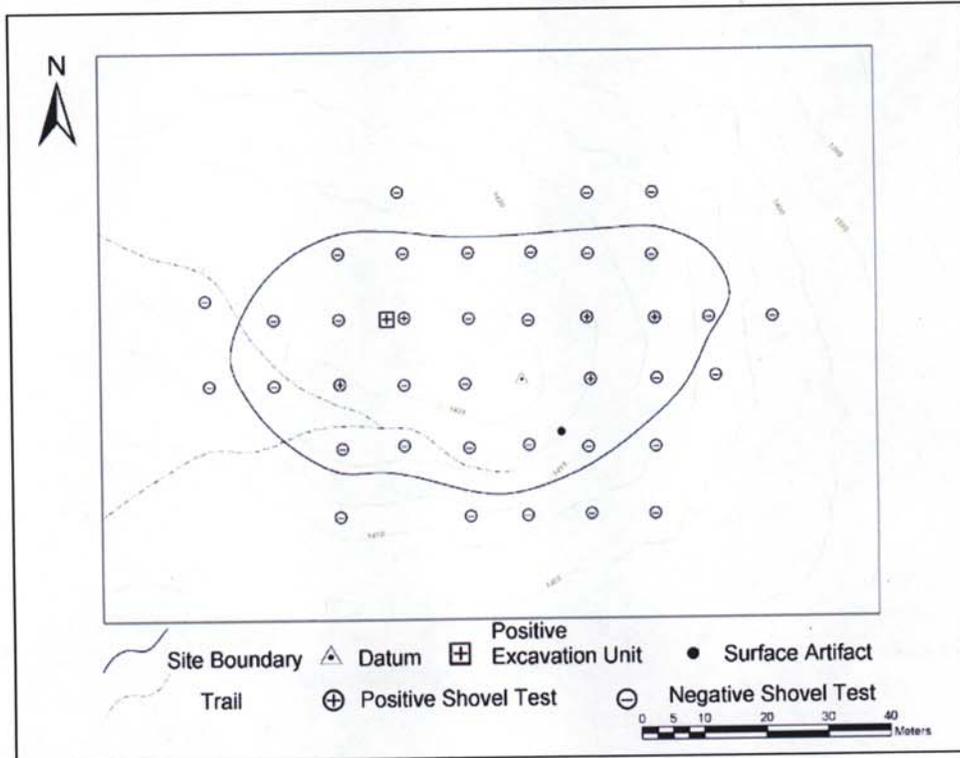


Figure 32. Site map of XMH-00904

Site XMH-00904 is a buried site at which late stage lithic reduction occurred. With the presence of non-local material types and buried cultural material, XMH-00904 can contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-00904 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

### XMH-00912

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-00912 is located in an exposed area on the eastern edge of below the high water mark. The surrounding terrain is dotted with small kettle lakes and includes bogs, low ridges, and knolls. Site XMH-00912 was identified during pedestrian survey and consists of two flakes observed on the surface. Another artifact identified in

the 2002 survey was later deemed an ecofact. The UTM coordinates for the site are:

Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 15 shovel tests were excavated at the site. The depth of the shovel tests varied, but all were excavated to glacial till. All shovel tests were negative.

### ***Findings***

Pedestrian survey and 15 shovel tests produced a total of only two surface artifacts. This finding suggests that XMH-00912 is a small, localized occurrence. The paucity of cultural material indicates that XMH-00912 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### ***XMH-00916***

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-00916 is located on a small ridge. The nearest water source is an unnamed lake located 400m to the west. The vegetation at the site consists of a mixed forest with moss, lichen and dwarf scrub. Surface visibility is approximately 15 percent at the site. Site XMH-00916 was identified in 2002 during systematic shovel testing of a prominent landform and was reported to consist of four "flakes" found in one shovel test pit. These artifacts were later determined to be ecofacts. The UTM coordinates for XMH-00916 are:

In 2004 the location was resurveyed and shovel tests were systematically placed throughout the area at intervals of 10m. A total of 17 shovel tests were excavated. The depth of the shovel tests varied, but all were excavated to glacial till. All shovel tests were negative and no artifacts were found on the surface.

### ***Findings***

Pedestrian survey and 17 shovel tests produced no artifacts. Additionally, the artifacts recorded in 2002 were subsequently determined to be ecofacts. This finding suggests that XMH-00916 was not an archaeological site. Therefore, site XMH-00916 is not eligible for inclusion in the National Register of Historic Places.

### ***XMH-00919***

Latitude:

Longitude:

Determination: Eligible

Site XMH-00919 is located on the highpoint of a northeast-southwest trending ridge which provides an approximately 180° unobstructed view in those directions. To the east and south the ridge slopes down to generally flat topography. The nearest water source is a small unnamed lake which is located approximately 1.3km to the west and cannot be seen from the site. The vegetation at the site consists of a mixed forest with moss, lichen and dwarf scrub. Surface visibility is approximately 25 percent on the site. The UTM coordinates for the site are:

Site XMH-00919 consists entirely of lithic debitage. During the evaluation phase investigations, only two flakes were found on the surface. An additional four flakes were found subsurface in either shovel test pits or the excavation unit. No tools were found at the site. Materials consisted of basalt and rhyolite. All but one flake from the site (1 of 6) is a tertiary flake.

Shovel tests were systematically placed throughout the site at intervals of either 5m or 10m where slope and vegetation allowed. A total of 14 (10 in 2004 and 4 in 2002) shovel tests were excavated at the site with one positive test. A total of one artifact was recovered from those tests. The depths of the shovel tests varied, but in all cases were excavated down to glacial till. The subsurface artifact was found at a depth of 4-8 centimeters below the surface (cmbs).



*Figure 33. General view of site XMH-00919, facing east*

One 1m x 1m test unit was excavated and three artifacts were recovered. This unit was placed adjacent to a positive shovel test. The unit was excavated in 10cm levels until reaching glacial till throughout the entire floor of the unit. Soil thickness across the site varied from 15-30cm deep. Soil deposition and stratigraphy was generally uniform throughout the southeast slope of the hill where excavations were conducted. The soils consist of loosely compacted, dark brown, organically rich loess to an average depth of 5cmbs. Below this organic horizon the soil consists of moderately compacted brown loess. Glacial till is encountered below the loess and consists of a very loosely compacted yellowish brown sandy silty soil with a high density of gravels.

### **Findings**

A total of six artifacts were recovered from XMH-00919. Two were recovered from the surface and four were recovered from below the surface. The materials at the site include rhyolite and basalt. Based on the results of survey and testing, the site area is estimated at approximately 15m x 10m.

Site XMH-00919 is a small lithic site with both surface and buried components where late stage lithic reduction occurred. With buried cultural material, XMH-00919 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-00919 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

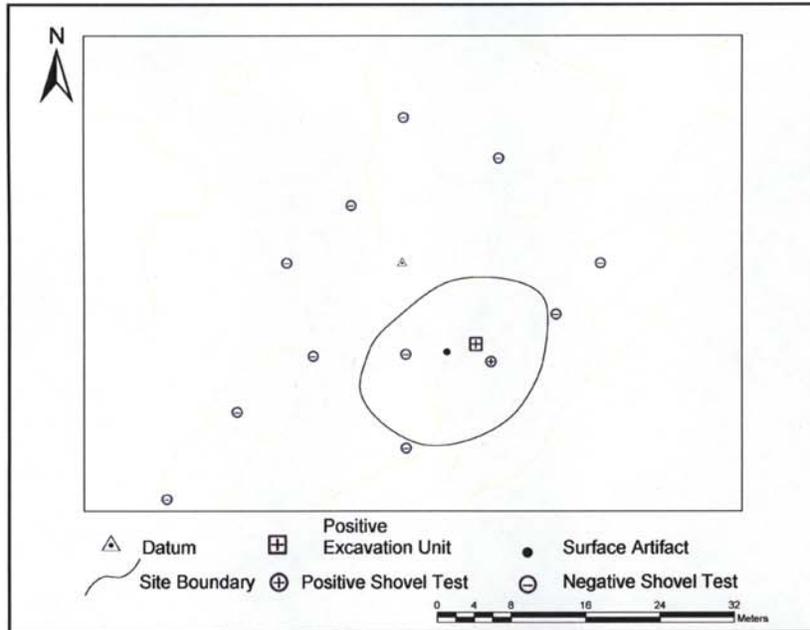


Figure 34. Site map of XMH-00919

XMH-00920

Latitude:

Longitude:

Determination: Eligible

Site XMH-00920 is located on the northern edge of a north-south trending terrace overlooking the flood plain. The site has an approximately 180° unobstructed view of the surrounding terrain to the south. The site has clear views of the Alaska Range to the southwest and are located 1.5km to the northeast and is located 1km to the west. The vegetation at the site consists of a mixed forest with moss, lichen and dwarf scrub. Surface visibility is approximately 25 percent on the site. The UTM coordinates for the site are:



Figure 35. General view of site XMH-00920, facing northwest

Site XMH-00920 consists of 14 artifacts. Seven flakes and one uniface were found on the surface. The tan rhyolite uniface is approximately 30.9mm long, 35.9mm wide, and weighs 15.1g. An additional five flakes and one obsidian uniface fragment were found subsurface in either shovel test pits or the excavation unit. All artifacts encountered at the site were collected.

A grid system of shovel tests was systematically placed over the site area at 10m intervals based off of the datum stake located at the site. A total of nine additional shovel tests were placed at 5m intervals after the initial shovel tests were excavated. These nine shovel tests were placed near the locations of surface artifacts to increase

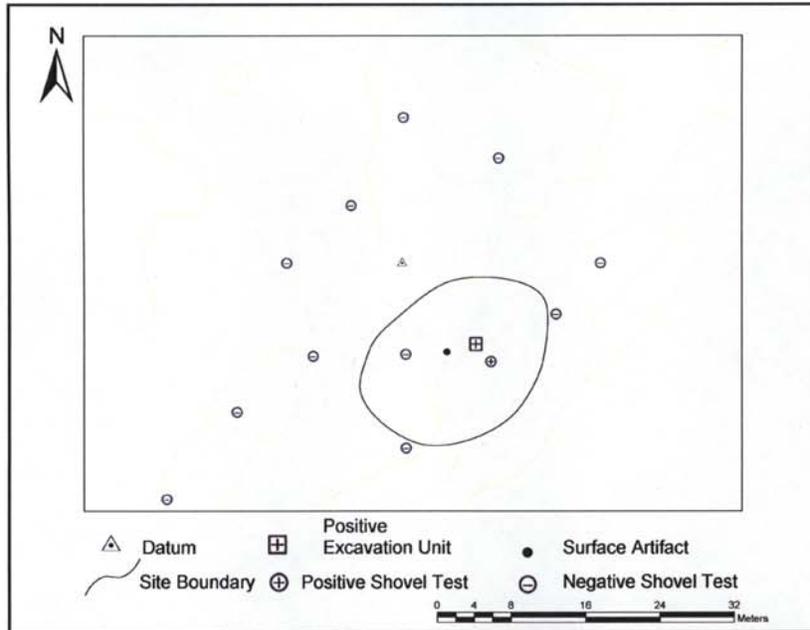


Figure 34. Site map of XMH-00919

XMH-00920

Latitude:

Longitude:

Determination: Eligible

Site XMH-00920 is located on the northern edge of a north-south trending terrace overlooking the flood plain. The site has an approximately 180° unobstructed view of the surrounding terrain to the south. The site has clear views of the Alaska Range to the southwest and are located 1.5km to the northeast and is located 1km to the west. The vegetation at the site consists of a mixed forest with moss, lichen and dwarf scrub. Surface visibility is approximately 25 percent on the site. The UTM coordinates for the site are:



Figure 35. General view of site XMH-00920, facing northwest

Site XMH-00920 consists of 14 artifacts. Seven flakes and one uniface were found on the surface. The tan rhyolite uniface is approximately 30.9mm long, 35.9mm wide, and weighs 15.1g. An additional five flakes and one obsidian uniface fragment were found subsurface in either shovel test pits or the excavation unit. All artifacts encountered at the site were collected.

A grid system of shovel tests was systematically placed over the site area at 10m intervals based off of the datum stake located at the site. A total of nine additional shovel tests were placed at 5m intervals after the initial shovel tests were excavated. These nine shovel tests were placed near the locations of surface artifacts to increase

the likelihood of finding buried artifacts. A total of 32 shovel tests were excavated at the site. The depth of the shovel tests varied, but all were excavated to glacial till. One shovel test was positive and contained two artifacts. The artifacts were found at a depth of 5-30cm.

One 1m x 1m test unit was excavated at XMH-00920. The unit was placed 2m to the east of the positive shovel test pit. The unit was excavated in 10cm levels until glacial till was reached throughout the unit floor. The test unit contained three flakes of an unidentified material found in level one, 0-10 centimeters below datum (cmbd), as well as a quartz flake and a piece of basalt shatter found in level two, 10-20cmbd. No subsurface features were located at the site. Soil thickness varied from 8-70cm across the site. The top of the site, particularly near the edge of the landform, has sustained some wind erosion and soils average only 20cm in thickness. Soil in this area consisted of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organically rich loess, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of a yellow brown sandy loess with a very high density of gravels and cobbles.

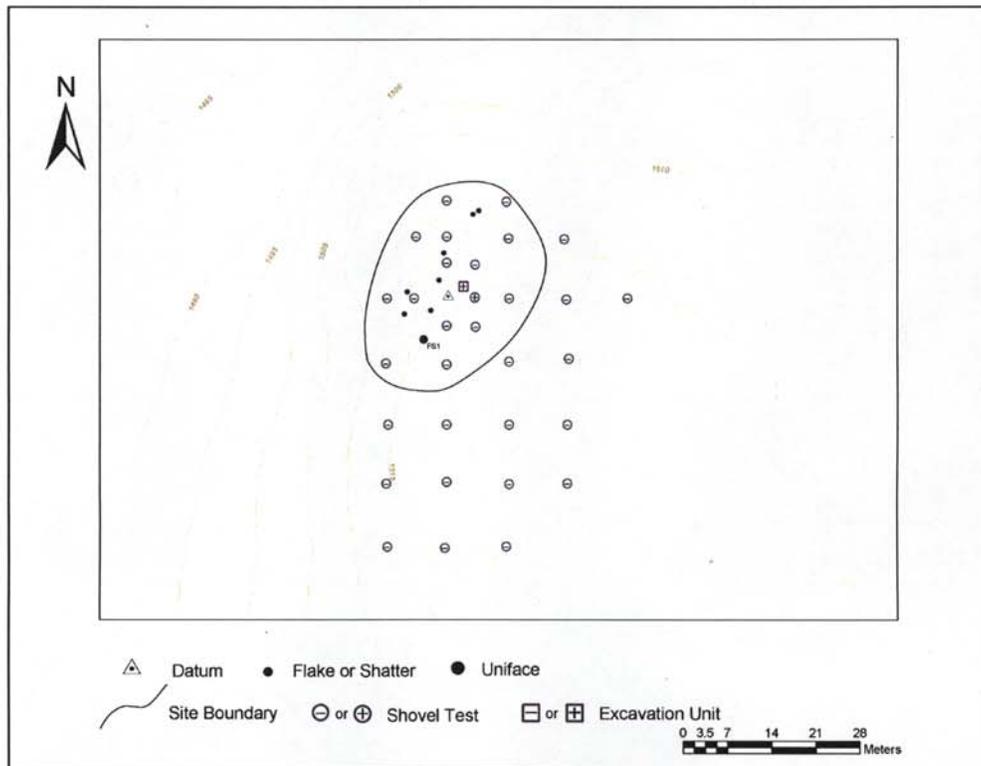


Figure 36. Site map of XMH-00920

Soil to the east of the slope tended to have more deposition and averaged closer to 30cm in thickness. Soil in these areas consisted of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic layer there was a moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of a yellow brown sandy loess with a high density of gravels and cobbles.

### ***Findings***

A total of 14 artifacts were recorded at XMH-00920. Eight were recorded from the surface and six were recorded from below the surface. The materials at the site include chert, rhyolite, quartz and obsidian. Based on the results of survey and testing, the site area is estimated at approximately 15m x 20m.

Site XMH-00920 is a small lithic site with both surface and buried components. Late stage lithic reduction occurred at the site as well as the use of non-locally occurring material types. With non-locally occurring material types and buried cultural material, XMH-00920 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-00920 is an intact archaeological site with integrity despite evidence of previous impacts. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

### ***XMH-00939***

Latitude:

Longitude:

Determination: Eligible

Site XMH-00939 is located on a small knoll overlooking . A wide gravel road runs adjacent to the site and leads to . The site has a 90° unobstructed view of the surrounding terrain to the southwest. The closest water source is , which is located 100m southeast of the site. The vegetation at the site consists of a mixed forest with moss, lichen, grasses and low scrub. Surface visibility at the site is 20 percent. UTM coordinates for the site are:



*Figure 37. General view of site of XMH-00939, facing south*

Site XMH-00939 consists of nine artifacts. Four flakes were found on the surface and an additional five flakes were found subsurface in either shovel test pits or the test unit. Chert and basalt were present among the debitage. Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 16 shovel test pits were excavated at the site. The depth of the shovel test pits varied, but all were excavated to glacial till. A total of two shovel test pits were positive. One of the positive shovel test pits was excavated during phase 1 work in 2003 and contained two dark gray chert flakes. The second positive shovel test pit was excavated during the site evaluation in 2004 and contained one gray chert flake. Artifacts were found from 5-15cmb in both positive shovel test pits.

One 1m x 1m test unit was excavated at site XMH-00939. The test unit was excavated in 10cm levels until glacial till was reached throughout the entire unit floor. The test unit contained a total of two artifacts. One flake was recovered from level one, 0-10cmbd. An additional flake was recovered from level two, 10-20cmbd. Soil deposition was

generally shallow on top of the moraine and slightly deeper towards the western edge of the site, averaging 10-20cm of loess on top of glacial till. The deepest shovel test was 41cm and the shallowest was 12cm deep. No subsurface features were identified at the site.

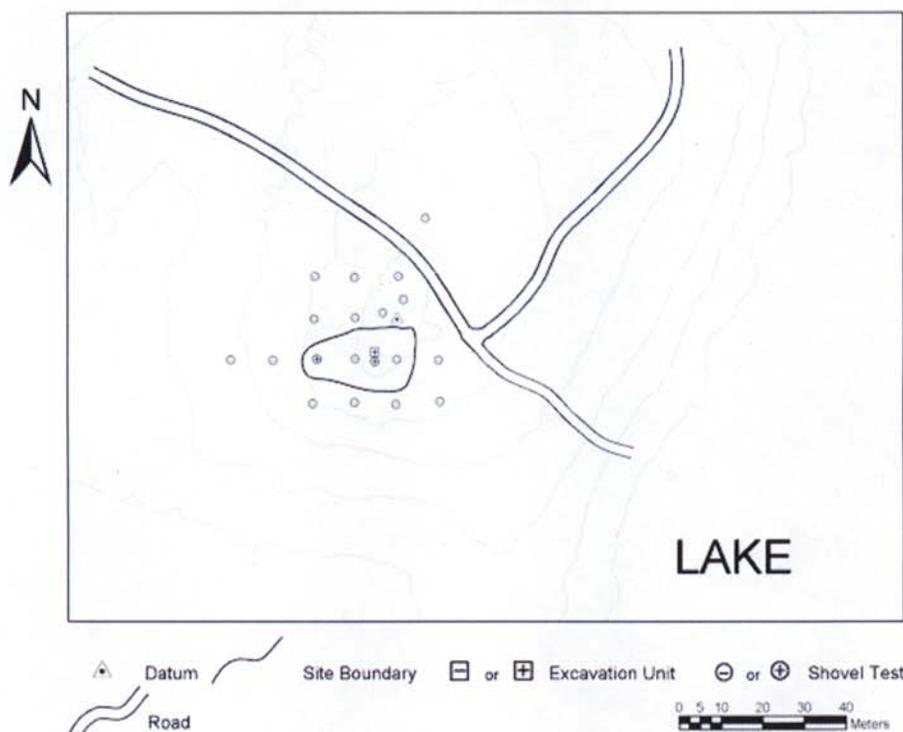


Figure 38. Site map of XMH-00939

### **Findings**

A total of nine artifacts were recovered from XMH-00939. Four were recovered from the surface and five were recovered from below the surface. The materials at the site include chert and basalt. Based on the results of survey and testing, the site area is estimated at approximately 20m x 10m.

Site XMH-00939 is a small lithic site with both surface and buried components. With buried cultural material, XMH-00939 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-00939 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

### **XMH-00940**

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-00940 is located on a relatively low, flat terrace overlooking a dry stream channel to the west. There are no views of the surrounding terrain because of the low elevation of the site. The closest water source is \_\_\_\_\_, which is located 250m southeast of the site. The vegetation at the site consists of a mixed forest with moss, lichen, grasses and low scrub. Surface vegetation covers the site and there is no surface visibility. UTM coordinates for the site are:

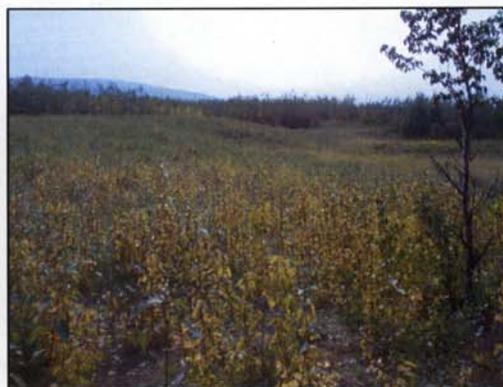


Figure 39. General view of site XMH-00940, facing north

Site XMH-00940 consists of one dark gray chert concave projectile point base fragment. The projectile point fragment exhibits a longitudinal impact fracture that split the point into two. The artifact is approximately 38.7mm long, 15.8mm wide, and weighs 3.9g. The site was identified during a 2002 phase 1 survey as consisting of these two projectile point fragments recovered from a shovel test, 3-5 cmbs. During the 2004 evaluation of the site no new artifacts were found.

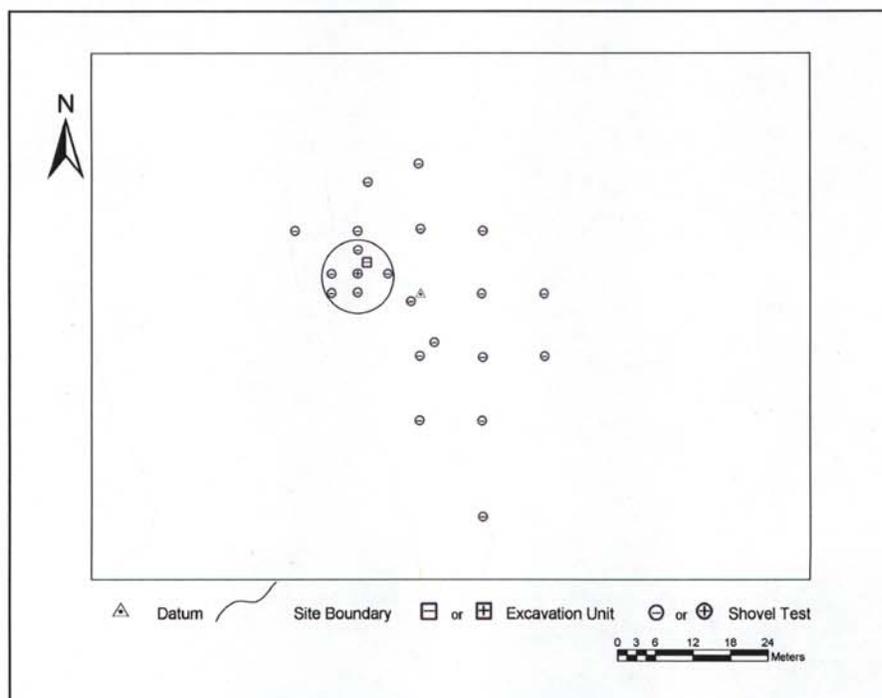


Figure 40. Site map of XMH-00940

Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 18 shovel tests were excavated at the site, none of which contained cultural material. The depth of the shovel tests varied, but all were excavated to glacial till. The site has an average soil deposition of approximately 30-40cm of loess before hitting glacial till. The deepest shovel test reached 75cm and the shallowest was 20cm. One area had an average soil deposition of approximately 30-40cm of loess before hitting glacial till. One test unit was placed close to the original positive shovel test and

excavated to glacial till. The test unit was negative. Based on the results of survey and testing the site area is estimated at approximately 10m x 10m.

### ***Findings***

Pedestrian survey and 18 shovel tests produced a total of only one artifact. This finding suggests that XMH-00940 is an isolated find. The paucity of cultural material indicates that XMH-00940 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### ***XMH-00941***

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-00941 is located on a relatively low, flat piece of land that juts out into

. The viewshed at the site is 180° to the south. Because of the low elevation of the site on the small peninsula, the viewshed to the north is limited; however, the southern lakeshore and several moraines located to the south are visible from the site. The closest water source is , which is located 25m south of the site. The vegetation at the site consists of a mixed forest with moss, lichen, grasses and low scrub. Surface vegetation covers the site and there is no surface visibility. UTM coordinates for the site are:



*Figure 41. General view of XMH-00941, facing east*

Site XMH-00941 consists of one uniface, which was identified during a 2002 phase 1 survey. Site XMH-00941 was found during systematic shovel testing along two transects, spaced 10m apart, and with shovel tests spaced at 10m intervals. A total of eight shovel tests were excavated to glacial till. One positive shovel test yielded a dark grey chert uniface fragment at an estimated depth of 13-44cmbs. The shovel test was 70cm deep, with four distinct layers; 0-22cm is the organic layer, 22-44cm is a dark brown silt, 44-65cm is a reddish brown silt, and 65-70cm is glacial till. The artifact was collected.

Shovel tests were systematically placed throughout the site area at intervals of 10m during the 2004 evaluation. A total of 34 new shovel tests were excavated. The depths of the shovel tests varied, but all were excavated to glacial till. None of the 34 shovel tests were positive and no new artifacts were found during the 2004 evaluation. Based on the results of the survey and testing, the site area is estimated at approximately 10m x 10m.

One 1m x 1m test unit was excavated at site XMH-00941. The unit was placed 7m north and 4m east of the site datum, near the positive shovel test excavated in 2002. The unit was excavated in 10cm levels until glacial till was reached throughout the entire unit floor. The test unit contained no cultural materials. No subsurface features were identified at the site. Soil thickness varied from 25-90cm across the site. The northeast

portion of the site showed less deposition, averaging 30cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted dark brown loess with a low density of gravels and cobbles. Below this is a third layer, consisting of moderately compacted yellow brown loess with a moderate density of gravels and cobbles. Glacial till is encountered below these loess deposits and consists of loosely compacted yellow brown sandy loess, with a high density of gravels and cobbles. The remainder of the site area shows considerably more deposition, averaging 60cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 12cm. Below this organic horizon, the soil consists of moderately compacted brown to yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of loosely compacted yellow brown loess with a high density of gravels and cobbles.

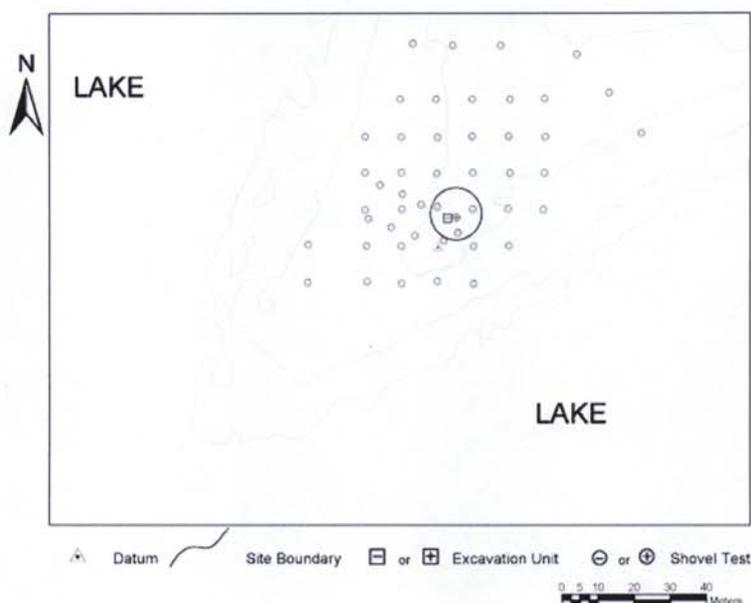


Figure 42. Site map of XMH-00941

### **Findings**

Pedestrian survey and 42 shovel tests produced a total of only one artifact. This finding suggests that XMH-00941 is an isolated find. The paucity of cultural material indicates that XMH-00941 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### **XMH-00945**

Latitude:

Longitude:

Determination: Eligible

Site XMH-00945 is located on a northwest-southeast trending glacial moraine. The site has an approximately 200° unobstructed view of the surrounding terrain to the south.

The Alaska Range can be seen to the southwest, Donnelly Dome to the south, and the Granite Mountains to the southeast. The nearest water source is \_\_\_\_\_, which is located 250m to the west and is visible from the site. The vegetation at the site consists of a mixed forest with moss, lichen and dwarf scrub. Surface visibility is approximately 30 percent on the site. The UTM coordinates for the site are:

Site XMH-00945 consists entirely of lithic debitage. During evaluation, more than 40 flakes were found on the surface. Additionally, more than 200 flakes were found subsurface in either shovel test pits or the excavation unit. No tools were found at the site. Materials consisted of gray chert, white chert, rhyolite, basalt, and quartz.

Two artifact concentrations were observed on the surface of the site. Concentration one, 5m north of the datum, consists of 15-20 flakes within a 4m area. Concentration two, 20m southwest of the datum, consists of 5-7 flakes within a 2m area. No density plots were placed within the concentrations.



*Figure 43. General view of site XMH-00945, facing southwest*

Shovel tests were systematically placed throughout the site area at intervals of 10m. Two shovel tests were placed at 5m intervals, one along the eastern boundary of the site and one along the southern boundary. A total of 44 shovel tests were excavated at the site. The depth of the shovel tests varied, but all were excavated to glacial till. A total of 13 shovel tests were positive with artifact densities ranging from one flake to 18 flakes. Subsurface artifacts were found from 2-30cmbs.

One 1m x 1m test unit was excavated at site XMH-00945. The test unit was placed 5m north of the datum, to the east of the large surface artifact concentration. The unit was excavated in 10cm levels. The test unit contained more than 200 artifacts recovered from levels one through three and at depths ranging from 1-30cmbs. No subsurface features were identified at the site. Soil thickness varied from 8-60cm across the site. Soils on the southern portion of the site consisted of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

Soil on the northern portion of the site shows more deposition, averaging 40cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted brown loess with a low density of gravels and cobbles to an average of 30cm. Below this is a third layer consisting of moderately compacted yellow brown loess, also with a low density of gravels and cobbles, to an average depth of 40cm. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

### Findings

More than 250 artifacts were recovered from XMH-00945. More than 40 flakes were recovered from the surface and more than 200 were recovered from below the surface. No tools have yet been found at the site; however, the size of the subsurface component at XMH-00945 is large and there is a strong possibility of encountering tools through further investigations. Based on the results of the survey and testing, the site area is estimated at approximately 60m x 50m.

Site XMH-00945 is an intact, buried site at which late stage lithic reduction occurred. With such a large amount of buried cultural material, and no loss of integrity, XMH-00945 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

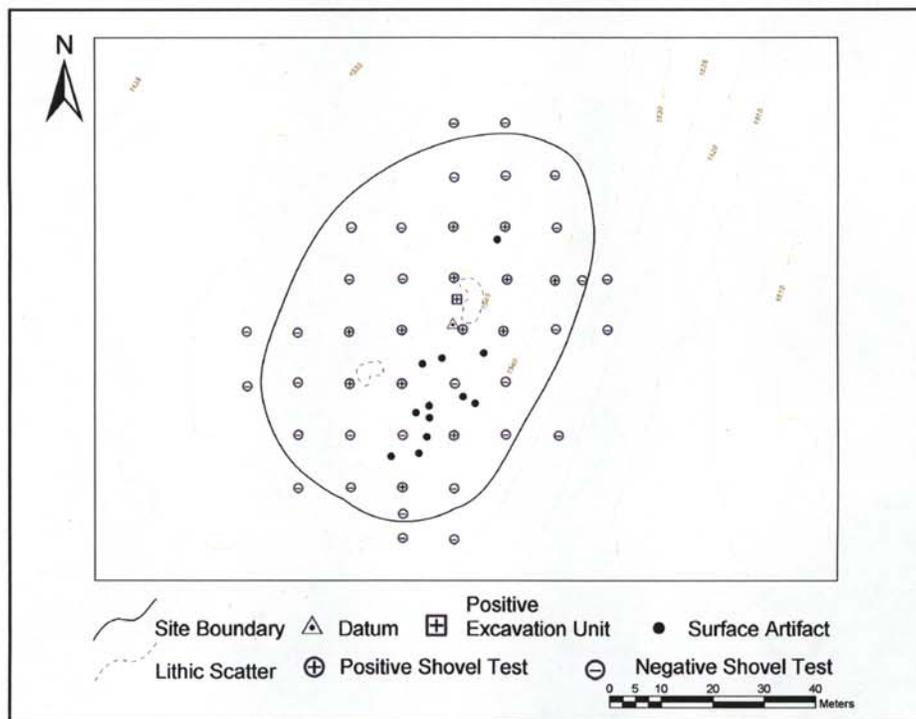


Figure 44. Site map of XMH-945

### XMH-00948

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-00948 is located on an east-west trending ridge. The viewshed at the site is 180° to the south. The Alaska Range is visible to the southwest and Donnelly Dome can be seen to the southeast. The nearest water source is \_\_\_\_\_, which is located 250m to the north-northeast. The vegetation at the site consists of a mixed forest with moss, lichen, grasses and low scrub. Surface visibility at the site is limited to 50 percent. A

two-track road runs through the site. UTM coordinates for the site are:

Site XMH-00948 consists of five artifacts recorded from the surface. Site XMH-00948 was identified during a 2002 phase 1 survey as consisting of two biface fragments and one uniface observed on the surface. The two biface fragments refit into one banded gray chert lanceolate projectile point. The larger piece of the point is 79.6mm long, 25mm wide, 8.4mm thick, and weighs 20.3g. The smaller piece of the point is 34.9mm long, 22.91mm wide, 8mm thick, and weighs 7.7g. A unifacial chert scraper was also found. The scraper is 28.8mm long, 21.4mm wide, 6.2mm thick, and weighs 4.8g. The projectile point and the scraper were collected in 2002. During the 2004 evaluation of the site, two more flakes were located. One red chert flake was located on the exposed ground at the top of the moraine. A second chert flake was found on the surface, next to a two-track road, at the base of the moraine.



Figure 45. General view of site XMH-00948, facing west



Figure 46.  
Refitted  
lanceolate point  
from XMH-00948

Shovel tests were systematically placed throughout the site area at intervals of 10m. Five shovel tests were placed at 5m intervals at the base of the moraine, in the area where the projectile point and scraper were found during survey. A total of 28 shovel tests were excavated, none of which contained cultural material. The depth of shovel tests varied, but all were excavated to glacial till. Based on the results of survey and testing, the site area is estimated at approximately 10m x 50m.

No 1m x 1m test units were excavated at XMH-00948 because no subsurface artifacts were found during shovel testing. Soil thickness varied from 0-70cm in depth across the site. The top and southern edge of the moraine have sustained considerable wind erosion, and soil deposition averaged only 10cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Glacial till is encountered below this organic horizon and consists of yellow brown sandy loess with a high density of gravels and cobbles. Soils on the northern portion of the moraine show more deposition, averaging 50cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess that is present to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of a light yellow brown sandy loess with a high density of gravels and cobbles.

### Findings

Pedestrian survey and 28 shovel tests produced a total of only five surface artifacts. This finding suggests that XMH-00948 is a small surface site. The area where the tools were located is heavily disturbed by a two-track road and has lost integrity. The paucity of cultural material and lack of integrity indicates that XMH-00948 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

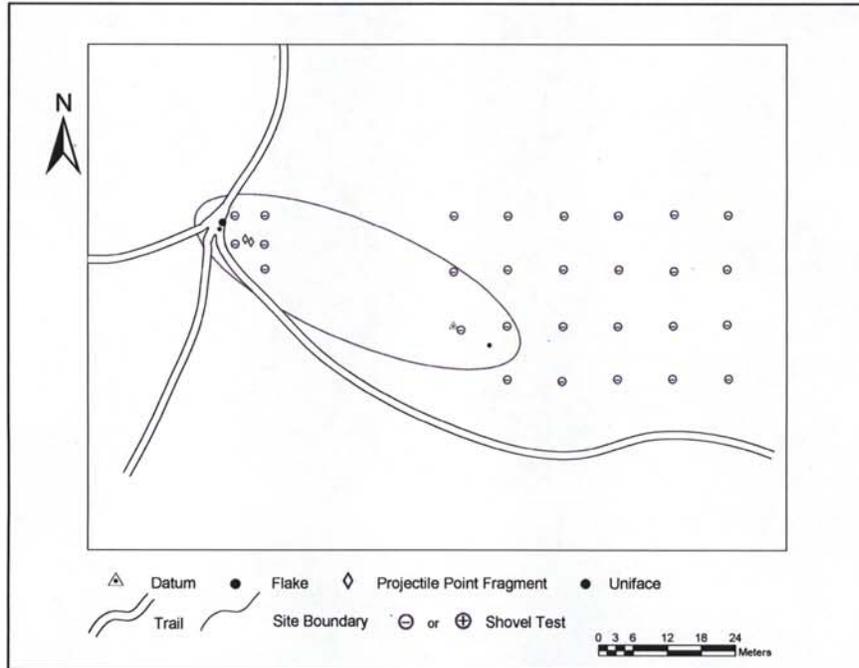


Figure 47. Site map of XMH-00948

### XMH-01092

Latitude:

Longitude:

Determination: Eligible

Site XMH-01092 is located on a narrow northwest-southeast trending ridge. There are not any good landmarks visible in any direction due to tree cover. There is a very small and nearly dry pond visible approximately 30m to the southwest.

is located approximately 500m to the southwest. The vegetation at the site consists of a mixed forest with moss, lichen and low scrub. There is good ground cover with no surface visibility at the site. UTM coordinates for the site are:



Figure 48. General view of site XMH-01092, facing southwest

Site XMH-01092 consists of 66 artifacts. No artifacts were found on the surface of the site. Seven flakes were found in one shovel test pit excavated in the 2003 phase 1

### Findings

Pedestrian survey and 28 shovel tests produced a total of only five surface artifacts. This finding suggests that XMH-00948 is a small surface site. The area where the tools were located is heavily disturbed by a two-track road and has lost integrity. The paucity of cultural material and lack of integrity indicates that XMH-00948 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

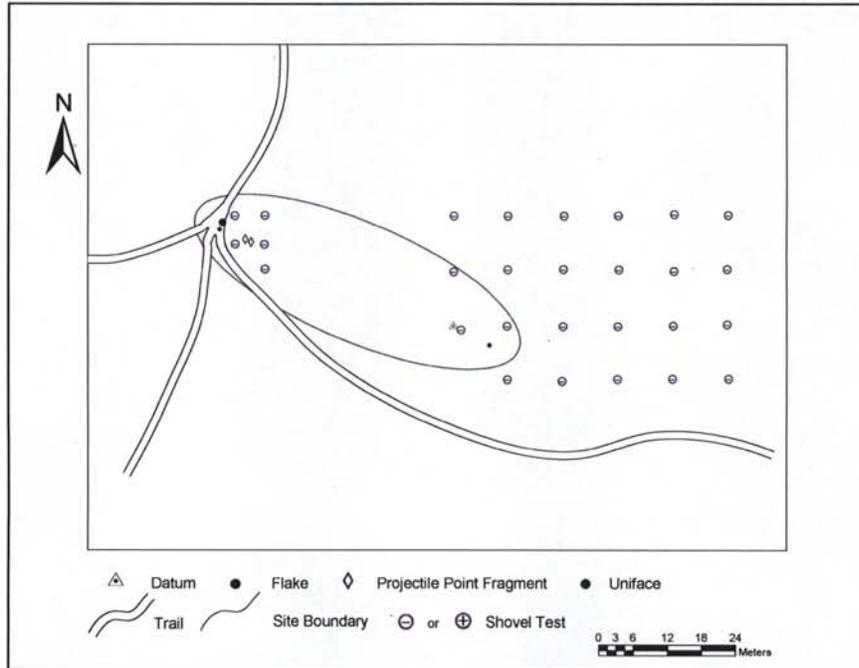


Figure 47. Site map of XMH-00948

### XMH-01092

Latitude:

Longitude:

Determination: Eligible

Site XMH-01092 is located on a narrow northwest-southeast trending ridge. There are not any good landmarks visible in any direction due to tree cover. There is a very small and nearly dry pond visible approximately 30m to the southwest.

is located approximately 500m to the southwest. The vegetation at the site consists of a mixed forest with moss, lichen and low scrub. There is good ground cover with no surface visibility at the site. UTM coordinates for the site are:



Figure 48. General view of site XMH-01092, facing southwest

Site XMH-01092 consists of 66 artifacts. No artifacts were found on the surface of the site. Seven flakes were found in one shovel test pit excavated in the 2003 phase 1

survey and 59 artifacts were found subsurface in the test unit in 2004. Nine tools were collected from the test unit (Table 4). Chert, basalt, and rhyolite were present among the debitage.

Shovel tests were systematically placed across the site area at intervals of 10m. Six shovel tests were placed at 5m intervals near the positive shovel test pit from phase 1, on the west-central portion of the landform. A total of 23 shovel tests were excavated at the site. The depth of the shovel tests varied, but all were excavated to glacial till. All 23 shovel tests were negative.

One 1m x 1m test unit was excavated at the site. It was placed on the west central portion of the landform, near the positive shovel test from phase 1 survey in 2003. The unit was excavated in 10cm levels until glacial till was reached throughout the entire unit floor. The test unit contained a total of 59 artifacts recovered from levels one and two, 0-20cmbd (NE corner of unit). No subsurface features were identified at the site. Soil thickness generally varied from 13-60cm across the site. One shovel test pit was excavated to a depth of 154cmbd, but it was the only one to reach depths greater than 60cmbd. The entire landform is well-vegetated and therefore soil thickness is rather uniform across the site, although the few shallow test pits were located on or near the site datum. Soil at the site consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

Table 4. Lithic assemblage recorded from XMH-01092

Artifact Class	Frequency	% of Assemblages
Biface fragments	2	3%
Uniface	1	2%
Tci thos	1	2%
Blade core fragment	1	2%
Blades	3	4%
Hammer stone	1	2%
Debitage		
Flakes	55	82%
Shatter	2	3%
Total	66	100%

### Findings

A total of 66 artifacts were recorded from XMH-01092. All artifacts were recovered from below the surface, including nine tools. Based on the results of survey and testing, the site area is estimated at approximately 15m x 15m.

Site XMH-01092 is a small buried site with a dense concentration of late stage lithic debitage and both formalized and expedient tools. With such a large amount of buried cultural material, XMH-01092 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01092 is an intact archaeological site with integrity. The site is eligible for inclusion in the National

Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

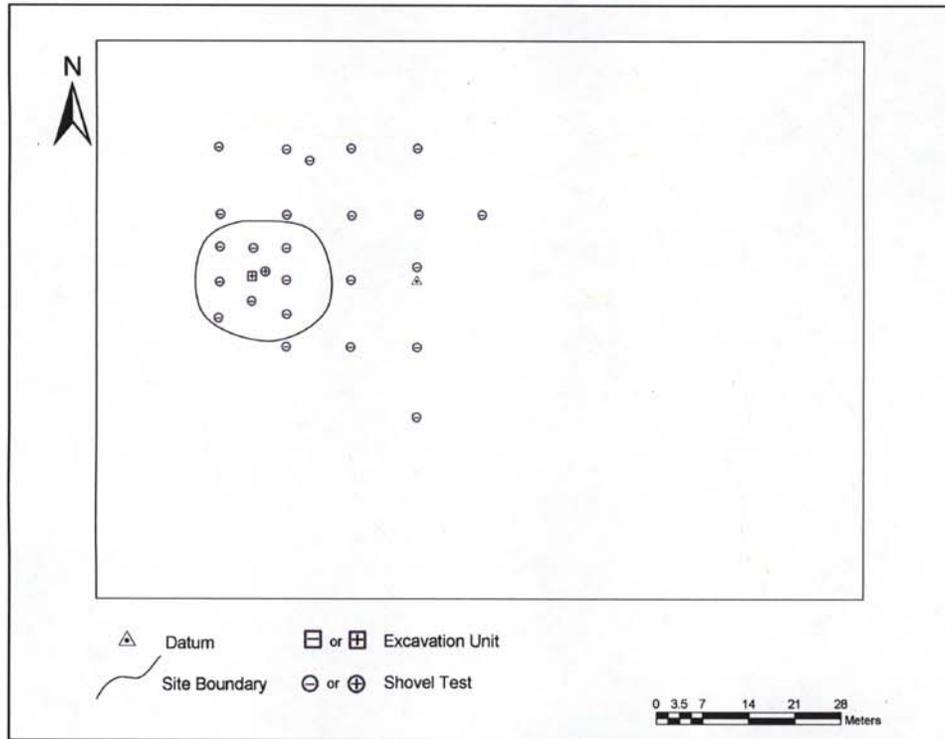


Figure 49. Site map XMH-01092

XMH-01093

Latitude:

Longitude:

Determination: Eligible

Site XMH-01093 is located on a small, narrow north-south trending ridge. The site has a 360° unobstructed view of the surrounding terrain. The Alaska Range is visible to the southwest and Donnelly Dome is visible to the south, but the Granite Mountains are obstructed by a prominent ridge to the east. The nearest water source is a small, unnamed lake located 1km to the northeast. The ground surface of the site is vegetated primarily by low scrub, moss and lichen, with surface visibility estimated at 10 percent. UTM coordinates for the site are:



Figure 50. General view of site XMH-01093, facing west

Site XMH-01093 consists entirely of lithic debitage. Three flakes were located subsurface in either shovel tests or test units, including one flake found in the phase 1

survey. No tools were found at the site. Chert and basalt were the only material types present among the flakes.

Shovel tests were systematically placed throughout the site area at intervals of 10m. Two shovel tests were placed at 5m intervals near a positive shovel test in the center of the site. A total of 19 shovel tests were excavated. The depth of shovel tests varied, but all were excavated to glacial till. In total, one shovel test was positive and contained one artifact, found 5-10cm below the surface.

Two 1m x 1m test units were excavated at site XMH-01093. Both units were placed between the two positive shovel tests just north of the site datum. The units were excavated in 10cm levels until glacial till was reached throughout the entire unit floor. Test unit one contained no cultural material. Test unit two contained one artifact recovered from level one, 0-10cmbd (NE corner of unit). Soil thickness varied from 10-79cm across the site. The top of the site shows moderate deposition and the soil averaged 30cm in thickness. Soil in this area consists of loosely compacted, dark brown, organically rich loess to an average depth of 7cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

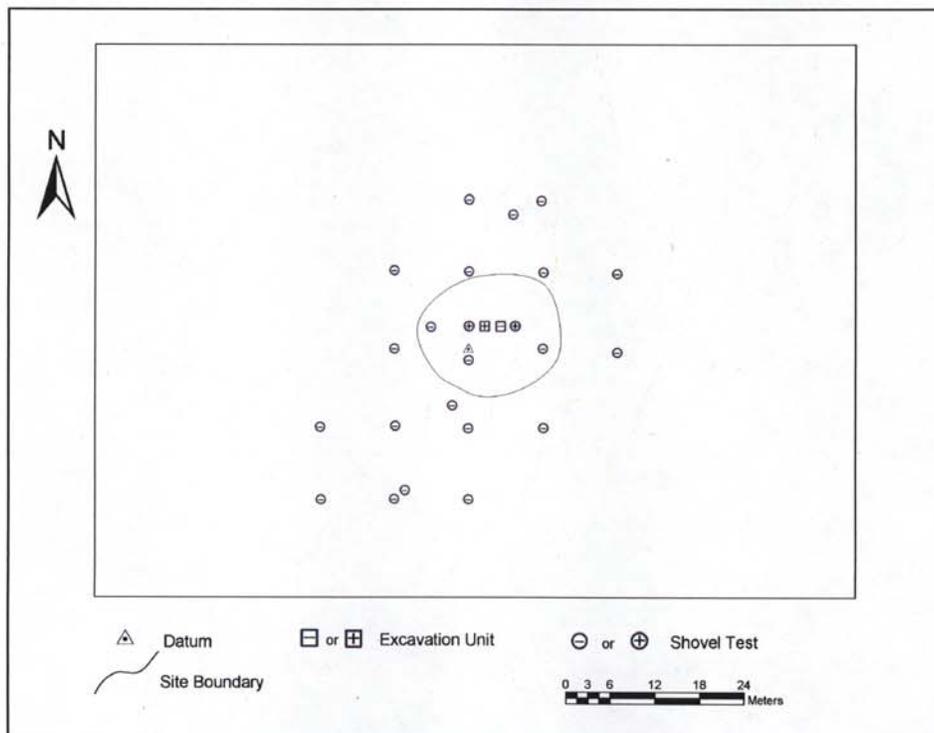


Figure 51. Site map of XMH-01093

Areas down slope and to the west from the top of the site show more soil deposition, averaging 70cm. Soil in this area consists of loosely compacted, dark brown, organically rich loess that is present to an average of 20cmbd. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles. Soil down slope and to the east

from the top of the site has sustained some wind erosion and shows less deposition, averaging 10cm. Soil in this area consists of loosely compacted, yellow brown loess that is present to about 5cm. Glacial till is encountered below this thin layer of loess and consists of yellow brown sandy loess with a high density of gravels and cobbles.

### ***Findings***

A total of three artifacts were recovered from XMH-01093, all from below the surface. The materials at the site include chert and basalt. Based on the results of survey and testing, the site area is estimated at approximately 15m x 15m.

Site XMH-01093 is a small buried site where late stage lithic reduction occurred. With buried cultural material XMH-01093 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. Despite the low density of artifacts, in situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01093 is an intact archaeological site with integrity. This site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

### ***XMH-01094***

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-01094 is located on a northeast-southwest trending ridge with running through the middle of it. Donnelly Dome is visible to the southwest and the Granite Mountains can be seen to the east. The nearest water source is , located approximately 1.5km to the southwest. The ground surface of the site is vegetated primarily by low scrub, forbs, grasses and sedges, with several barren areas scattered around. Surface visibility is approximately 75 percent as a result of of the ridge. UTM coordinates for the site are:



*Figure 52. General view of site XMH-01094, facing southwest*

running the length

Site XMH-01094 consists entirely of one uniface that has been broken into two separate pieces, both found . One fragment was found during phase 1 survey and the other fragment was found during the evaluation phase in essentially the same spot in the road. Both pieces were collected. The refitted black chert uniface is 81mm long, 40mm wide, and the combined weight of the two pieces is 22g.

Shovel tests were systematically placed throughout the site area at 10m intervals. A total of 30 shovel tests were excavated. The depth of shovel tests varied, but all were excavated to glacial till. None of the shovel tests contained any artifacts.

Because no subsurface cultural materials were found in the shovel tests, no 1m x 1m test units were excavated at the site. Soil thickness varied from 2-70cm across the site. The western and southern portions of the site have sustained considerable wind erosion, and soil deposition only averaged 15cm. Soil in these areas consists of loosely compacted, grayish brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles. The eastern and northern portions of the site show more deposition and averaged a depth of 40cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

### **Findings**

Pedestrian survey and 30 shovel tests produced a total of only one refitted surface artifact. This finding suggests that XMH-01094 is an isolated find. The paucity of cultural material and the highly disturbed context indicates that XMH-01094 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

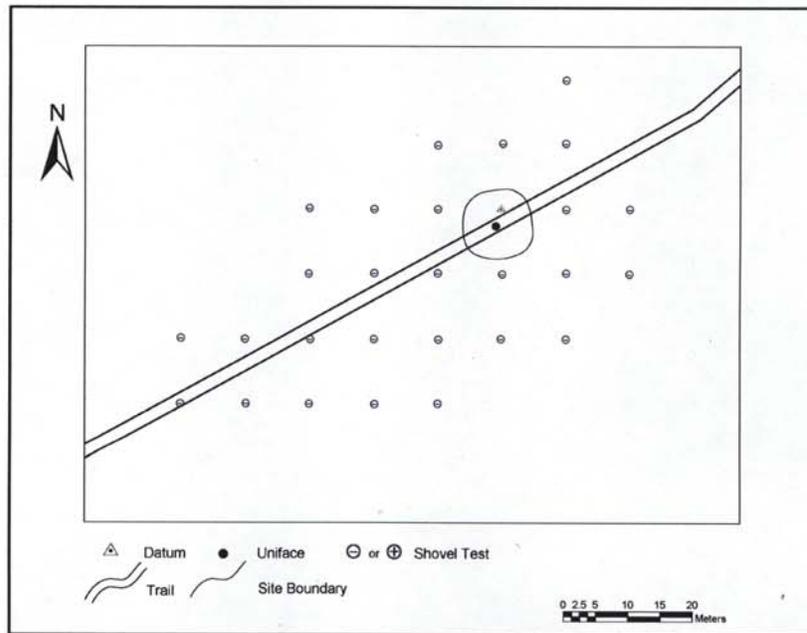


Figure 53. Site map of XMH-01094

### ***XMH-01101***

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-01101 is located on a high point of an east-west trending knoll. The site has a 360° unobstructed view of the surrounding area and overlooks an unnamed lake

approximately 50m to the southwest. The site has a high amount of surface visibility. The surrounding area is composed of mixed forest with low scrub, moss, lichen and tussock fields. UTM coordinates for the site are:

Site XMH-01101 consists entirely of lithic debitage. Nineteen flakes were found on the surface. No tools or subsurface artifacts were located at the site. Chert, basalt, and rhyolite were present among the debitage. None of the artifacts were collected.



Figure 54. General view of site XMH-01101, facing southwest

Shovel tests were systematically placed throughout the site area at intervals of 10m. Six shovel tests were placed at 5m intervals. Two were placed along the northern portion of the site in order to test irregular areas of the landform that did not fall into the 10m grid, and four were placed around a small surface flake concentration in the southeast portion of the site. A total of 22 shovel tests were excavated, and none contained any cultural materials. Based on the results of the survey and testing, the site area is estimated at approximately 20m x 25m.

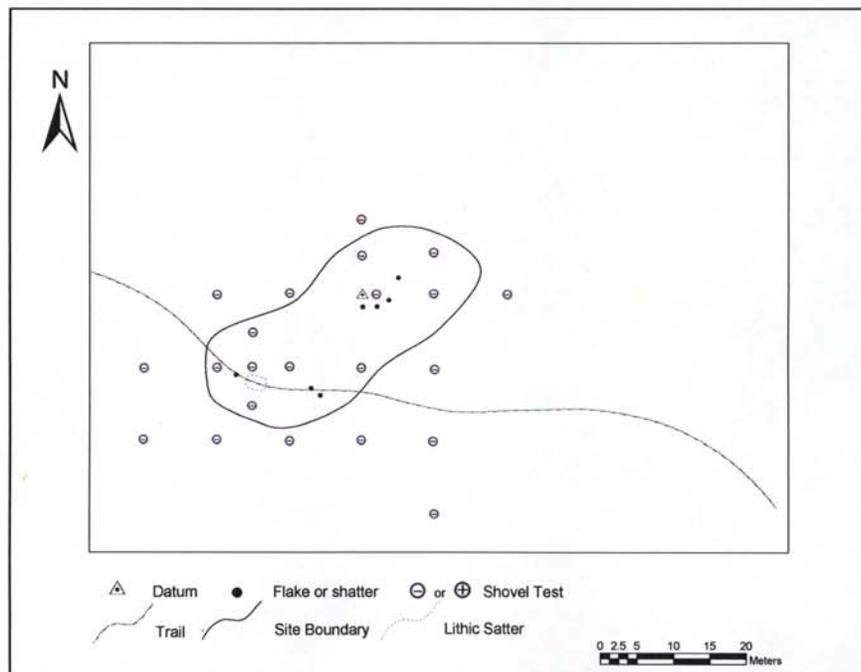


Figure 55. Site map of XMH-01101

Because no subsurface cultural materials were found in the shovel tests, no 1m x 1m test units were excavated at the site. Soil thickness varied from 7-70cm across the site. The top of the site, near the datum, has sustained some wind erosion and soil deposition and averaged only 10cm. Soil in this area consists of loosely compacted yellow brown loess to an average depth of 8cm. Glacial till is encountered below this loess deposit

and consists of yellow brown sandy loess with a high density of gravels and cobbles. All other areas of the site show more deposition and average from 35-40cm deep. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

### **Findings**

Pedestrian survey and 22 shovel tests produced a total of only 19 surface artifacts. This finding suggests that XMH-01101 is an isolated find. The paucity of cultural material indicates that XMH-01101 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### **XMH-01102**

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-01102 is located on a small knoll (10m x 30m) that sits on a north-south running ridge. The site has a 360° unobstructed view of the surrounding area. The site is approximately 200m from an unnamed lake to the south. The location has high surface visibility and the surrounding area is composed of mixed forest with low scrub, moss, lichen and tussock fields. UTM coordinates for the site are:



*Figure 56. General view of site XMH-01102, facing west*

Site XMH-01102 consists of one tertiary rhyolite flake found on the surface. This flake was not collected. No tools were found at the site. Seven shovel test pits were excavated at 5m intervals surrounding the surface artifact during the phase 1 survey of the site. These shovel test pits covered the entire top of the landform and therefore no shovel test grid was laid out for XMH-01102. During the evaluation stage, four additional shovel tests were arbitrarily excavated on the outer fringes of the landform. A total of 11 shovel tests were excavated to glacial till. No subsurface artifacts were found in any of the shovel tests. Based on the results of the survey and testing, the site area is estimated at approximately 5m x 5m.

Because no subsurface cultural materials were found in the shovel tests, no 1m x 1m test units were excavated at the site. Soil thickness varied from 15-50cm across the site. Soils near the top portion of the site consist of loosely compacted yellow brown loess to an average depth of 10cm. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles. Additionally, there were also areas that showed more deposition, to depths averaging 30cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles.

Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

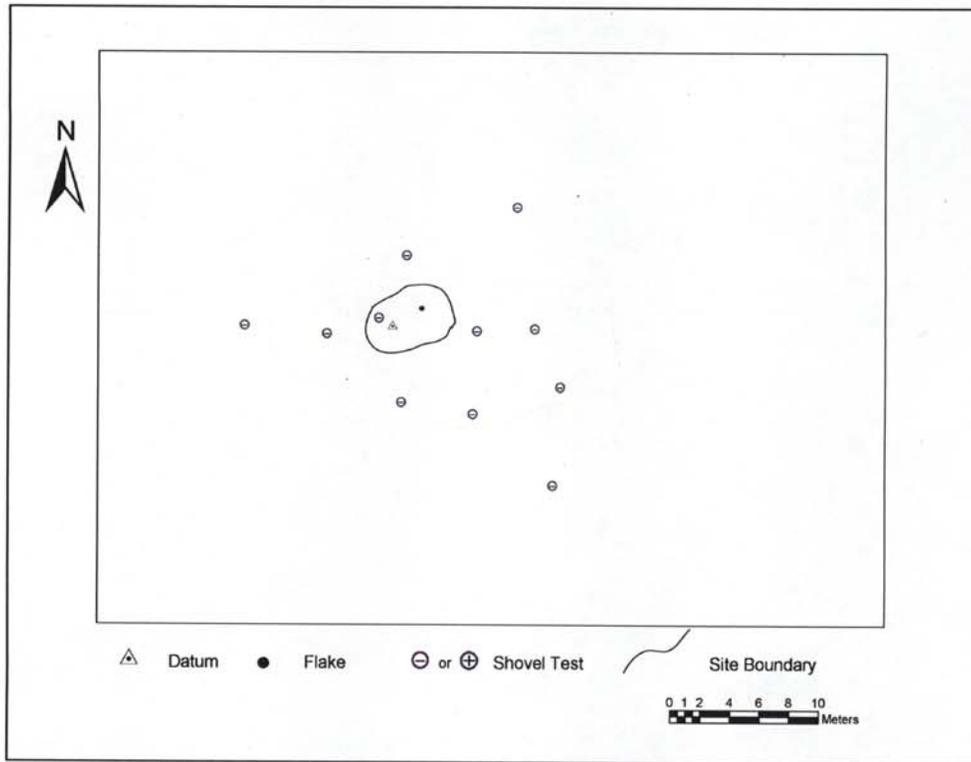


Figure 57. Site map of XMH-01102

### Findings

Pedestrian survey and 11 shovel tests produced a total of only one surface artifact. This finding suggests that XMH-01102 is an isolated find. The paucity of cultural material suggests that XMH-01102 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### XMH-01103

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-01103 is located on a large east-west running ridgeline that is approximately 2km long and extends off of \_\_\_\_\_ to the east. The site is located 500m east of the high point where the ridge is elevated approximately 100m above the generally flat terrain. The site has a 180° unobstructed view of the surrounding terrain and looks out over \_\_\_\_\_, which is over 1km away to the south. The closest water source is a small unnamed lake 200m to the northeast



Figure 58. General view of XMH-01103, facing south

that is not visible from the site. Due to recent episodes of forest fires, the site has a high degree of surface visibility. UTM coordinates for the site are:

Site XMH-01103 consists of three surface artifacts. The site was originally described during the 2003 phase 1 survey as consisting of 2 artifacts: one piece of chert shatter and one basalt secondary flake. During the site evaluation, one new surface artifact was identified, a chert tertiary flake.

Shovel tests were systematically placed in the vicinity of the surface artifacts at intervals of 10m or less, depending on slope and vegetation. A total of 31 shovel tests were excavated at the site. The depths of the shovel tests varied, but all were excavated down to glacial till. None of the shovel tests contained any cultural material. Based on the results of the survey and testing, the site area is estimated at approximately 10m x 35m.

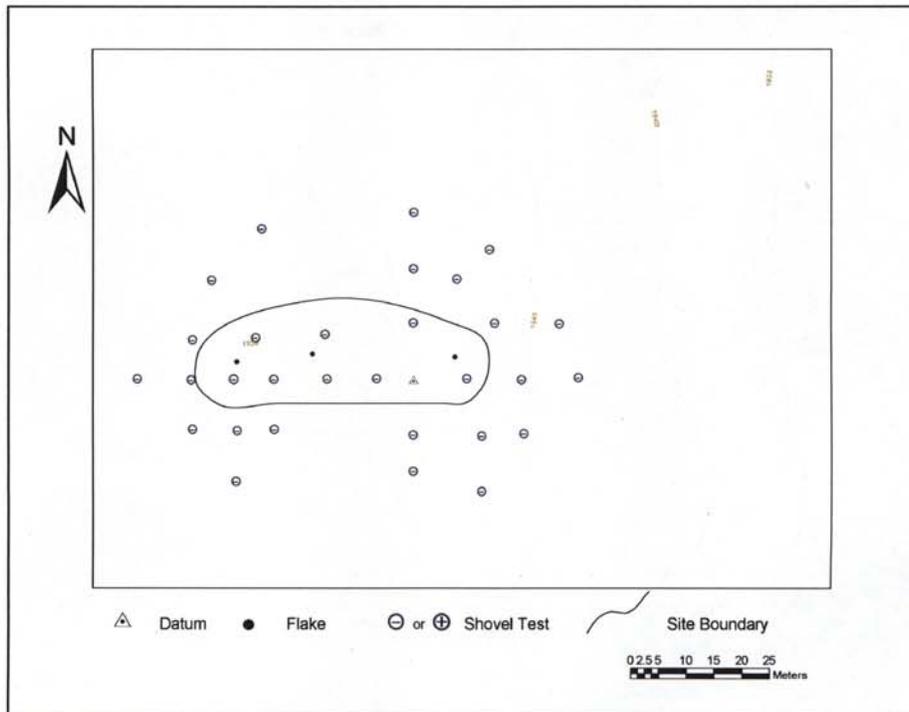


Figure 59. Site map of XMH-01103

No test units were excavated at the site because no subsurface materials were recovered from any of the shovel tests. Based on the shovel tests, soil thickness varied from 20-50cm in depth. Soil stratigraphy and deposition was generally uniform throughout the south slope of the hill where excavations were conducted. The soil consists of a loosely compacted, dark brown, organically rich loess to an average depth of 5cmbs. Below this organic horizon the soil consists of a moderately compacted brown to light brown loess with a low density of gravels. Glacial till is encountered below this loess deposit and consists of a yellowish brown sandy silty soil with a high density of gravels and cobbles.

### Findings

Pedestrian survey and 22 shovel tests produced a total of only three surface artifacts. This finding suggests that XMH-01103 is a small surface lithic scatter with no diagnostic tools or artifacts. The paucity of cultural material indicates that XMH-01103 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### *XMH-01107*

Latitude:

Longitude:

Determination: Eligible

Site XMH-01107 is located at the top of a large isolated hill. The site has a 360° unobstructed view of the surrounding terrain, including views of a large ridge to the west and \_\_\_\_\_, which is approximately 1km to the south. The closest water source is a small (20m diameter) dry lake located 200m southeast of the site. Due to recent episodes of forest fires, there is a moderate to high degree of surface visibility at the site. UTM coordinates for the site are:



Figure 60. General view of site XMH-01107, facing south

Table 5. Lithic assemblage recorded from XMH-01107

Artifact Class	Frequency	% of Assemblages
Bifaces		
Bifacial tool	1	2%
Projectile point (fragment)	2	4%
Biface fragments	3	5%
Unifaces		
End scrapers and fragments	3	5%
Uniface fragment	1	2%
Burins		
Possible burin spall	1	2%
Debitage		
Flakes	42	73%
Shatter	4	7%
Total	57	100%

Site XMH-01107 consists of 57 artifacts, 11 of which are tools or tool fragments. Forty-four pieces of lithic debitage were found on the surface of the site, as were all of the tools. Additionally, two pieces of flaked stone were found in two different shovel tests. One light gray bifacially worked tool was found at the site. This artifact has been reworked from the base of a projectile point fragment. Other bifacially worked tools include two lanceolate projectile point fragments, one gray chert fragment, a brown rhyolite tool fragment, two gray chert tool fragments that refit, and one gray chert tool fragment.

### Findings

Pedestrian survey and 22 shovel tests produced a total of only three surface artifacts. This finding suggests that XMH-01103 is a small surface lithic scatter with no diagnostic tools or artifacts. The paucity of cultural material indicates that XMH-01103 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### *XMH-01107*

Latitude:

Longitude:

Determination: Eligible

Site XMH-01107 is located at the top of a large isolated hill. The site has a 360° unobstructed view of the surrounding terrain, including views of a large ridge to the west and \_\_\_\_\_, which is approximately 1km to the south. The closest water source is a small (20m diameter) dry lake located 200m southeast of the site. Due to recent episodes of forest fires, there is a moderate to high degree of surface visibility at the site. UTM coordinates for the site are:



Figure 60. General view of site XMH-01107, facing south

Table 5. Lithic assemblage recorded from XMH-01107

Artifact Class	Frequency	% of Assemblages
Bifaces		
Bifacial tool	1	2%
Projectile point (fragment)	2	4%
Biface fragments	3	5%
Unifaces		
End scrapers and fragments	3	5%
Uniface fragment	1	2%
Burins		
Possible burin spall	1	2%
Debitage		
Flakes	42	73%
Shatter	4	7%
Total	57	100%

Site XMH-01107 consists of 57 artifacts, 11 of which are tools or tool fragments. Forty-four pieces of lithic debitage were found on the surface of the site, as were all of the tools. Additionally, two pieces of flaked stone were found in two different shovel tests. One light gray bifacially worked tool was found at the site. This artifact has been reworked from the base of a projectile point fragment. Other bifacially worked tools include two lanceolate projectile point fragments, one gray chert fragment, a brown rhyolite tool fragment, two gray chert tool fragments that refit, and one gray chert tool fragment.

Shovel tests were systematically placed across the site at intervals of 5-10m where slope and vegetation allowed. A total of two of the shovel tests were positive, with each containing one artifact. Subsurface artifacts were found from 10-35cmbs. Soil thickness in the shovel tests varied from 20-50cm in depth. Soil stratigraphy and deposition was generally uniform throughout the top of the hill where little deposition occurred. The soil here consists of a loosely compacted, dark brown, organically rich loess to an average depth of 5cmbs. Below this organic horizon the soil consists of a moderately compacted brown to light brown loess with a low density of gravels. Glacial till is encountered below this loess deposit and consists of a yellowish brown sandy silty soil with a high density of gravels and cobbles to an average depth of 30cmbs. Down slope from the top of the hill soil deposition was thicker and averaged 50cm in depth. The soil here consists of a loosely compacted, dark brown, organically rich loess to an average depth of 8cmbs. Below this organic horizon the soil consists of a moderately compacted brown to light brown loess with a low to moderate density of gravels. Glacial till is encountered below this loess deposit and consists of a yellowish to reddish brown sandy silty soil with a high density of gravels and cobbles to an average depth of 55cmbs.

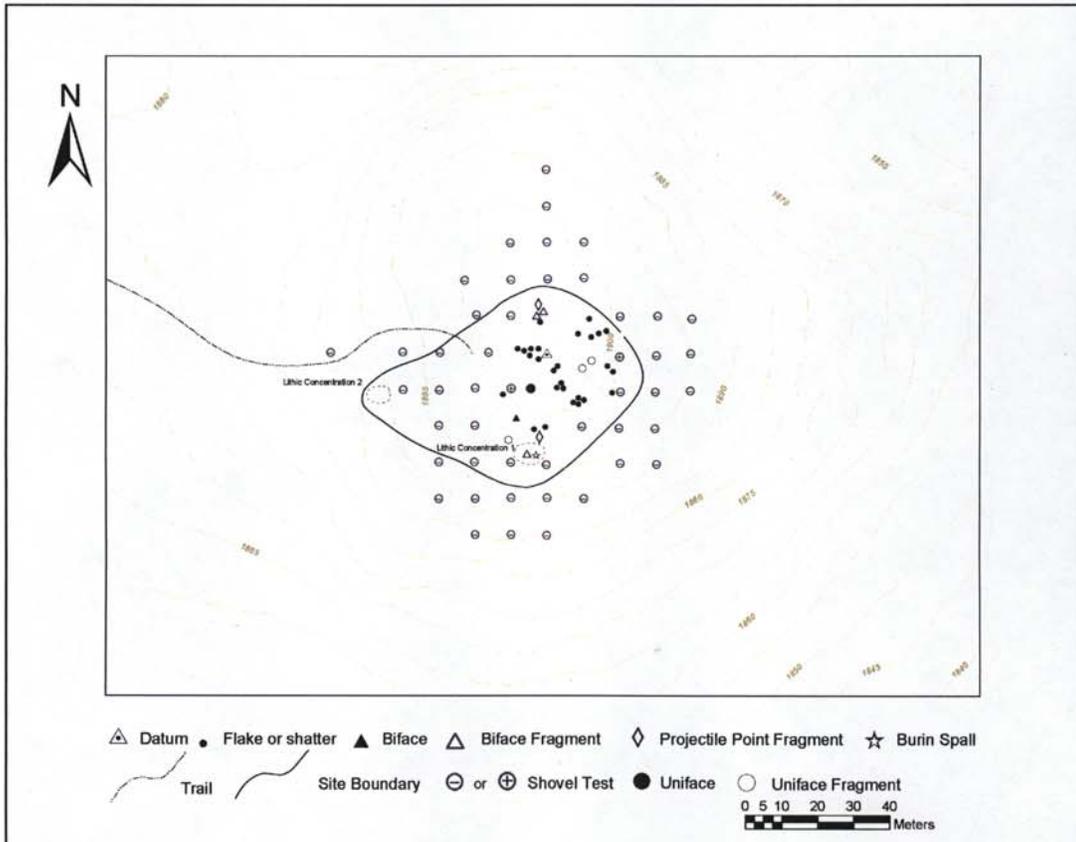


Figure 61. Site map of XMH-01107

### Findings

A total of 57 artifacts were recorded at XMH-01107. Fifty-five of these artifacts were recorded on the surface and two artifacts were recovered from below the surface. The materials at the site include light gray chert, gray chert, red chert, white chert, fine-grained basalt, rhyolite, and quartz. Based on the results of the survey and testing, the site area is estimated at approximately 40m x 55m.

Site XMH-01107 is a large site with both surface and buried components. With buried cultural material, XMH-01107 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01107 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

#### *XMH-01109*

Latitude:

Longitude:

Determination: Eligible

Site XMH-01109 is located on a large east-west trending ridge that extends to the east of . The site has a 360° unobstructed view of the surrounding terrain with views of the Granite Mountains to the southeast and Donnelly Dome to the southwest. The closest water source is a small (40m diameter) lake located 200m to the southeast which is not visible from the site.

is approximately 1km to the northwest and is visible from the site. Due to recent forest fires surface visibility at the site is moderate. UTM coordinates for the site are:



*Figure 62. General view of XMH-01109, facing north*

Site XMH-01109 consists of 17 artifacts. Three flakes were recorded on the surface and 14 flakes were recovered from below the surface, either from shovel tests or the excavation unit. The site was originally described as consisting of three pieces of lithic debitage observed on the ground surface during the 2003 phase 1 survey. During the phase 2 investigations 14 subsurface artifacts were located.

Shovel tests were systematically placed at the site at intervals of 5m and 10m. Due to severity of slope and density of vegetation, shovel tests were randomly placed in locations where excavation was possible. A total of 21 shovel tests were excavated at the site. The depth of the shovel tests varied, but all were excavated down to glacial till. One of the shovel tests was positive and contained three artifacts (two of the pieces are refits) at a depth of 5cmbs.

One 1m x 1m test unit was excavated at site XMH-01109. The unit was placed within 1m of the positive shovel test and was excavated in 10cm levels. Shovel tests and the excavation unit revealed soil deposition that varied from 10-40cm in depth across the site. The soil consists of a loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon the soil consists of a moderately compacted brown to light brown loess with a low density of gravels. Glacial till is encountered below this loess deposit and consists of a yellowish brown sandy silty soil with a high density of gravels and cobbles.

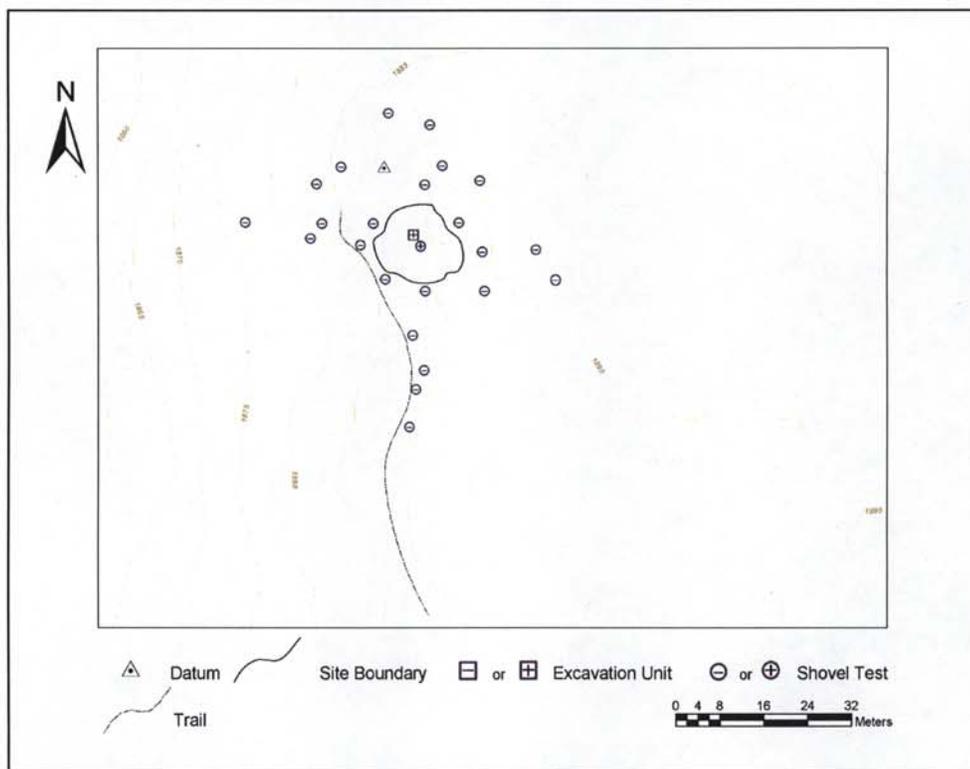


Figure 63. Site map of XMH-01109

### **Findings**

A total of 17 artifacts were recovered from XMH-01109. The majority of these were recovered from below the surface. The materials at the site include chert and quartz. Based on the results of survey and testing, the site area is estimated at approximately 10m x 10m.

Site XMH-01109 is a small buried site where late stage lithic reduction occurred. With buried cultural material, XMH-01109 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01109 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

### XMH-01110

Latitude:

Longitude:

Determination: Eligible

Site XMH-01110 is located on a northeast-southwest trending bluff overlooking to the west. Donnelly Dome is visible to the southwest, the Alaska Range to the west, and the Granite Mountains to the east. The nearest water source is located approximately 500m to the northwest. is approximately 1km to the south. There is no surface visibility at the site due to vegetation. UTM coordinates for the site are:

Site XMH-01110 consists of two flakes recovered from below the surface in shovel tests and the excavation unit. These flakes were collected. Shovel tests were systematically placed throughout the site area at intervals of 10m. Two shovel tests were placed at 5m intervals near the positive shovel test (from phase 1) just north of the site datum. A total of 26 (6 in 2003 and 20 in 2004) shovel tests were excavated to glacial till.



Figure 64. General view of XMH-01110, facing west

One 1m x 1m test unit was excavated at site XMH-01110. This test unit was placed northeast of the site datum near the positive shovel test excavated in 2003. The unit was excavated in 10cm levels until glacial till was reached throughout the entire unit floor. The test unit contained one artifact recovered from level two, 10-20cm below the unit datum, which was the northwest corner of the unit. No subsurface features were identified at the site. Soil thickness varied from 30-70cm across the site. The entire landform is very well vegetated and soil deposition averaged 45cm.

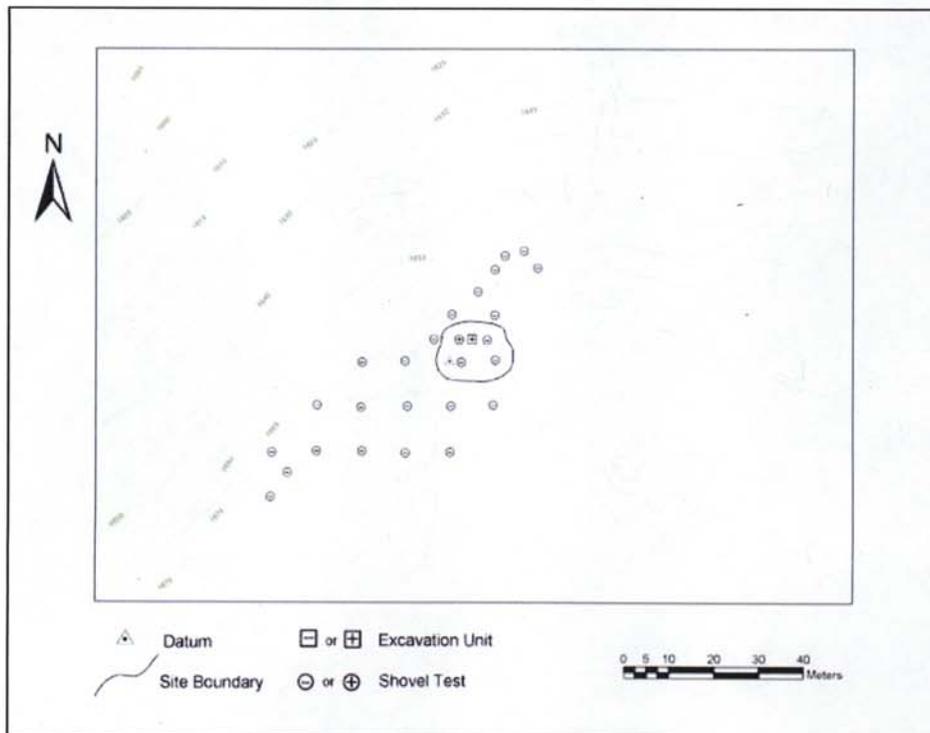


Figure 65. Site map of XMH-01110

Soil at the site consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon the soil consists of moderately compacted reddish brown loess with a low density of gravels and cobbles. Below this is a third layer, consisting of moderately compacted yellow brown loess, also with a low density of gravels and cobbles. Glacial till is encountered below this layer and consists of yellow brown sandy loess with a very high density of gravels and cobbles.

### ***Findings***

A total of two artifacts were recovered from XMH-01110, all from below the surface. The materials at the site include chert and basalt. Based on the results of survey and testing, the site area is estimated at approximately 15m x 15m.

Site XMH-01110 is a small buried site where late stage lithic reduction occurred. With buried cultural material, XMH-1110 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. Despite the low density of artifacts, in situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01110 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

### **XMH-01112**

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-01112 is located on a hilltop that is part of a larger north-south trending ridgeline. The hill slopes up to the south and continues on to a larger, more elevated hill where XMH-01107 is located. Views are restricted in this direction but are unobstructed to the north, with views of a large expanse of generally flat terrain and to approximately 2km to the northwest. The closest water source is a small (20m diameter) dry lake that is immediately down slope from the hill and 50m to the west. The hilltop has burned recently and has experienced some wind erosion and, as a result, there is approximately 50 percent ground visibility at the site. UTM coordinates for the site are:



*Figure 66. General view of XMH-01112, facing north*

Site XMH-01112 consists of one gray chert flake recorded on the surface. This site was originally identified during a 2003 pedestrian survey as consisting of two flakes observed on the surface. However, during the 2004 evaluation of the site, the second artifact was deemed to be an ecofact.

Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of six shovel tests were excavated at the site, none of which contained cultural material. The depth of the shovel tests varied, but all were excavated to glacial till.

### ***Findings***

Pedestrian survey and six shovel tests produced a total of only one surface artifact. This finding suggests that XMH-01112 is an isolated find. The paucity of cultural material indicates that XMH-01112 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### XMH-01113

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-01113 is located on a hilltop at the southern end of an east-west running ridge that continues 250m to the north. At the north end of the ridge is a larger hill that is approximately 15m higher in elevation. Views are obstructed in this direction and are limited in all other directions by the surrounding hills. Seventy meters to the north of the southern end of the ridge there is another high point. Site XMH-01114 has been identified on this high point, at the north end of the ridge, and consists of over 200 pieces of lithic debitage. The entire area in the vicinity of XMH-01113 has been burned and all high points on the ridge have at least 75 percent surface visibility. However, only a single projectile point fragment was found on the southern end of the ridge, approximately 200m south of XMH-01114. The nearest water source is a small (15m diameter) lake located to the west of the hill. No other lakes are visible from the southern end of the ridge. UTM coordinates for the site are:



*Figure 67. General view of XMH-01113, facing east*

Site XMH-01113 consists of a single gray chert projectile point fragment found on the surface. The projectile point fragment is most likely a midsection fragment and measures 21.6mm in width, 22.4mm in height and weighs 3.5g. No other surface artifacts were observed on the southern end of the ridge or between XMH-01113 and the northern end where XMH-01114 is located. Site XMH-01113 was originally identified during a 2003 pedestrian survey as consisting of a projectile point fragment, two quartz flakes, and chert shatter observed on the surface. During the 2004 evaluation of the site the quartz flakes and chert shatter were deemed to be ecofacts.

Shovel tests were systematically placed throughout the southern end of the hill and the high point between the southern and the northern ends of the ridge 70m to the north. A total of 16 shovel tests were excavated, none of which contained cultural material. The depth of the shovel tests varied, but all were excavated to glacial till. Based on the results of the survey and testing, the site area is estimated at approximately 10m x 10m.

No test units were excavated at the site because no subsurface materials were recovered from any of the shovel tests. Based on the shovel tests, soil thickness varied from 20–50cm in depth. Soil stratigraphy and deposition was generally uniform throughout the south slope of the hill where excavations were conducted. The soil consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cmbs. Below this organic horizon, the soil consists of a moderately compacted brown to light brown loess with a low density of gravels. Glacial till is encountered below this loess deposit and consists of a yellowish brown sandy loess with a high density of gravels and cobbles.

### **Findings**

Pedestrian survey and 16 shovel tests produced a total of only one surface artifact. This finding suggests that XMH-01113 is an isolated find. The paucity of cultural material indicates that XMH-01113 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### **XMH-01115**

Latitude:

Longitude:

Determination: Eligible

Site XMH-01115 is located on a large east-west running ridge. The ridge is approximately 350m in length with a high point near the middle. The site occurs on the high point and continues east onto a smaller and lower hilltop which is part of the same landform. During phase 1 survey, artifact concentrations at the high point and the lower hill to the east were originally given separate site numbers (XMH-01115 and XMH-01117) because the artifacts identified on the surface of these hills were separated by over 70m. However, during phase 2 evaluations, subsurface testing identified artifacts between the two hills, as well as on the surface to the west. As a result of the phase 2 investigations, the two sites were "combined" and now fall under the single AHRs number of XMH-01115. The high point where XMH-01115 was originally located is now referred to as locality A, and the lower hill to the east where XMH-01117 was originally located is now referred to as locality B. Views from both localities are unobstructed to the north with views of a large expanse of generally flat terrain, but hills surround the site in all other directions and thus views are limited. No lakes (or dry lakes) are visible from either of the localities, and the closest water source is a small dry lake that is approximately 300m to the west. UTM coordinates for the site are:



*Figure 68. General view of XMH-01115, facing south*

Site XMH-01115 consists of 71 artifacts: 1 projectile point, 3 biface fragments, 24 microblades or microblade sections, 2 microblade core fragments, microblade core rejuvenation flakes and lithic debitage. The lithic debitage includes 34 tertiary flakes, 5 secondary flakes and 1 piece of shatter. Out of the total of 71 artifacts found at the site, 27 of them were found on the surface. These artifacts include 16 tertiary flakes, 3 secondary flakes and 1 piece of shatter or angular debris. The tools include a rhyolite projectile point and three biface fragments. The remaining 44 artifacts were found below the surface either in positive shovel tests or in the test unit. These artifacts included 24 microblades or microblade sections, 2 microblade core fragments, microblade core rejuvenation flakes and lithic debitage. The lithic debitage includes 15 tertiary flakes and 2 secondary flakes. Materials at the site include dark gray chert, gray chert, light gray chert, white chert, black chert, black fine-grained basalt, and brown rhyolite.

Shovel tests were systematically placed throughout both of the hilltops at intervals of 10m where slope and vegetation would allow. A total of four of the shovel tests were positive. Two shovel tests at locality A produced three artifacts at an average depth of 17cmbs and one of the shovel tests at locality B produced one artifact at a depth of

10cmts. The fourth positive shovel test was placed between localities A and B and produced a total of 15 artifacts from depths of 10–40cmts.

Table 6. *Lithic assemblage recorded from XMH-01115*

Artifact Class	Frequency	% of Assemblages
Bifaces		
Projectile point	1	1%
Biface fragments	3	4%
Microblade Cores and Microblades		
Microblade core	2	3%
Microblade core rejuvenation flakes	1	1%
Microblades	24	34%
Debitage		
Flakes	39	55%
Shatter	1	1%
Total	71	100%

One 1m x 1m test unit was excavated at site XMH-01115. This unit was established adjacent to the positive shovel test that was placed between the localities. The unit was excavated in 10cm levels until reaching glacial till throughout the entire unit floor. Based on the test unit and nearby shovel tests, soil thickness between the localities averaged 45cm in depth. Soil in this area consists of loosely compacted, dark brown, organically rich loess that is present to an average depth of 0-10cmts. Below this organic horizon the soil consists of a moderately compacted brown to dark brown loess. Below this, there is a layer consisting of moderately compacted brown to yellowish reddish brown loess. Glacial till is encountered below these loess deposits and consists of a very loosely compacted brown sandy, silty loess with a high density of gravels and cobbles.

The area between the localities is only slightly lower than locality B, but seems to have been shielded from wind. Both the shovel test and test unit between the localities revealed evidence of burning down to glacial till, 45-50cmts. Charcoal chunks and flecks were observed within heavily mottled silty soil beginning immediately below the surface and continuing until glacial till was encountered. Artifacts were encountered throughout the excavation unit as well. Twenty-four artifacts were recovered from the unit, 21 of which came from approximately 45cmts. Of these 21 artifacts, 16 were microblades or microblade sections. Also observed within the unit were five granitic cobbles at various levels beginning at approximately 20cmts and continuing until 45cmts. These cobbles did not appear to be modified, arranged, or fire-affected in any way. No other evidence of burning was observed, and some reddish soil and light gray soil was encountered that were both determined to be the result of the decomposing granite. Charcoal samples were collected from the lower levels to be analyzed at another time.

### **Findings**

A total of 71 artifacts were recorded at XMH-01115, 27 of which are associated with microblade production. Forty-four artifacts were found below the surface either in positive shovel tests or in the test unit. Materials at the site include dark gray chert, gray chert, light gray chert, white chert, black chert, black fine-grained basalt and brown rhyolite. Based on the results of the survey and testing, the site area is estimated at approximately 90m x 25m.

Site XMH-01115 is a large lithic site where microblade production occurred. With buried cultural material, XMH-01115 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01115 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.



Figure 69. Site map of XMH-01115

**XMH-01116**

Latitude:

Longitude:

Determination: Eligible

Site XMH-01116 is located at the top of an isolated hill. The hill is elevated 50m above the generally low hilly terrain. The site has a 360° unobstructed view of the surrounding terrain, including \_\_\_\_\_ which is less than 1km to the southwest. A high degree of surface visibility was observed at the site. UTM coordinates for the site are:

Site XMH-01116 consists of 19 artifacts. Eight flakes and one biface fragment were found on the surface and an additional 10 flakes were found subsurface in either shovel test pits or test units. Chert, quartz, basalt, an unidentified material and obsidian (a non-locally occurring material type) were present among the debitage.

Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 28 shovel test pits were excavated at the site. The depth of the shovel test pits varied, but all were excavated to glacial till. A total of two shovel test pits were positive. One of the positive shovel test pits contained two artifacts and the other positive shovel test pit contained one artifact. Subsurface artifacts were found from 5-30cmbd in both positive shovel test pits.



*Figure 70. General view of XMH-01116, facing southwest*

One 1m x 1m test unit was excavated at site XMH-01116. The southwest corner of the unit was placed 9m east and 1.5m south of the site datum, near a positive shovel test pit. The test unit was excavated in 10cm levels until glacial till was reached throughout the entire unit floor. The test unit contained seven artifacts in total. Two artifacts were recovered from level one, 0-10cmbd. Two more artifacts were recovered from level two, 10-20cmbd. An additional three artifacts were recovered from level three, 20-30cmbd. No subsurface features were identified at the site. Soil thickness varied from 0-65cm in depth across the site. The south and southwest portions of the site have sustained considerable wind erosion, and soil deposition only averaged 2-3cm in depth. A total of nine shovel tests were attempted in this area of the site, though no real excavation occurred due to lack of soils. Where there is soil in this area, it consists of loosely compacted, dark brown, organically rich loess to an average depth of 2cm. Glacial till is encountered below this organic horizon and consists of yellow brown sandy loess with a high density of gravels and cobbles. Soil on the north and northeast portions of the site shows more deposition, averaging 30cm in depth. Soil in these areas consists of loosely compacted, dark brown, organically rich loess that is present to an average of 5cmbd. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

### **Findings**

A total of 19 artifacts were recorded at XMH-01116. Nine artifacts, including a biface fragment, were found on the surface and 10 artifacts were found subsurface in either shovel test pits or test units. Materials at the site include chert, quartz, basalt, and obsidian. Based on the results of the survey and testing, the site area is estimated at approximately 20m x 35m.

Site XMH-01116 is a small site with both surface and subsurface components. With buried cultural material and the presence of obsidian (a non-locally occurring material type), XMH-01116 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and

Site XMH-01116 consists of 19 artifacts. Eight flakes and one biface fragment were found on the surface and an additional 10 flakes were found subsurface in either shovel test pits or test units. Chert, quartz, basalt, an unidentified material and obsidian (a non-locally occurring material type) were present among the debitage.

Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 28 shovel test pits were excavated at the site. The depth of the shovel test pits varied, but all were excavated to glacial till. A total of two shovel test pits were positive. One of the positive shovel test pits contained two artifacts and the other positive shovel test pit contained one artifact. Subsurface artifacts were found from 5-30cmbd in both positive shovel test pits.



*Figure 70. General view of XMH-01116, facing southwest*

One 1m x 1m test unit was excavated at site XMH-01116. The southwest corner of the unit was placed 9m east and 1.5m south of the site datum, near a positive shovel test pit. The test unit was excavated in 10cm levels until glacial till was reached throughout the entire unit floor. The test unit contained seven artifacts in total. Two artifacts were recovered from level one, 0-10cmbd. Two more artifacts were recovered from level two, 10-20cmbd. An additional three artifacts were recovered from level three, 20-30cmbd. No subsurface features were identified at the site. Soil thickness varied from 0-65cm in depth across the site. The south and southwest portions of the site have sustained considerable wind erosion, and soil deposition only averaged 2-3cm in depth. A total of nine shovel tests were attempted in this area of the site, though no real excavation occurred due to lack of soils. Where there is soil in this area, it consists of loosely compacted, dark brown, organically rich loess to an average depth of 2cm. Glacial till is encountered below this organic horizon and consists of yellow brown sandy loess with a high density of gravels and cobbles. Soil on the north and northeast portions of the site shows more deposition, averaging 30cm in depth. Soil in these areas consists of loosely compacted, dark brown, organically rich loess that is present to an average of 5cmbd. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

### **Findings**

A total of 19 artifacts were recorded at XMH-01116. Nine artifacts, including a biface fragment, were found on the surface and 10 artifacts were found subsurface in either shovel test pits or test units. Materials at the site include chert, quartz, basalt, and obsidian. Based on the results of the survey and testing, the site area is estimated at approximately 20m x 35m.

Site XMH-01116 is a small site with both surface and subsurface components. With buried cultural material and the presence of obsidian (a non-locally occurring material type), XMH-01116 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and

diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01116 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

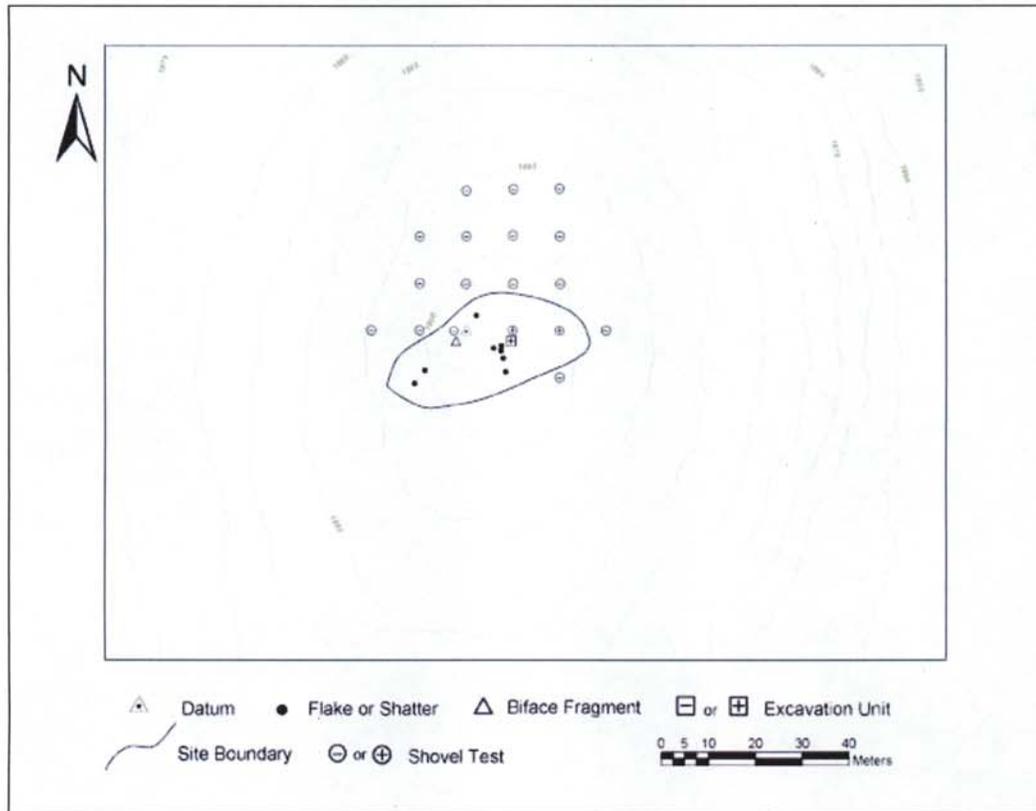


Figure 71. Site map of XMH-01116

**XMH-01127**

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-01127 is located at the top of a hill elevated 25m above the surrounding terrain. There is a small dry lake located 100m away to the south. The site has an approximately 180° unobstructed view of the surrounding terrain to the north. Due to recent episodes of forest fires, there is a high degree of surface visibility at the site. UTM coordinates for the site are:

Site XMH-01127 consists of two artifacts recorded from the surface. Site XMH-01127 was originally identified during a 2003 pedestrian survey as consisting of two flakes on the surface. During the 2004 evaluation of the site, no new artifacts were located. Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 25 shovel tests were excavated, none of which contained any cultural materials.

The depth of shovel tests varied, but all were excavated to glacial till. Based on the results of the survey and testing, the site area is estimated at approximately 10m x 10m.

No 1m x 1m test units were excavated at XMH-01127 because no subsurface artifacts were located through shovel testing. Soil thickness varied from 0-70cm in depth across the site. The southern portions of the site have sustained considerable wind erosion, and soil deposition only averaged 4cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 4cm. Glacial till is encountered below this organic horizon and consists of moderately compacted yellow brown sandy loess with a high density of gravels and cobbles. The northern portions of the site show more soil deposition, averaging 40cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 7cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of moderately compacted yellow brown sandy loess with a high density of gravels and cobbles.

### ***Findings***

Pedestrian survey and 25 shovel tests produced a total of only two surface artifacts. The paucity of cultural material indicates that XMH-01127 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### **XMH-01145**

Latitude:

Longitude:

Determination: Eligible

Site XMH-01145 is located on a high point of a north-south running glacial moraine. A dry lake was observed approximately 200m to the southwest. The site has a 300° unobstructed view of the surrounding terrain to the east, south and west. Donnelly Dome and the Granite Mountains fall within this viewshed. To the north, a slightly taller moraine obstructs the view. Due to recent forest fires, there is approximately 60 percent surface visibility at the site. Site disturbance in the form of a road going from \_\_\_\_\_, generally following the spine of the moraine, has contributed to some loss of integrity. Numerous military shell casings are also present. UTM coordinates for the site are:



*Figure 72. General view of site XMH-01145*

Site XMH-01145 consists of 10 artifacts. Seven flakes were found on the surface and an additional three flakes were found subsurface in either shovel test pits or test units. Tools at the site consist of two uniface fragments that refit and one microblade. Chert and basalt were present among the debitage.

A total of 46 shovel test pits were excavated at the site. A 10m shovel test grid was established, although some shovel tests were excavated at 5m intervals on the northern part of the site. Five meter interval tests were excavated here because more soil was

present and the likelihood of encountering subsurface artifacts was considered to be greater. All shovel tests were excavated to glacial till. Only one shovel test was positive, and contained one flake found from 0-36 cmbs.

Two 1m x 1m test units were excavated at XMH-01145. Test unit one was placed to the south of the positive shovel test and did not encounter any cultural material. A second test unit was placed 1m east of the positive shovel test. The only artifact found in unit two was a large unifaceally-retouched gray chert flake previously broken into 2 pieces. Soil depths averaged 0-10cm on top of the landform and approximately 20-40cm at the northern part of the site. Surface artifacts were collected from the road.

Table 7. Lithic assemblage recorded from XMH-01145

Artifact Class	Frequency	% of Assemblages
Unifaces		
Uniface retouched flake fragment	2	20%
Microblade Cores and Microblades		
Microblades	1	10%
Debitage		
Flakes	7	70%
Total	10	100%

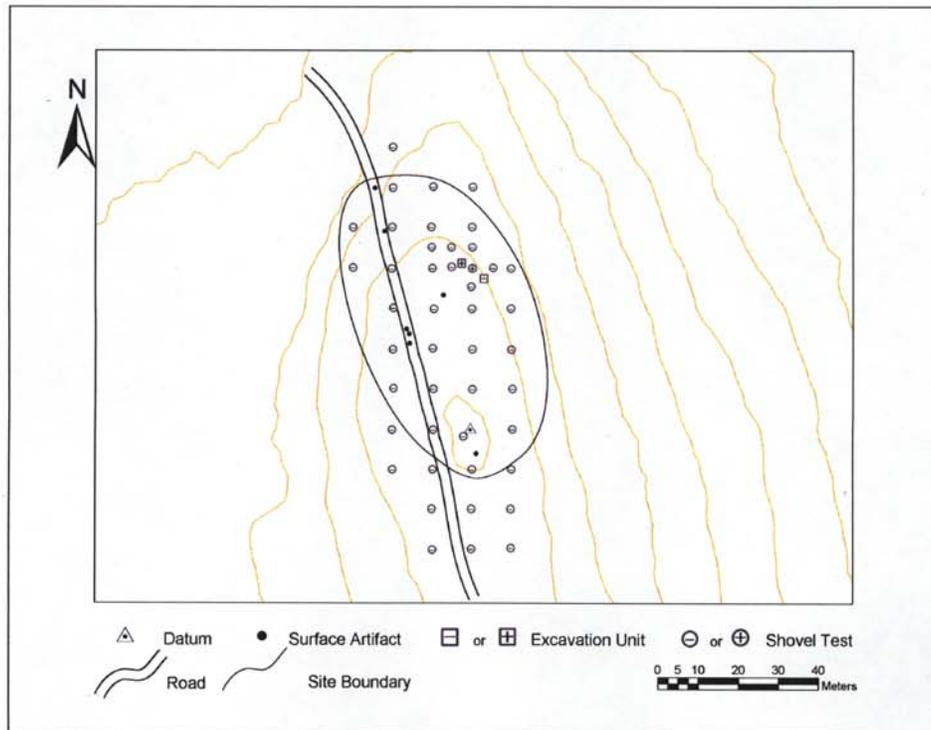


Figure 73. Site map of XMH-01145

### Findings

A total of 10 artifacts were recorded at XMH-01145. Seven artifacts, including a microblade, were found on the surface and three artifacts were found subsurface in either shovel test pits or test units. Materials at the site include chert and basalt. Based

on the results of the survey and testing, the site area is estimated at approximately 50m x 75m.

Site XMH-01145 is a low-density site with both surface and subsurface components. With buried cultural material and multiple tool types, XMH-01145 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Despite some disturbance, site XMH-01145 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D, for its potential to yield information important in understanding the prehistory of the region.

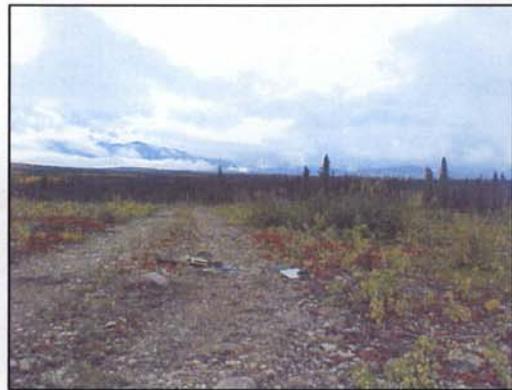
#### *XMH-01146*

Latitude:

Longitude:

Determination: Eligible

Site XMH-01146 is located on a south facing, gradually sloping glacial moraine. Site XMH-01145 is located approximately 89m to the north. The closest water source is 400m to the southeast. A dry lake is present to the southwest at a distance of approximately 100m. The site has a 250° unobstructed view of the surrounding terrain to the east, north and west. The view to the north is obstructed by a slightly taller rise where site XMH-01145 is located. There is some site disturbance in the form of a two-track road that cuts through the site. Visibility in the roadway is at least 80 percent, and off of the road visibility is approximately 10-20 percent. UTM coordinates for the site are:



*Figure 74. General view of site XMH-01146, facing south*

Site XMH-01146 consists mainly of lithic debitage. One biface fragment and more than 20 flakes were found on the surface, and an additional flake was found subsurface in a shovel test. Chert is the only material type present among the debitage. Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 43 shovel tests were excavated at the site. The depth of shovel tests varied, but all were excavated to glacial till. One shovel test was positive and contained one artifact at a depth of 0-8cmbs.

One 1m x 1m test unit was excavated at XMH-01146. The southwest corner of the test unit was placed 20m south and 8m east of the site datum, near a concentration of surface artifacts. The unit was excavated in 10cm levels until glacial till was reached throughout the entire unit floor. The test unit contained no cultural material. No subsurface features were identified at the site. Soil thickness varied from 1-40cm across the site. Throughout approximately 90 percent of the site, the landform has experienced considerable wind erosion and soil deposition averaged only 5cm. Soil in these heavily eroded areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Glacial till is encountered below this organic horizon and consists of yellow brown sandy loess with a high density of gravels and cobbles. Some

areas down slope from the top of the site show more deposition, averaging 30cm. Soil in these areas consists of loosely compacted, dark brown, organically rich loess that is present to an average depth of 5cmbs. Below this organic horizon, the soil consists of moderately compacted brown to reddish brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles.

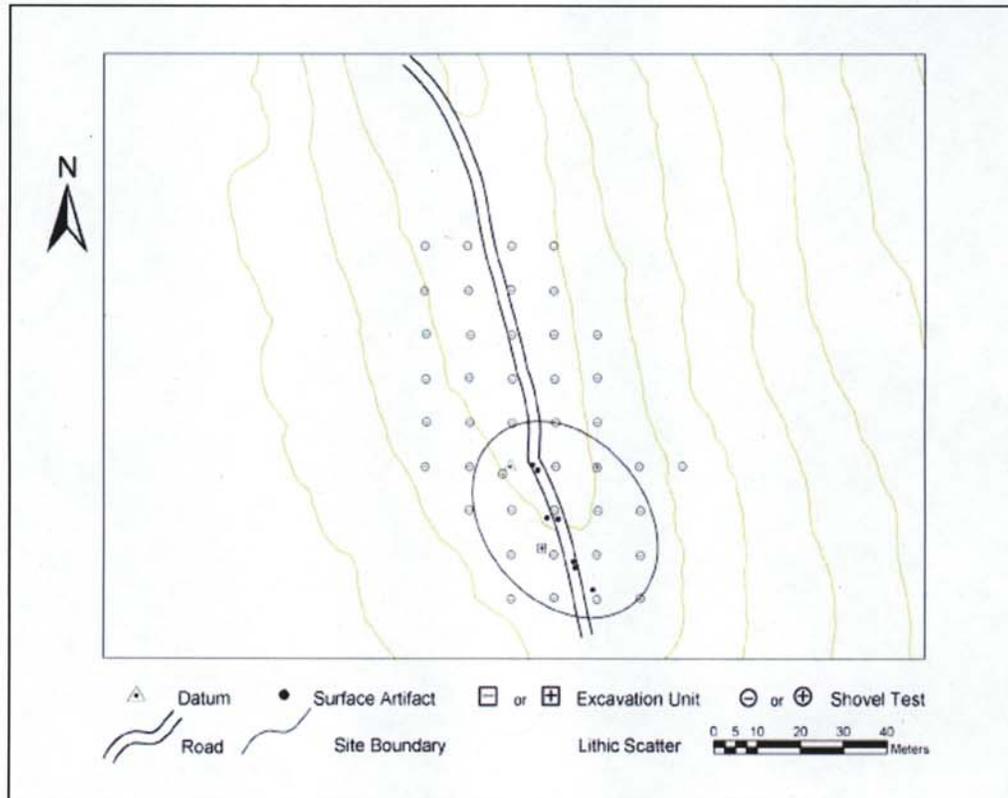


Figure 75. Site map of XMH-01146

### **Findings**

More than 20 artifacts were recorded at XMH-01146. The majority of these artifacts, including a biface fragment, were found on the surface and one artifact was found subsurface in a shovel test pit. Chert was the only material found at the site. Based on the results of the survey and testing, the site area is estimated at approximately 35m x 25m.

Site XMH-01146 is a small site with both surface and subsurface components. With buried cultural material, XMH-01146 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01146 is an intact archaeological site with integrity, despite some site disturbance. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

### **XMH-01160**

Latitude:  
Longitude:  
Determination: Not Eligible

Site XMH-01160 is located on a northwest-southeast trending glacial moraine which follows. The site is on a large high point where and a secondary dirt road intersect. The high point slopes gradually (2-3 percent) on all sides except to the north, which slopes 5 percent. This slope leads down to a low flat area. The nearest water sources are , which is approximately 300m to the southeast, and , which is 350m to the southwest. Neither of the lakes are visible from the site. The view shed is mostly obscured by trees, but Granite Mountain is visible to the southeast. Surface visibility is 75 percent across the undisturbed portion of the site.



Figure 76. General view of site XMH-01160, facing west

Much of the site has been heavily disturbed, however, by the two roads crossing it, by many ATV trails extending away from the road, and by next to the intersection. Additionally, the area has been cleared of trees in various places along the road by mechanical equipment. The site has been used as both a military bivouac and a hunting camp. UTM coordinates for the site are:

Site XMH-01160 consists of four artifacts: two surface artifacts and two subsurface artifacts. During the initial investigations of the site in 2003, two artifacts, a chert flake and an obsidian microblade section, were found on the road surface and were collected. The following year, during the site evaluation, two chert tertiary flakes were recovered from one shovel test.

Shovel tests were systematically placed throughout the site area at intervals of 5 and 10m. No shovel tests were placed on the road since this area has been graded down to glacial till. A total of 36 shovel tests were excavated at the site. Sixteen of the shovel tests were placed at 5m intervals either in the area of the positive shovel tests or in the vicinity of surface artifacts. The depths of the shovel tests varied, but in all cases were excavated down to glacial till. In the one positive shovel test artifacts were found at a depth of 5-15cmbs.

Two 1m x 1m test units were excavated at the site. These units were placed adjacent to the one positive shovel test. No artifacts were found in either of the units. The soil thickness varied from 15-35cm throughout the site. The test units revealed soil deposition to an average depth of 15cm below the surface. A rich organic dark brown soil was initially encountered to a depth of 5cm below the surface. Recent trash was found immediately below the moss mat in the vicinity of the test unit in an area that appears to have heavily disturbed. Below this rich organic layer, brown silt with dark reddish brown mottles was encountered. Below this layer, dark yellow brown sandy silt with a low density of gravels was encountered. Glacial till was encountered below this layer to an average depth of 35cmbs.

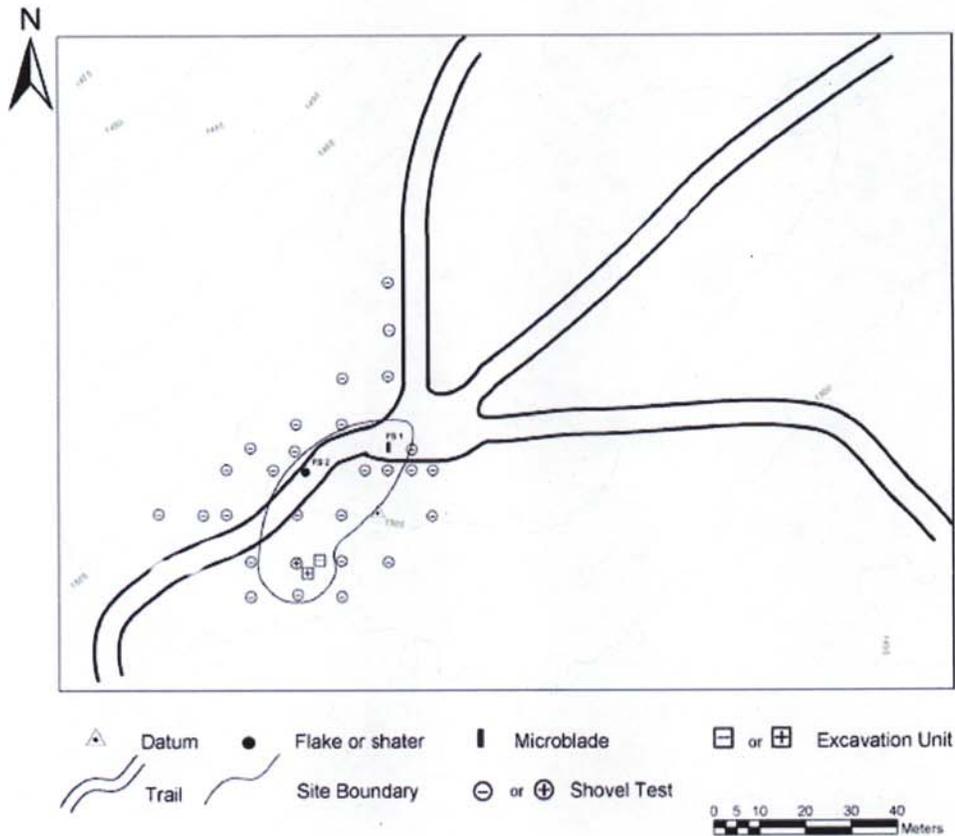


Figure 77. Site map of XMH-01160

**Findings**

A total of four artifacts were recovered from XMH-01160. A chert flake and an obsidian microblade section were recovered from the surface and two chert flakes were recovered from below the surface. Based on the results of the survey and the testing, the site area is estimated at 34m x 20m.

Site XMH-01160 is a heavily disturbed site that has lost all integrity. Despite the presence of obsidian and a microblade, which may have made the site eligible under criterion D, the site disturbance is too widespread. The paucity of cultural material and the highly disturbed context indicates that XMH-01160 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

## 3.2 Beales Road Upgrades

USAG-AK has proposed a road upgrade project located within Army lands on Fort Wainwright, Alaska. The project involves the construction of two new bridges, an access gate, road realignments, a water point and the adding of rip rap to prevent bank erosion along Beales Road at Fort Wainwright's DTA. The proposed road upgrades are along Beales Road, which is located approximately 7-10km south of Delta Junction and 1km west of the Richardson Highway.

The project involves the construction of railcar bridges to KD Range and Georgia Range, realignment of Beales South Road and construction of a gate, road realignment to access Wills Range, a water point at Observation Point 2 (OP2), and placement of rip rap at Arkansas Bridge. All projects are located along Beales Road in the DTA (Figure 78). Construction is scheduled for August 2004. The following is a description of each part of the Beales Road upgrade project.

### *Railcar Bridges to KD Range and Georgia Range*

KD Range and Georgia Range are located in the Wills Range Small Arms Complex, DTA. These ranges are currently not directly accessible from Beales Road due to the Delta River Slough or "overflow channel" that runs parallel to Beales Road. Alternate access is via the road to Arkansas Range, which comes into the middle portion of the range, presenting a safety hazard if the range is in use. Access needs to be established on the east side of these ranges, closest to Beales Road. Concrete pilings will be poured on either side of the overflow channel and set back a few feet from the bank itself. Rip rap will be placed upstream and downstream of the pilings. A railcar bed will then be placed on the pilings, and gravel approaches will be constructed in the existing roadways. The Railcar Bridges project will encompass approximately 3.2 acres, including area within the overflow channel.

### *Beales South Road Realignment and Gate (Beales Range Complex Upgrade)*

The Beales Range Complex is located in the Wills Range Small Arms Complex, DTA. This facility is the maintenance center for all ranges within the DTA and experiences significant seasonal flooding that impedes access at various times throughout the year. This project will re-route and harden the access road into the complex. The Beales Range Complex Upgrade will encompass up to 1.2 acres.

### *Wills Range Access*

The Wills Range Access project is located at the intersection of Beales North Road and the road to Arkansas Range. The newly installed bridge that provides access to this area is at a slightly different angle than the old bridge. The road leading to the Range needs to be realigned in order for larger vehicles to access the range. The Arkansas Range road leads to the winter crossing of the Delta River and the winter trail that provides winter access to the northern portion of DTA West. The Air Force utilizes this road heavily during the winter months to maintain their targets in the Oklahoma Impact Area (Oklahoma Range). Large targets and scrap metal are often hauled using semi tractor-trailers that require a larger turning radius at this intersection. In addition, when the overflow channel cannot contain all of the water, flooding occurs across the road at this location. The construction area encompasses 3.8 acres.

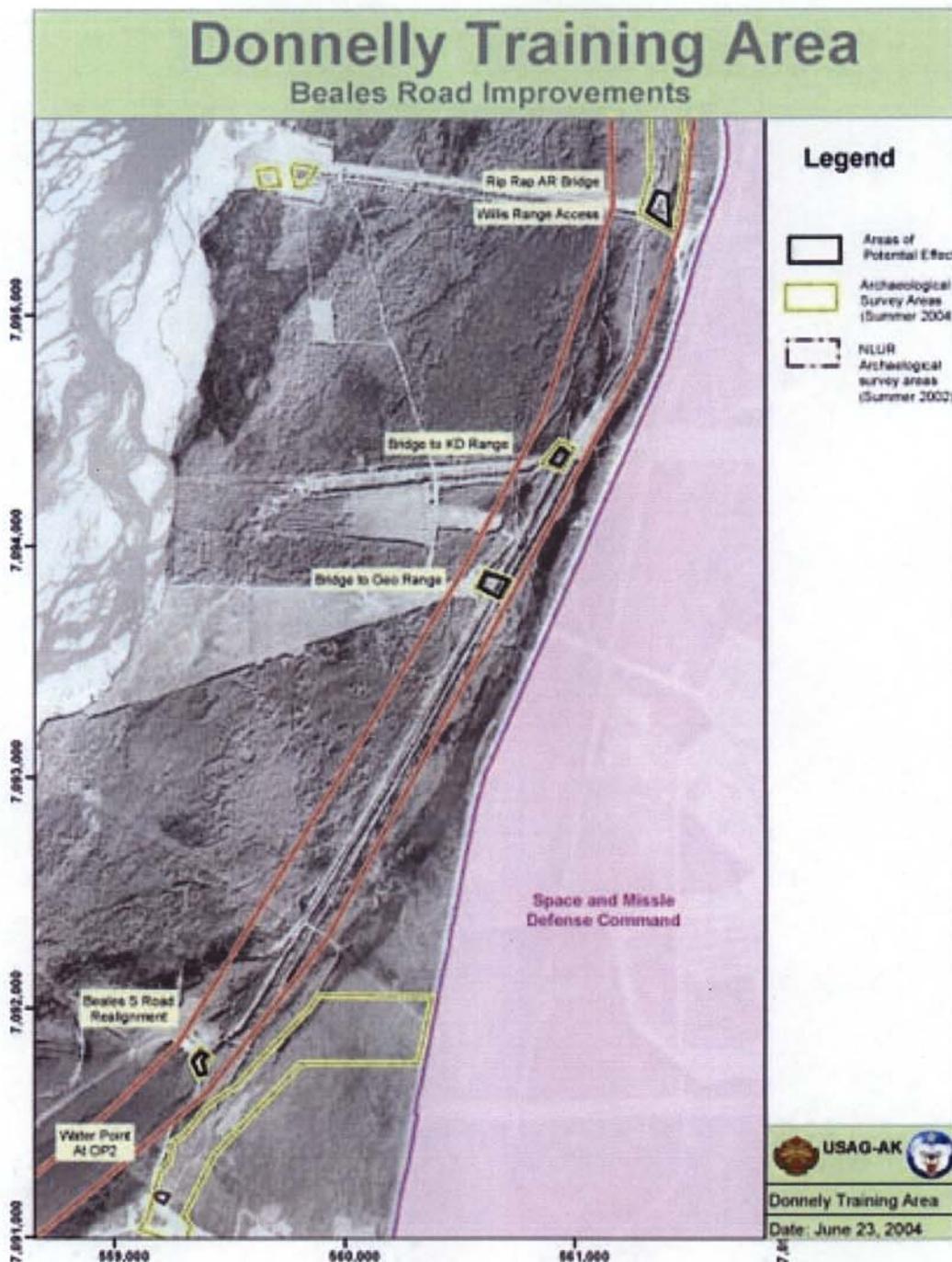


Figure 78. Location of the APE for the Beales Road project, Donnelly Training Area

#### Water Point at OP2

OP2 is near the new loading ramps and bivouac site constructed as part of the realignment of Fort Greely to the Space and Missile Defense Command. The facilities at OP2 are necessary to support troops deployed to DTA for training exercises. Additional facilities required to fully support deployed troops will be located in this general area. A water point consists of a well, a holding tank in a small heated building, a fill spout to allow filling of large water tankers, a hardened access road to the fill spout, and

protective barriers around the building. The water point at OP2 project will encompass approximately 1.9 acres.

#### *Rip Rap Arkansas Range Bridge*

The Arkansas Bridge Rip Rap project, located in the Wills Range Complex, DTA, will install large rocks along an existing railcar bridge crossing over a slough of the Delta River. This area is prone to flooding and while the installation of the bridge and removal of culverts have improved the hydrology of the area, bank erosion can still occur and compromise the integrity of the newly installed bridge. The rip rap armoring proposed for the Arkansas Range Rail Car Bridge will consist of an 18in. blanket of 12in. minus rock rip rap underlain with geo-textile material and toed in 2ft below the existing slough bed. The rip rap blanket will extend 40ft upstream and 120ft downstream of the rail car bridge on both banks. This project will require 416 cubic yards of bulk material excavation, and 436 cubic yards of rock rip rap. Commercial rip rap will be used for this project. This project will encompass approximately 0.12 acres.

#### **Surveys and Field Methods**

In the summer of 2002, one archaeological survey crew (comprised of two archaeologists) employed by Northern Land Use Research, Inc. (NLUR) surveyed the majority of Beales Road for a Golden Valley Electric Association, Inc. power line (Goodman et al. 2002). No cultural material was located and all but one of the project areas (water point at OP2) was covered by the 2002 NLUR survey.

In the summer of 2004, one archaeological survey crew (comprised of four archaeologists) employed by CEMML conducted a pedestrian survey of the proposed Beales Road upgrade project. The survey area was limited to the APE for all but one of the project areas (water point at OP2), due to previous coverage by the 2002 NLUR survey.

The project's APE encompassed an area larger than the anticipated construction footprint in order to ensure coverage of areas that may incur secondary impacts during construction or use. Parallel pedestrian transects spaced at approximately 20m intervals were walked systematically across the APE and surrounding area. Transect survey units were partitioned according to existing roads and trails where possible. When existing roads did not provide for practical unit boundaries, a one square kilometer work unit was defined. Systematic subsurface shovel testing was undertaken in areas considered to have high probability for containing archaeological sites. Areas that were shovel tested included but were not limited to: landforms affording a view of surrounding terrain; lake margins; ridgelines; terrace edges; hilltops; benches adjacent to steeper slopes; and bluffs. Shovel tests were typically 30cm in diameter and excavated into glacial till or consolidated outwash. All soil removed was screened through ¼in. hardware cloth. No cultural material was observed inside the APE.

#### **Results**

Pedestrian survey of the proposed project area failed to identify any cultural resources within the APE for the proposed projects. All but one of the project areas (water point at OP2) are located in the Delta River flood plane. All archaeological sites in the vicinity are located outside of the APE on the Delta River flood plane. The water point at OP2, located on the terrace, is the closest to an archaeological site (XMH-00273). This site is from the construction footprint of the water point at OP2 (Figure 79). The DTA archaeologist will

monitor the site during the construction of water point at OP2 to ensure that no damage occurs to XMH-00273.

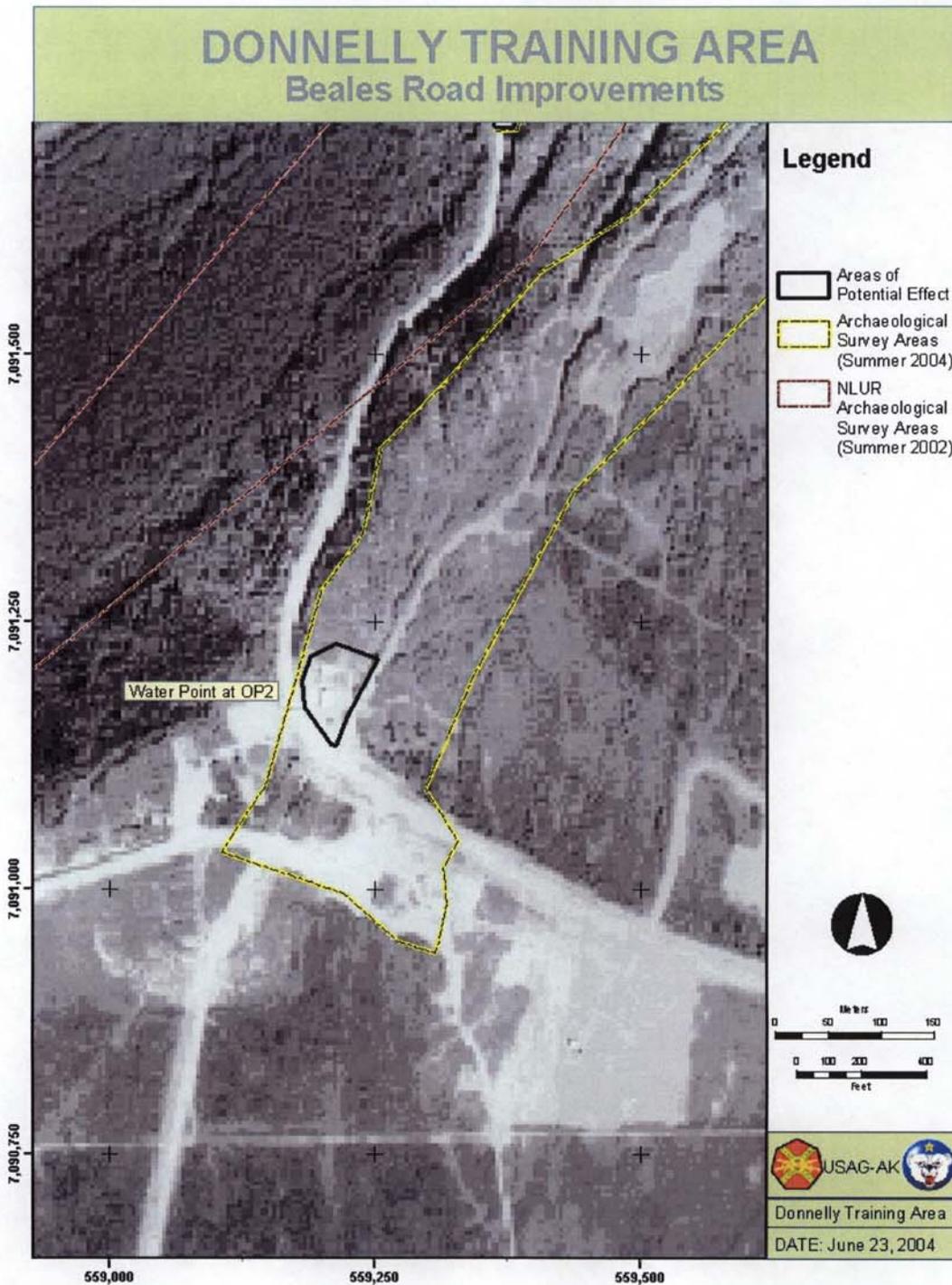


Figure 79. Location of the APE for the Water Point at OP2 and XMH-00273

**Cultural Resources**

Three prehistoric sites have been previously recorded within 1km of the proposed project area. These sites (XMH-00253, XMH-00273 and XMH-00287) are located

the Delta River. All but one of the project areas (water point at OP2) are located in the flood plain 100m below the terrace, in area that has not yet produced any cultural material (Bacon and Holmes 1979; Goodman et al. 2002; Higgs et al. 1999; Holmes 1979).

The following is a description of each recorded site near the currently proposed project area.

XMH-00253

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-00253 is located on a glacial outwash terrace that overlooks , next to , approximately west of the Richardson Highway. The site was identified in 1976 and investigated in 1977 and consists of numerous flakes, scrapers, microblade cores, microblades, rejuvenation flakes, a core tablet, a burin, and burin spalls (Rabich and Reger 1978). This site was revisited in 2003 and no new artifacts were located. UTM coordinates for the site are:

*Recommendations*

Site XMH-00253 has been classified as a microblade production site. This site lies outside the APE for the proposed projects and was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be evaluated to determine eligibility.

XMH-00273

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-00273 is located on a glacial outwash terrace that overlooks , approximately of the Richardson Highway. The site was identified in a 1979 survey and consists of two retouched flakes, several flakes of different material types and a large cobble core found on the surface (Holmes 1979). This site was revisited in 2004 for this project and no new artifacts were located. The location on the AHRS card is off by several hundred meters. The correct UTM coordinates for the site are:

*Recommendations*

Site XMH-00273 has been classified as a small lithic scatter. This site lies outside the APE for the proposed projects and was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be evaluated to determine eligibility.

XMH-00287

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-00278 is located on a glacial outwash terrace that overlooks , approximately of the Richardson Highway. The site was identified in a 1979 survey and consists of a retouched flake and several flakes of different material types found on the surface (Holmes 1979). According to the 1979 site report, the site area was heavily disturbed by "roads, power lines, gravel pits and clearing" (Holmes 1979:86). This site was revisited in 2004 for this project and no new artifacts were located. The location on the AHRS card is off by several hundred meters. The correct UTM coordinates for the site are:

*Recommendations*

Site XMH-00278 has been classified as a small lithic scatter. This site lies outside the APE for this proposed project and was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be evaluated to determine eligibility.

### 3.3 12 Mile Crossing Trail Upgrades

USAG-AK has proposed road upgrades located within lands on Fort Wainwright, Alaska. The proposed road upgrades are along 12 Mile Crossing Trail, located approximately 7-10km south of Delta Junction, and 1km west of the Richardson Highway in the DTA (Figure 80).

The Ober Creek Low Water Crossing project is located in the Ober Training Area along what is known as 12 Mile Crossing Trail in the DTA. This project will re-shape and install a rip rap blanket along both banks of the Ober Creek crossing. This project will also grade and improve 1.8km of the 12 Mile Crossing Trail from the base of the hill east to Jarvis Creek. The Ober Creek Low Water Crossing is 1.3km from the base of the hill on the western end and 0.5km from Jarvis Creek on the eastern end of the Trail. 12 Mile Crossing Trail is a key access point for Training Areas 19 and 20 and is the southern entrance and exit point for 33 Mile Loop Trail, which is the main access to Training Areas 5-11. The current low water crossing is unimproved and has erosion features associated with the banks. The existing trail width ranges from 6-10m, with the final graded base width to be 9.7m wide. This project will encompass approximately 3.8 acres, 95 percent of which has already been disturbed by construction of the trail and by fuel break clearings along either side of the trail.

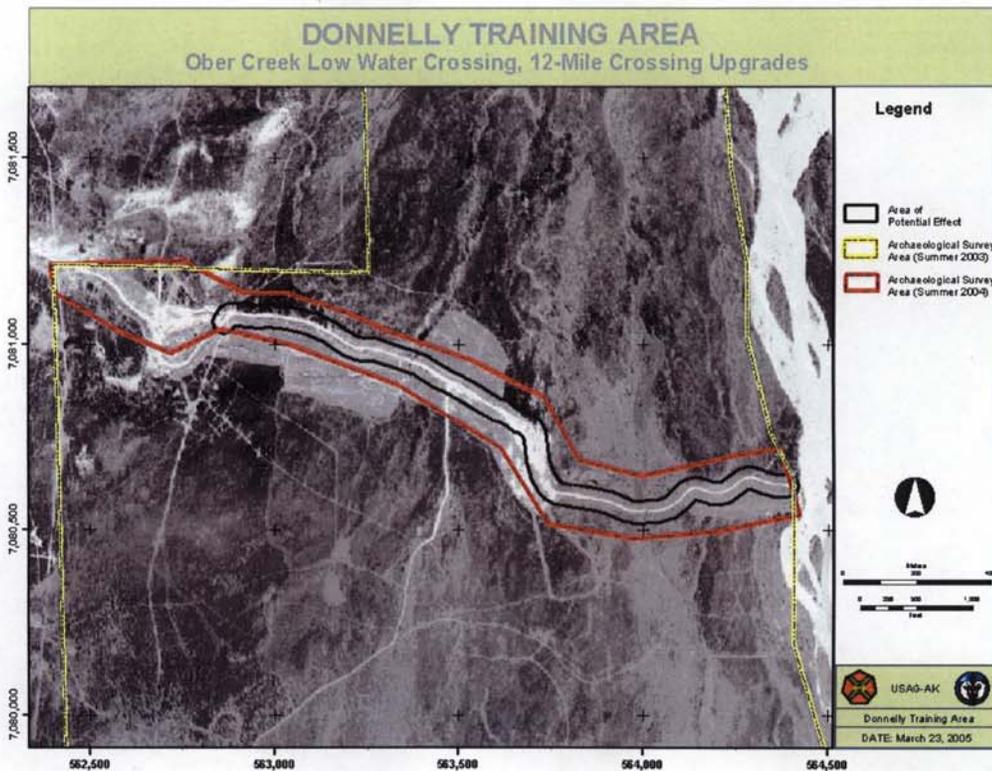


Figure 80. Location of the APE for the 12 Mile Crossing Trail upgrades

### ***Survey and Field Methods***

In the summers of 2003 and 2004, two archaeological survey crews (each comprised of four archaeologists) employed by CEMML conducted a pedestrian survey in the area of the proposed road upgrades along 12 Mile Crossing Trail project in the DTA. The project's APE encompassed an area larger than the anticipated construction footprint in order to ensure coverage of areas that may incur secondary impacts during construction or use. Parallel pedestrian transects spaced at approximately 20m intervals were walked systematically across the APE and surrounding area. Transect survey units were partitioned according to existing roads and trails where possible. When existing roads did not provide for practical unit boundaries, a one square kilometer work unit was defined. Systematic subsurface shovel testing was undertaken in areas considered to have high probability for containing archaeological sites. Areas that were shovel tested included but were not limited to: landforms affording a view of surrounding terrain; lake margins; ridgelines; terrace edges; hilltops; benches adjacent to steeper slopes; and bluffs. Shovel tests were typically 30cm in diameter and excavated into glacial till or consolidated outwash. All soil removed was screened through ¼in. hardware cloth. One archaeological site was observed inside the APE.

### ***Cultural Resources***

Three prehistoric sites (XMH-00282, XMH-01171 and XMH-01172) have been previously recorded within 1km of the proposed project area (Figure 80). The following is a description of each recorded site near the currently proposed project area.

#### XMH-00282

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-00282 is located on a small barren knoll, with trails that go all around it. The site is approximately \_\_\_\_\_ of the Richardson Highway. The site was identified in 1978 and consists of five flakes of three material types (Holmes 1979). This site was revisited in 2004 for this project and no new artifacts were located. The location on the AHRS card is off by several hundred meters. The correct UTM coordinates for the site are:

#### *Recommendations*

Site XMH-00282 has been classified as a small lithic scatter. This site lies outside the APE for this proposed project and was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. If the APE is moved by later design alteration, or if further projects are proposed in the area, the site should be evaluated to determine eligibility.

#### XMH-01171

Latitude:

Longitude:

Determination: Eligible

Site XMH-01171 is located on the southern edge of a terrace overlooking the \_\_\_\_\_. The nearest water source is \_\_\_\_\_ located 1.5km to the east-

southeast. The view shed at the site is 180°. The Granite Mountains are visible to the southeast and Muskeg Hill can be seen to the east. Surface visibility at the site is 75 percent. UTM coordinates for the site are:



Figure 81. General view of site XMH-01171, facing south

Site XMH-01171 consists mainly of lithic debitage. More than 250 flakes were found on the surface and an additional 33 flakes were found subsurface in either shovel tests or test units. Chert, basalt, rhyolite, quartzite and obsidian (a non-locally occurring material type) were present among the debitage.

Seventeen tools were found at the site. In addition to these artifacts, more than 100 of the over 250 flakes found at the site are of brown and clear glass. Whether this glass is from the contact or historic period is presently unknown. A clear glass scraper was also found at the site.

A total of 121 shovel test pits were excavated at the site. A 10m shovel test grid was established, although some shovel tests were excavated at 5m intervals on the northern portion of the site. Five meter interval tests were excavated here because more soil was present and the likelihood of encountering subsurface artifacts was considered to be greater. All shovel tests were excavated to glacial till. A total of eight shovel tests were positive, six of which contained just one flake each. The other two shovel tests contained two flakes each. Subsurface artifacts were found from 1-40cmbs in all positive shovel tests.

One 1m x 1m test unit was excavated at site XMH-01171. The unit was placed just inside the tree line to the north-northeast of the site datum, in between two positive shovel tests. The test unit was excavated in 10cm levels until glacial till was reached throughout the entire unit floor. The test unit contained a total of 24 artifacts recovered from levels two, three, four and five, 10-50cmbd. No subsurface features were identified at the site. Soil thickness varied from 0-90cm across the site. The southwest and northeast portions of the site have sustained considerable wind erosion as well as road, vehicle and various amounts of military disturbance. As a result, soil deposition at these portions of the site averages only 15cm in depth. Soil in these deflated areas consists of loosely compacted, dark brown, organically rich loess to an average depth of 4cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of moderately compacted yellow brown sandy loess with a high density of gravels and cobbles.

The area of the site located between the datum and sub-datum shows the most deposition and the least amount of disturbance. The soil in this portion of the site averages 45cm in depth and consists of loosely compacted, dark brown, organically rich loess to an average depth of 7cm. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of moderately compacted yellow brown loess with a high density of gravels and cobbles.

Table 8. Lithic assemblage recorded from XMH-01171

Artifact Class	Frequency	% of Assemblages
Bifaces		
Biface fragments	10	<4%
Unifaces		
End scrapers (1 of glass)	2	<1%
Uniface, flake tool	1	<1%
Burins		
Possible burin spall	1	<1%
Microblade Cores and Microblades		
Microblades	1	<1%
Flake Cores	2	<1%
Debitage		
Flakes (100+ of glass)	250+	>93%
Shatter	2	<1%
<b>Total</b>	<b>269+</b>	<b>100%</b>

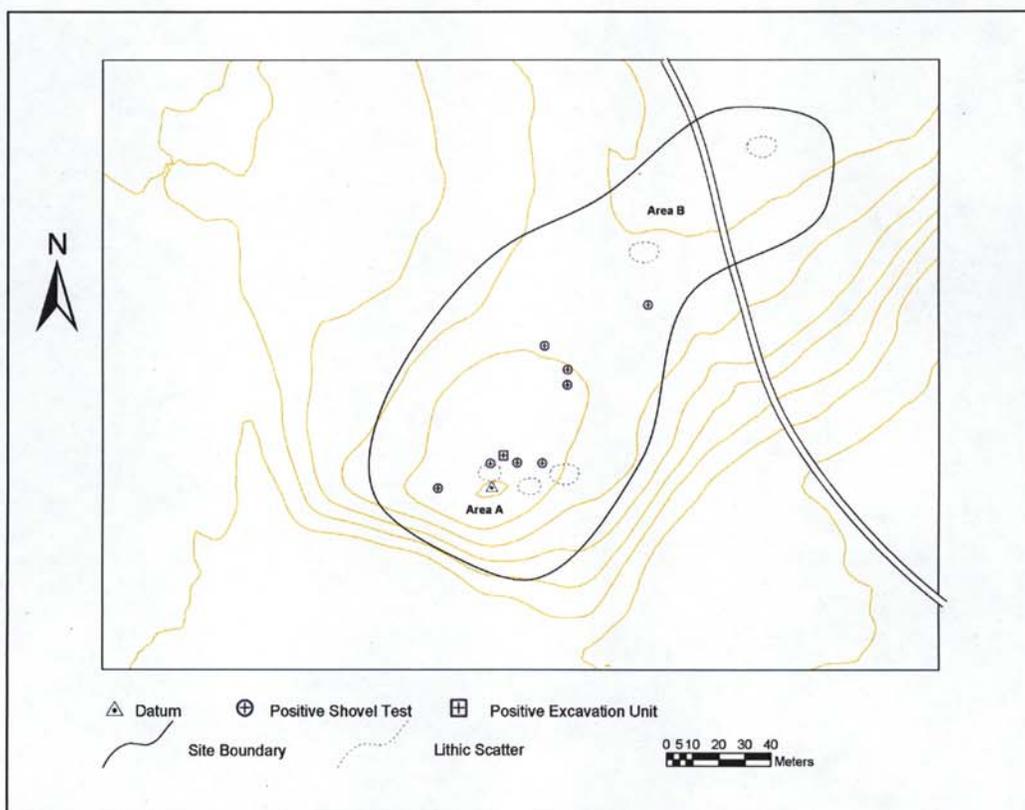


Figure 82. Site map of XMH-01171

### Findings

More than 250 artifacts were recorded at XMH-01171, 17 of which are tools. Thirty-three artifacts were found below the surface either in positive shovel tests or in the test unit. Materials at the site include chert, basalt, rhyolite, quartzite, glass and obsidian (a non-locally occurring material type). Based on the results of the survey and testing, the site area is estimated at approximately 100m x 100m.

Site XMH-01171 is a high-density site with both surface and subsurface components. With buried cultural material and multiple tool types, including possible contact period artifacts, XMH-01171 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-01171 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D, for its potential to yield information important in understanding the prehistory of the region.

#### *XMH-01172*

Latitude:

Longitude:

Determination: Not Eligible

Site XMH-01172 is located on a very low terrace overlooking a boggy, muskeg area to the east. The closest water to the site is

The site is located in an area that has been mechanically cleared and as a result the view shed is a full 360°. However, the site is at such a low elevation that not much is visible. The Granite Mountains can be seen to the southeast and Muskeg Hill is visible to the east. There is little or no vegetation and approximately 95 percent surface visibility at the site. The road to

runs through the site and the surface has been heavily disturbed by the construction of the road, vehicle traffic, and blading. In addition, wind and water erosion, exacerbated by the lack of vegetation, has taken a toll on the site. UTM coordinates for the site are:



*Figure 83. General view of XMH-01172, facing north*

Site XMH-01172 consists of 82 artifacts recorded from the site. Thirty-three flakes were discovered on the exposed surface and two artifact concentrations were identified. Concentration one is located east of the road and contained 13 chert and basalt flakes. Concentration two is west of the road and contained 14 dark gray chert tertiary flakes, many of which were very small (less than 1/4in.). Two flakes with worked edges were collected. Twenty-seven of the surface flakes were dark gray chert; the remaining 6 flakes were basalt, banded chert and brown chert.

Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 23 shovel tests were excavated, three of which contained cultural material. The depth of shovel tests varied, but all were excavated to glacial till. The three positive shovel tests contained one flake each. Shovel test depths ranged from 0-30cm, with loess on top of the till. Based on the results of survey and testing, the site area is estimated at approximately 20m x 40m.

One 1m x 1m test unit was excavated at site XMH-01172. The unit was placed to the south of the site datum, next to a positive shovel test and surface concentration one. The area had a small amount of vegetation protecting it and appeared to have a greater deposition of soil. The test unit was excavated in 10cm levels until glacial till was

reached throughout the entire unit floor. The test unit contained a total of 46 artifacts recovered from levels one, two and three, 0-30cmbd. A portion of level two was heavily disturbed. The majority of artifacts came from 15-25cmbd (levels two and three) and from the SE corner in intact loess. Fourteen flakes were plotted in-situ from 20-26cmbd. All the artifacts from the test unit were dark gray chert tertiary flakes and many were very small (less than ¼in.). Ninety percent or more of the artifacts at this site were dark gray chert. No subsurface features were identified at the site. The unit was excavated to glacial till.

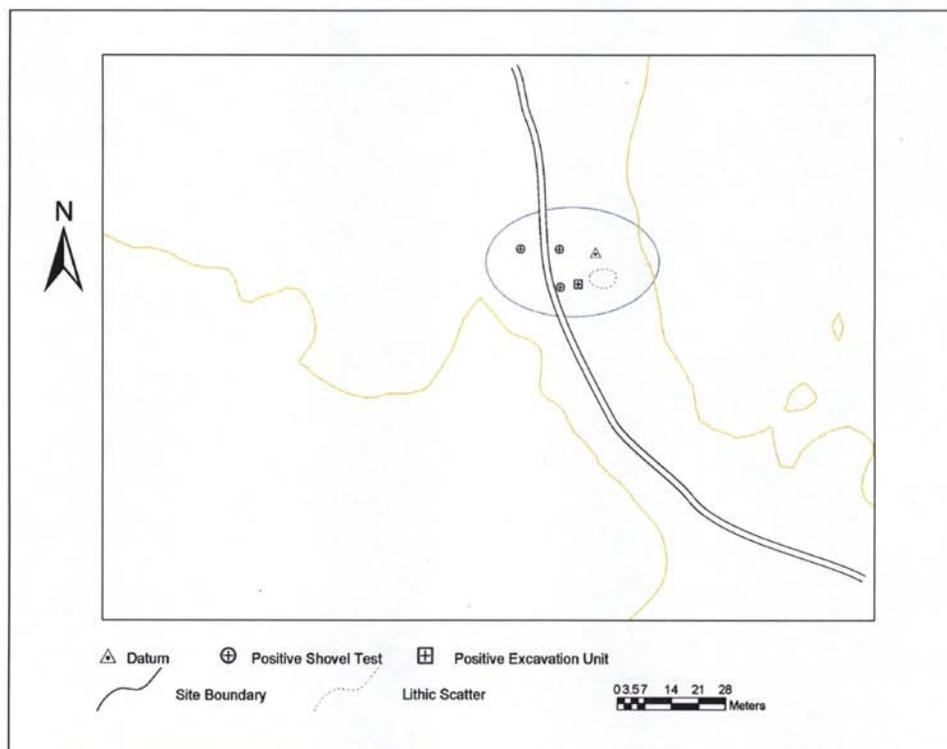


Figure 84. Site map of XMH-01172

### Findings

Pedestrian survey and 23 shovel tests produced a total of 82 artifacts. Most of these artifacts were found on a heavily disturbed surface. Despite the large amount of cultural material, loss of integrity at XMH-01172 is indicated by heavy site disturbance caused by the construction of the road and parking area, vehicle traffic and wind and water erosion. As a result, site XMH-01172 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

### Results

Only one archaeological site (XMH-01172) was located within the boundaries of the APE for the proposed road upgrades on 12 Mile Crossing Trail. A site evaluation determined that XMH-01172 does not contain enough information that is important to our understanding of the region's prehistory or history and is not eligible for inclusion in the National Register of Historic Places.

While site XMH-01171 does not fall into the APE for this project, its close proximity may expose it to secondary impacts from the road construction. To protect the site from any

inadvertent damage during construction and any subsequent military training,

The DTA archaeologist will be on site and will  
monitor the construction for this project.

All other previously recorded archaeological sites or historic properties fall outside the proposed project area. Subsequently, the proposed project will have no effect on historic properties.

### 3.4 33 Mile Loop Trail Upgrades

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USAG-AK has proposed road upgrades located along 33 Mile Loop Trail, approximately 7-10km south of Delta Junction and 1km west of the Richardson Highway between Eddy Drop Zone and Fleet Street at Fort Wainwright's DTA.

The proposed upgrades will allow for travel during wet times of the year and will consist of two parts: one west of the "shortcut" hill and one east of it. The western section has one stretch adjacent to Eddy Drop Zone that is rutted and has never been upgraded but is passable most of the year and another section that was severely impacted by the spring 2004 floods. These sections will be graded, compacted, have gravel added in 6in. lifts where needed and be compacted again. Cutouts may be needed on the low side of the road to prevent water from ponding on the road. Three grouted low water crossings will also be installed. Two will be improvements to existing low water crossings in the area where the road was damaged during the 2004 flood and the third one will replace the culverts at the base of "shortcut" hill. Existing berms on the south side of the road, in the damaged area, and at the location of the two existing low water crossings need to be opened up to a minimum width of 100ft. Material removed from the berm will be used in one of two places. It can be added to the remaining section of berm or the material can be used to assist in directing the water into the opened up areas. Most of the work will be completed in the original footprint of the road. The removal of portions of the berm and installation of cutouts may extend the work outside the original footprint of the road.

The eastern section of the trail has several mud holes that have been detailed for repair. The proposed upgrade includes five mud hole repairs along 0.8 miles of trail. Generally, the treatment at each site calls for grading the trail, installing geotextile and then building up the roadbed to raise it above the level of water that accumulates in these mud holes. Gravel will be utilized from nearby sources and will be added and compacted in 6in. lifts. The two possible gravel sources for this project have been surveyed and the State Historic Preservation Office (SHPO) has concurred with USAG-AK's findings that no sites are located within these sources (Sackett 2000 and Robertson 2003). Some of the areas to be upgraded call for the installation of culverts. In addition, three or four of the ridge tops that the trail crests are too peaked to allow for vehicles with long trailers to pass. These sites will be leveled the minimum necessary to allow for safe travel. The remaining portions of trail are on natural gravel substrate and will only require grading and crowning. There is one archaeological site near the project area that will be protected from damage

. Most of the work will be performed in the original road footprint. The only work that may be performed outside the footprint would be the cutouts.

The objective of this project is to improve the mud holes, reduce the sharp peaks, and grade the remaining portions of this short section of trail. The mud holes make it almost impossible for wheeled vehicles to drive on 33 Mile Loop Trail without getting stuck or making side cuts around them. This "road propagation" widens the existing trail and degrades large amounts of land.

#### ***Surveys and Field Methods***

In the summers of 2002, 2003 and 2004, two archaeological survey crews (each comprised of four archaeologists) employed by CEMML conducted a pedestrian survey

in the area of the proposed road upgrades along 33 Mile Loop Trail. The project's APE encompassed an area larger than the anticipated construction footprint, in order to ensure coverage of areas that may incur secondary impacts during construction or use. No archaeological sites were observed inside the APE.

Survey methods consisted of parallel pedestrian transects spaced at 20m walked systematically across the APE and surrounding area. Transect survey units were partitioned according to existing roads and trails where possible. When existing roads did not provide for practical unit boundaries, a one square kilometer work unit was defined. Systematic subsurface shovel testing was undertaken in areas considered to have high probability for containing archaeological sites. Areas that were shovel tested included but were not limited to: landforms affording a view of surrounding terrain; lake margins; ridgelines; terrace edges; hilltops; benches adjacent to steeper slopes and bluffs. Shovel tests were typically 30cm in diameter and excavated into glacial till or consolidated outwash. All soil removed was screened through ¼in. hardware cloth.

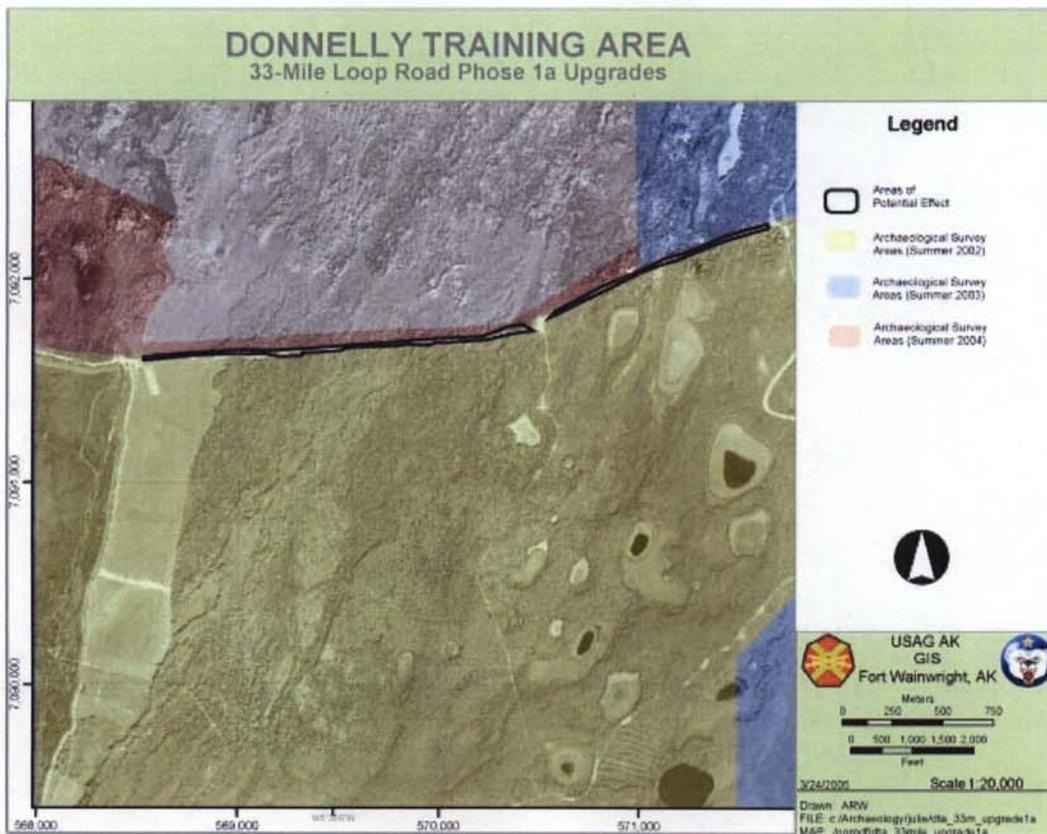


Figure 85. Project area, 33 Mile Loop Trail upgrades

### Results

Pedestrian survey of the proposed project area failed to identify any cultural resources within the boundaries of the proposed project's APE. All previously recorded archaeological sites or historic properties fall outside the proposed project area. Most of the work will be completed in the original footprint of the road. Subsequently, the proposed project will have no effect on historic properties. The two possible sources of the gravel for this project have been surveyed and the SHPO has concurred with the

findings that no historic properties are located within these sources (Sackett 2000 and Robertson 2003).

### ***Cultural Resources***

Twelve prehistoric sites (XMH-00290, XMH-00291, XMH-00895, XMH-00896, XMH-00897, XMH-00898, XMH-00899, XMH-00901, XMH-00980, XMH-00992, XMH-00994, and XMH-00999) have been previously recorded within 1km of the proposed project area (Figure 85). However, only three of these sites (XMH-00290, XMH-00291, XMH-00895) are the proposed project area. The following are descriptions of the three sites near the currently proposed project area.

#### ***XMH-00290***

Site XMH-00290 is located on the , at the intersection of 33 Mile Loop Trail and an unnamed trail. The site was identified in 1978 and consists of numerous flakes and two biface fragments (Holmes 1979). This site was revisited in 2004 for this project and no new artifacts were located. The correct UTM coordinates for the site are:

#### ***Recommendations***

This site falls outside of the APE for the proposed project and no further action is recommended at this time.

#### ***XMH-00291***

Site XMH-00291 is located on a glacial moraine knoll, east of the intersection of . The site was identified in 1978 and consists of two chert flakes found on the surface (Holmes 1979). This site was revisited in 2002 for this project and no new artifacts were located. The correct UTM coordinates for the site are:

#### ***Recommendations***

This site falls outside of the APE for the proposed project and no further action is recommended at this time.

#### ***XMH-00895***

Site XMH-00895 is located at of a north/south trending ridge of a glacial moraine, 20m to the north of is located approximately 250m to the south and is roughly 500m to the east. The site was identified in 2002 and consists of single unifacially worked banded chert flake found on the surface of the at the base of a moraine and to the north of (Hedman et al. 2003). This site was revisited in 2004 for this project and one biface fragment and two more flakes were located on the top of the moraine. The correct UTM coordinates for the site are:

#### ***Recommendations***

This site falls outside of the area of potential effect for the proposed project. While the site does not fall within the boundaries of this project, its close proximity may expose it to secondary impacts from the road construction. To protect the site from any inadvertent damage during construction and any subsequent military training,

. The DTA archaeologist will be on site to monitor the construction for this project.

### 3.5 2004 Survey and New Sites

During the summer of 2004, two archaeological survey crews (each comprised of four archaeologists) employed by CEMML conducted a phase 1 pedestrian survey for one major range development project (BAX), as well as several smaller projects for the USAG-AK on lands at Fort Wainwright's DTA.

#### **Survey and Field Methods**

Standard pedestrian survey methods were employed, with parallel transects spaced at a maximum of 20m in all areas that were considered not too wet to contain cultural material. Transect survey units were partitioned according to existing roads and trails where possible. When existing roads did not provide for practical unit boundaries, a one square kilometer work unit was defined.

Systematic subsurface shovel testing was undertaken in areas considered to have high probability for containing archaeological sites. Random subsurface shovel testing took place in areas considered to have low probability. Areas that were considered to have high probability included but were not limited to: landforms affording a view of surrounding terrain; lake margins; ridgelines; terrace edges; hilltops; benches adjacent to steeper slopes and bluffs above Jarvis Creek. Shovel tests were typically 30cm in diameter and excavated into glacial till, consolidated outwash, or permafrost. All soil removed was screened through ¼in. hardware cloth.



Figure 86. Archaeologist testing the project area

#### **Cultural Resources**

2,610 acres were archaeologically surveyed on the DTA during the 2004 summer field season, and a total of 10 new archaeological sites were identified. One additional (XMH-01168) site was located on Fort Greely, Space Missile Defense Command.

The following is a description of eight of the new sites recorded in 2004. Sites XMH-01171 and XMH-01172 are described in Section 3.3 of this report.

Table 9. Archaeological Sites Located in 2004

Site #	Project	Easting	Northing	NRHP Status
XMH-01168	SMDC Gravel			Not evaluated
XMH-01169	2004 Survey			Not evaluated

XMH-01170	2004 Survey			Not evaluated
XMH-01171	12 mile crossing			Eligible
XMH-01172	12 mile crossing/BAX			Not Eligible
XMH-01173	BAX 2004 Survey			Not evaluated
XMH-01174	BAX 2004 Survey			Not evaluated
XMH-01175	BAX 2004 Survey			Not evaluated
XMH-01176	BAX 2004 Survey			Not evaluated
XMH-01177	2004 Survey			Not evaluated
XMH-01178	2004 Survey			Not evaluated

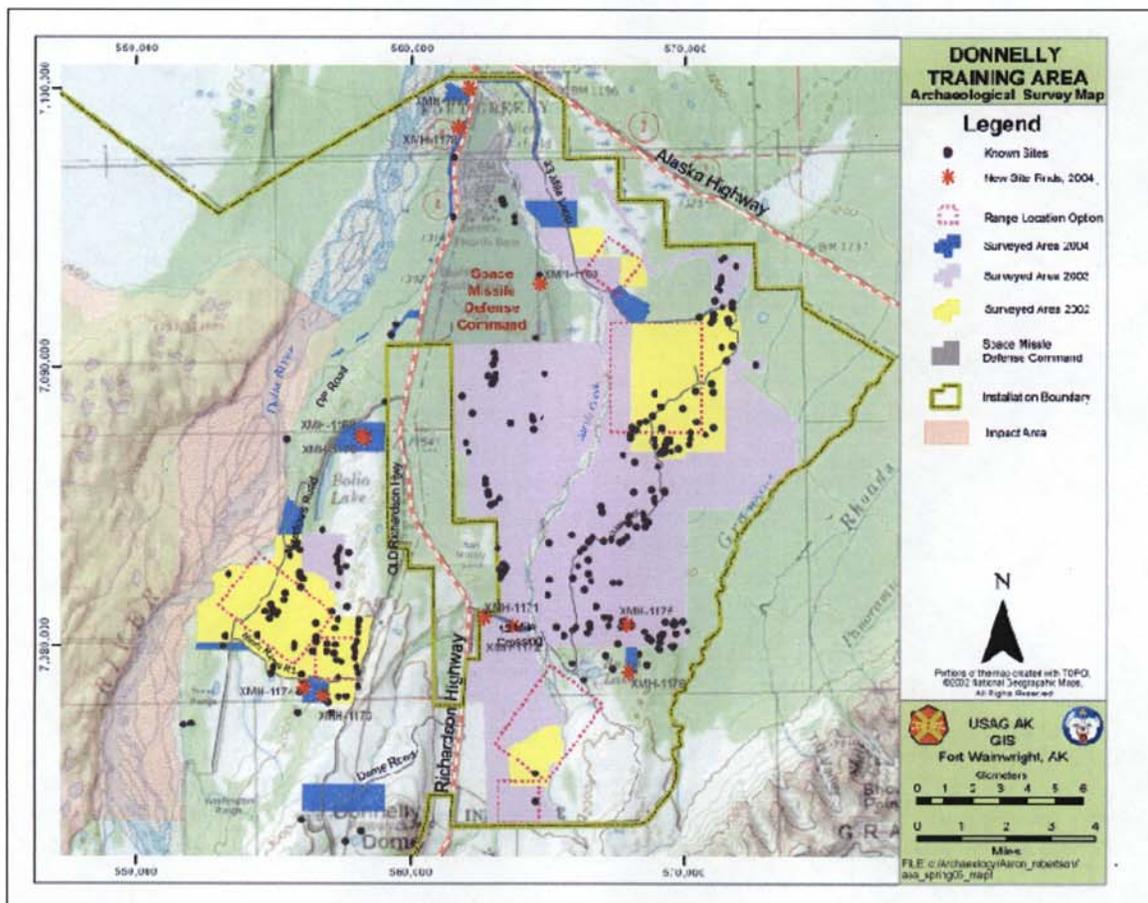


Figure 87. Area surveyed and location of newly located archaeological sites, DTA

XMH-01168

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01168 was discovered by Mark Hubbs of Teledyne Solutions, Inc. The site is located on the same narrow north/south running ridge as XMH-00871, which is 340m to the south. The site is on a knoll rising slightly above the rest of the ridge and Donnelly Dome is visible to the south. A gravel road has been cut through the western part of the ridge and the lone artifact encountered was found at the top of the cut bank made by this road. The closest water source is a small pond located 150m to the west and is located 200m to the east. There is approximately 10 percent surface visibility at the site and the surrounding area was burned in the 1999 forest fire. UTM coordinates for the site are:



Figure 88. Projectile point from site XMH-01168

Site XMH-01168 consists of one chert side notched projectile point located on the surface. The projectile point is made of dark gray chert and measures 37.9mm long, 24.3mm wide, and weighs approximately 7.2g. No other artifacts were observed. This projectile point was collected. Subsurface examinations have yet to be conducted.

#### *Recommendations*

Site XMH-01168 has been initially classified as an isolated find; however, the site could potentially contain more cultural material. This site lies outside the APE for any current projects, and therefore was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. However, if further projects are proposed in the area the site should be evaluated to determine its eligibility.

#### *XMH-01169*

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01169 is located on an east/west trending ridge overlooking

There is a 180° degree viewshed from the site and the Alaska Range is visible to the southwest. The closest water source to the site is located 50m to the east/northeast. There is also a small unnamed pond located 100m to the south.

Surface visibility at the site is estimated to be 50 percent. UTM coordinates for the site are:



Figure 89. General view of site XMH-01169, facing east

Site XMH-01169 consists of more than 100 flakes found on the surface. The flakes consisted of chert and quartzite. A total of three density plots were placed on the site.

No shovel tests were excavated at the site and one flake was collected to determine its material type.

#### *Recommendations*

Site XMH-01169 has been initially classified as a large lithic scatter. This site lies outside the APE for any current project and therefore was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. However, if further projects are proposed in the area, the site should be evaluated to determine eligibility.

#### XMH-01170

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01170 is located on a northwest/southeast trending ridge. The closest water source to the site is \_\_\_\_\_, located 20m to the northeast and a small, unnamed pond located 50m to the southwest. The view shed at the site is 300° and the Alaska Range is visible to the west. There is an estimated 25 percent surface visibility at the site. UTM coordinates for the site are:



Figure 90. General view of site XMH-01170, facing east

Site XMH-01170 consists of one basalt uniface discovered on the surface of the site. No shovel tests were excavated at the site and no density plots were calculated. The artifact was not collected.

#### *Recommendations*

Site XMH-01170 has been initially classified as an isolated find; however, the site could potentially contain more cultural material. This site lies outside the APE for any current project, and therefore was not evaluated to determine eligibility for inclusion in the National Register of Historic Places. However, if further projects are proposed in the area, the site should be evaluated to determine its eligibility.

#### XMH-01173

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01173 is located on a bench just below a northwest/southeast trending ridge. The view shed is 180° and the Alaska Range is visible to the southwest. Several small, unnamed ponds are visible from the site. One is located 30m to the southwest, another is 50m to the south, a third is 60m to the north and a fourth is located 100m to the northeast. Surface visibility at the site is estimated at 90 percent. UTM coordinates



Figure 91. General view of site XMH-01173, facing east

for the site are:

Site XMH-01173 consists entirely of lithic debitage. Seven flakes of chert and rhyolite were found on the surface of the moraine. Three density plots were calculated at the site and no shovel tests were excavated at the site. No artifacts were collected.

#### *Recommendations*

Site XMH-01173 has initially been classified as a small lithic scatter that could potentially contain more cultural material. This site lies inside the boundaries of one of the three construction footprint alternatives for the proposed BAX project. It was not, however, evaluated at this time. If the site falls into the APE of the chosen firing fan alternative, the site should be evaluated to determine its eligibility for inclusion in the NRHP.

#### *XMH-01174*

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01174 is located on an east/west trending finger ridge extending off of a more prominent north/south trending ridge. The view shed at the site is 180°. Donnelly Dome is visible to the southeast, the Alaska Range is visible to the southwest and Windy Ridge can be seen to the northeast. The nearest water sources are two unnamed kettle lakes. One is located 30m to the southeast and the other is 75m to the northeast. These two kettle lakes look as if they were connected into one larger lake at some point in time. Surface visibility at the site is approximately 90 percent. UTM coordinates for the site are:



*Figure 92. General view of site XMH-01174, facing south*

Site XMH-01174 consists of one obsidian scraper found on the surface. The scraper is 40.66mm wide, 43.29mm long, 9.05mm thick, and weighs 18.68g. No other artifacts were located. No density plots were calculated and no shovel tests were excavated.

#### *Recommendations*

Site XMH-01174 has initially been classified as an isolated find; however, the site could potentially contain more cultural material. This site lies inside the boundaries of one of the three construction footprint alternatives for the proposed BAX project. It was not, however, evaluated at this time. If the site falls into the APE of the chosen firing fan alternative, the site should be evaluated to determine its eligibility for inclusion in the NRHP.



*Figure 93. Obsidian scraper from site XMH-01174*

### XMH-01175

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01175 is located on a small hilltop. Site XMH-01115 is located 90m to the east on a larger ridgeline. Views from the site are obstructed to the east, but are open to the north to a large expanse of generally flat terrain. Other hills surround the site to the south and west and thus views are limited in these directions. No lakes are visible from the site, but a small (15m diameter) dry lake is located 50m to the west. The area has been burned by forest fires and there is 60-70 percent surface visibility on the hilltop. UTM coordinates for the site are:

Site XMH-01175 consists two artifacts: one gray chert biface and one light gray chert piece of shatter. The biface was found 4m to the west of the piece of shatter.

#### *Recommendations*

Site XMH-01175 has initially been classified as a small lithic scatter that could potentially contain more cultural material. This site lies inside the boundaries of one of the three firing fan alternatives for the proposed BAX project. It was not, however, evaluated at this time. If the site falls into the APE of the chosen firing fan alternative, the site should be evaluated to determine its eligibility for inclusion in the NRHP.

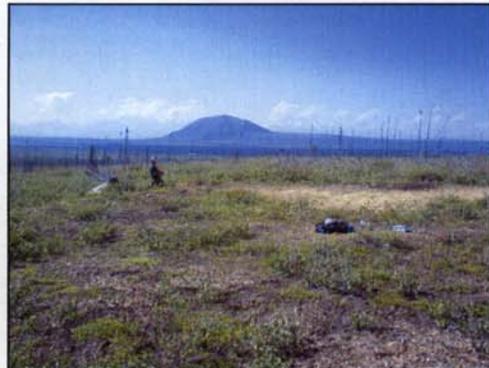
### XMH-01176

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01176 is located on the southern end of a glacial moraine. The area of the moraine slopes to the south at approximately 3 percent. Donnelly Dome is visible to the southwest and the nearest water source is an unnamed pond 450m to the east. 1,100m to the west. Surface visibility at the site is approximately 30 percent. UTM coordinates for the site are:



*Figure 94. General view of site XMH-01176, facing southwest*

Site XMH-01176 consists entirely of lithic debitage. A total of six flakes were located, including one obsidian flake. No artifacts were collected and no shovel testing was conducted.

#### *Recommendations*

Site XMH-01176 has initially been classified as a small lithic scatter that could potentially contain more cultural material. This site lies inside the boundaries of one of the three firing fan alternatives for the proposed BAX project. It was not, however, evaluated at this time. If the site falls into the APE of the chosen firing fan alternative, the site should be evaluated to determine its eligibility for inclusion in the NRHP.

### XMH-01177

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01177 is located on a low terrace approximately 1m above the

The Richardson Highway is to the east and a two-track gravel road connecting to runs just south of the site. The nearest water source is No landmarks are visible due to tree cover. UTM coordinates for the site are:



Figure 95. General view of site XMH-01177, facing south

Site XMH-01177 consists of several hundred cans, bottles and other various pieces of historic debris. No density plots were calculated at the site and no shovel test pits were excavated at the site. A Hills Bros. Coffee can, three beer cans, a log cabin syrup can and a whiskey bottle were collected from the site for dating purposes. Dates on these artifacts place the top layer of the midden in the late 1930s to early 1940s. Artifacts at lower levels may be older.

#### *Recommendations*

Site XMH-01177 has been initially classified as a large historic can dump. This site lies outside the APE for any current project and therefore was not evaluated to determine its eligibility for inclusion in the National Register of Historic Places. However, if further projects are proposed in the area the site should be evaluated to determine its eligibility.



Figure 96. Historic artifacts from site XMH-01177

### XMH-01178

Latitude:

Longitude:

Determination: Not evaluated

Site XMH-01178 is located on a north/south trending bluff overlooking

The viewshed is estimated to be 180° and the Alaska Range can be seen to the southwest. No other landmarks are visible from the site. The nearest water source is located 30m to the west, at the bottom of the bluff. There is good ground cover at the site and thus no surface visibility. UTM coordinates for the site are:

Site XMH-01178 consists of four flakes found in the eroding bluff edge. No density plots were calculated at the site and no shovel test pits were excavated. The four flakes were collected because they were in danger of being washed away by the eroding soil.

*Recommendations*

Site XMH-01178 has been initially classified as a buried site. This site lies outside the APE for any current project and therefore was not evaluated to determine its eligibility for inclusion in the National Register of Historic Places. However, if further projects are proposed in the area the site should be evaluated to determine its eligibility.

### 3.6 Updated Site Information: Duplicate AHRS numbers, Site Locations

USAG-AK has undertaken archaeological inventories on Fort Wainwright's DTA during the summer field seasons in 2002, 2003 and 2004. As a result, more than 200 new archaeological sites have been located. However, some archaeological sites recorded in the 1960s and 1970s had poor location information and were inadvertently given new AHRS numbers. After carefully reviewing the data for the past year it has been concluded that seven archaeological sites have been assigned duplicate AHRS numbers (Table 10).

*Table 10. Archaeological Sites with Duplicate AHRS Numbers, DTA*

<b>Duplicate AHRS #</b>	<b>Correct AHRS #</b>	<b>Easting</b>	<b>Northing</b>	<b>Datum</b>	<b>Last Visited</b>
XMH-00882	XMH-00284				2003
XMH-00918	XMH-00279				2004
XMH-00893	XMH-00323				2002
XMH-00879	XMH-00277				2003
XMH-00885	XMH-00292				2004
XMH-00970	XMH-00016				2002
XMH-00972	XMH-00281				2002

In addition, several other archaeological sites recorded in the 1960s and 1970s were relocated during recent surveys. The location information for these six sites has now been correctly plotted and is listed in Table 11.

*Table 11. Relocated Archaeological Sites, DTA*

<b>Site #</b>	<b>Easting</b>	<b>Northing</b>	<b>Datum</b>	<b>Last Visited</b>
XMH-00273				2004
XMH-00286				2002
XMH-00287				2004
XMH-00291				2002
XMH-00293				2002
XMH-00294				2002

## 4.0 FORT RICHARDSON

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A number of historic properties are located on or near Army lands in Alaska; many of these properties are historic structures and buildings pre-dating or associated with World War II and Cold War era Army activities (see e.g. Hollinger 2001; Shaw 2000). Previous archaeological work at Fort Richardson includes several projects since the late 1970s (Hedman et al. 2003; Reynolds 1996; Shaw 2000; Sheppard et al. 2001; Steele 1979, 1980; Veltre 1978). Of these surveys, only Hedman et al., Steele, Reynolds and Shaw reported the discovery of archaeological sites. Steele's 1980 review identified four sites, all of which contained 20<sup>th</sup> century cabins associated with early homesteading in the area (ANC-00263, ANC-00264, ANC-00265 and ANC-00268; Steele 1980). Reynolds recorded the multi-component historic site ANC-00822 near Ship Creek, in the vicinity of . Shaw reported approximately 20 sites, the majority of which comprised military related mounds, foxholes and bunkers. Shaw's work identified one prehistoric site, ANC-01175, consisting of a single lithic flake and a small lithic spall. This site is located (Shaw 2000). Shaw's and Steele's work indicate that , represent relatively high probability areas for identifying archaeological sites on Fort Richardson.

Additionally, Hedman et al. (2003) relocated an historic era fish camp site near which was used by the Eklutna Industrial (Vocational) School from 1924 to 1946 (the site was originally identified during a 1994 collaborative study conducted by Nancy Yaw Davis and the Dena'ina team; however, no locational details were recorded). In 1924, the Department of the Interior Bureau of Education built and maintained the Eklutna Industrial (Vocational) School. The fish camp site (ANC-01299) was constructed and used by the school to provide training in traditional fishing methods, while also providing fish for the school's subsistence (Yaw Davis 1994). By 1946 the buildings had been condemned and the school was permanently closed (Chandonnet 1979).

A recent floristic study of Fort Richardson was conducted by Lichvar et al. (1997), with an appendix description of the Fort's ecological setting. The following description is from *Vegetation of Fort Richardson* (Lichvar et al. 1997):

"Fort Richardson falls within the Cook Inlet Lowlands Section of the Coastal Trough Humid Taiga Province of Bailey's Ecoregions of the United States (McNab and Avers 1994). Forests in the Anchorage area closely resemble the Boreal Forest of Interior Alaska, although some understory and tree species occur that are typically found in the Coastal Spruce-Hemlock Forest. Fort Richardson's forests have been described as open, low-growing spruce and closed spruce-hardwood forests by Viereck and Little (1972), and as a lowland spruce-hardwood forest by the Joint Federal-State Land Use Planning Commission (1973). Packee (as quoted in Lichvar et al. 1997), in examining Alaska's forest vegetation zones, characterizes the region as an area where white spruce (*Picea glauca*) and Sitka spruce (*Picea sitchensis*) naturally hybridize; balsam poplar (*Populus balsamifera*) and black cottonwood (*Populus trichocarpa*) intergrade; and mountain hemlock (*Tsuga mertensiana*) may form the subalpine forest. Vegetation reflects the transitional nature of the climate between maritime and continental. This maritime climatic influence has resulted in a lower incidence of natural fire than is found in the spruce-hardwood forests of interior Alaska (Gabriel and Tande 1983).

Upland sites on Fort Richardson are dominated by paper birch (*Betula papperifera*), white spruce, and, on drier sites, quaking aspen (*Populus tremuloides*). Cottonwood and poplar are common in areas bordering principal streams. Black spruce (*Picea mariana*) is the dominant tree in wetter areas and on some well-drained sites. Most bogs are treeless or support stands of stunted black spruce. Grasses, herbs, willows (*Salix* spp.), and alders (*Alnus* spp.) dominate the vegetation in a narrow band along the Inlet and at elevations above 1,500 feet on the Chugach Mountain slopes' (Lichvar et al. 1997: appendix)."

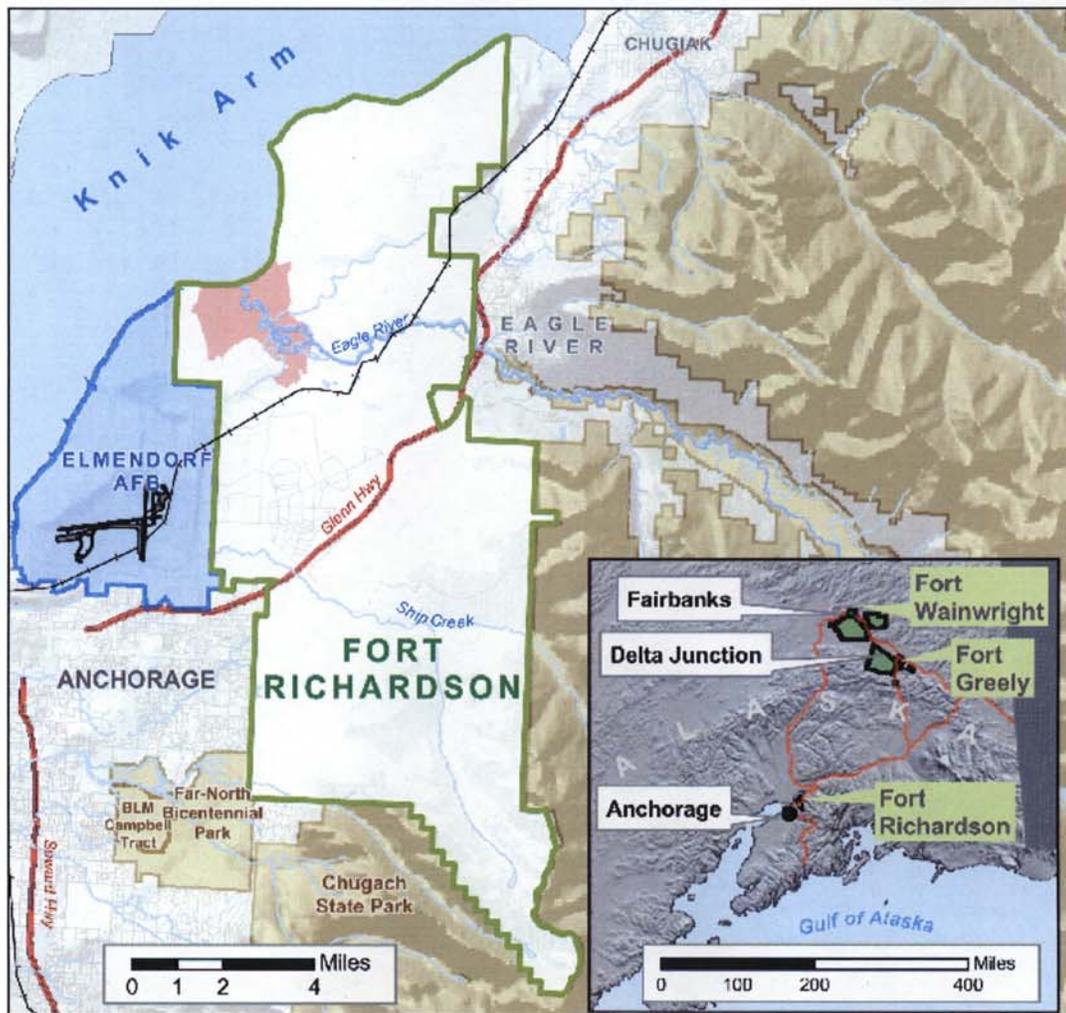


Figure 97. Fort Richardson, Alaska, training and other lands

## 4.1 Small Arms Complex Fire Break Trail

The U.S. Army Garrison, Alaska (USAG-AK) has proposed to cut an approximately 1.75km-long fire break behind the small arms range complex, specifically the Record Fire Range, on Fort Richardson. The purpose of the firebreak is to help control and contain any fires that may start in the vicinity of the small arms complex. The fire break will be approximately 2m in width. The majority of the fire break will be hand cleared because of the steepness of the terrain, though a portion of the project may be hydro-axed.

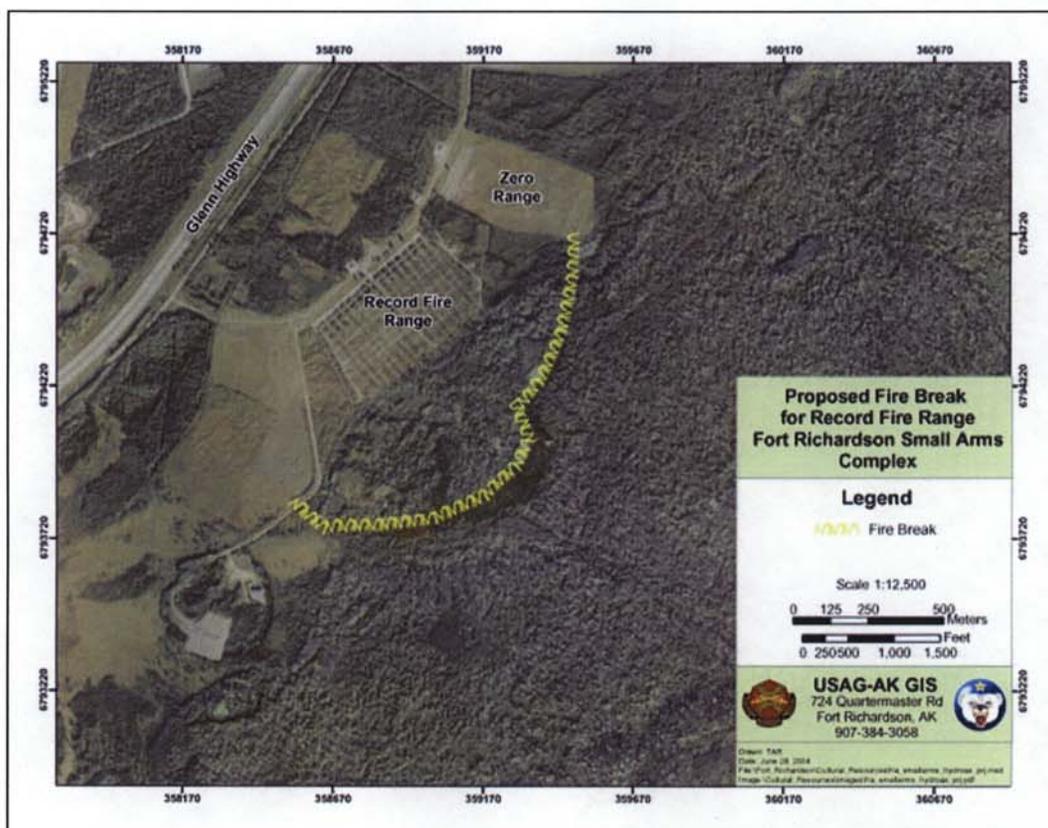


Figure 98. Project area, small arms complex fire break

### **Cultural Resources**

There are no known cultural resources located in the vicinity of the proposed small arms complex fire break.

### **Section 106 (NHPA) Inventory**

In June 2004 the post archaeologist and a cultural resources staff member, both employed by the Center for Environmental Management of Military Lands (CEMML), Colorado State University, conducted a pedestrian reconnaissance of the proposed small arms complex fire break.

Prior to the reconnaissance, the CEMML forestry crew had flagged approximately 1/3 of the fire break route. The flagged route was surveyed to its termination, at which point the crew continued survey activities based on maps of the project area. The total project area for the fire break is approximately 9 acres of which approximately 2/3 was

surveyed, in addition to some areas outside of the project area. The un-surveyed portion of the project area consists of a flatter area along the northern portion of fire break, leading to the Zero Range. This area, along with the southwest end of the fire break, is flatter terrain with extremely dense, low vegetation, and which has been disturbed to varying degrees by previously military activities and has a very low potential for containing cultural resources. There are two "high" points along the proposed fire break. Both of these more prominent areas were pedestrian surveyed and tested. Soils in the project area were very shallow, less than 10cm in most areas, lying atop glacial till. All shovel tests were approximately 40cm x 40cm, and were screened through ¼in. hardware cloth.

### **Results**

Pedestrian survey and subsurface testing of the proposed project area did not identify any cultural resources. Based on the information presented above, USAG-AK has determined that no historic properties will be affected by the proposed project.

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