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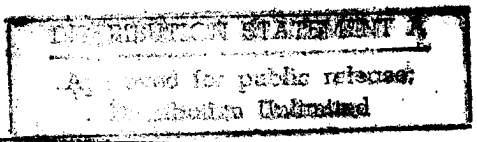

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Approximately 1460 acres of Booth Mountain area in the Fort Carson Military Reservation were surveyed and its archaeological sites evaluated for nomination to the National Register of Historic Places in the summer of 1995. A total of 35 archaeological sites and 78 isolated finds were identified. These comprised 23 prehistoric aboriginal sites, 8 historic linear features (fence, road, corral), 1 historic habitation, 2 stone features of unknown origin, and 1 multiple-component site that consists of a prehistoric lithic scatter and historic road and quarry. Of these, 12 are recommended as being eligible for nomination. The sites are important for the light they shed on prehistoric and historic occupation not only of the Fort Carson Military Reservation but also of south-central Colorado.

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A CULTURAL RESOURCE INVENTORY OF PORTIONS OF BOOTH MOUNTAIN, FORT CARSON MILITARY RESERVATION, PUEBLO COUNTY, COLORADO

By

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and
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October 1997

PREFACE

The survey reported in this manuscript is an important part of the Fort Carson Cultural Resources Management Program whose goal is to maintain the largest possible area for military training while protecting significant cultural resources. The cultural resources program incorporates prehistoric and historic archeological issues, architectural issues, Native American concerns, public education, community relations, environmental and mission enhancement, curation, and compliance into a comprehensive management program. Guided by a Cultural Resources Management Plan, the program takes a long-term systematic approach to meeting identification, evaluation and resource protection requirements embodied in the National Historic Preservation Act. Fort Lewis College, under a cooperative agreement with the National Park Service, Midwest Archeological Center, provides assistance in meeting Fort Carson's cultural resources goals.

The first federally funded survey on Fort Carson began in 1978. Since then, Fort Carson has used a multidisciplinary approach combining archeological theory and historical methods with geological, geomorphological, botanical, and statistical techniques and procedures in order to focus its efforts to locate, evaluate, and protect significant cultural resources. Professional studies and consultations with Native American tribes have resulted in the identification of 86 properties that are eligible for nomination to the National Register of Historic Places. All major prehistoric and historic cultural periods recognized on the Great Plains and Rocky Mountains are represented by the cultural resources on Fort Carson and the Pinon Canyon Maneuver Site. Sites of the Paleoindian, Archaic, Ceramic, and Protohistoric Periods are present, as are sites from the Fur Trade era, 19th century Hispanic and Euroamerican settlement, early 20th century homesteading and ranching, and World War II and Cold War era military sites.

The Cultural Resources Management Program is in the Directorate of Environmental Compliance and Management (DECAM) which is tasked with maintaining Fort Carson's compliance with federal, state, and local environmental laws and mandates. The DECAM holistic management philosophy considers that all resources are interrelated. Decisions affecting one resource will impact other resources. The decisions we make today will affect the condition of Department of the Army lands and resources for future training, research, and recreation. Mission requirements, training resources, wildlife, range, soil, hydrology, air, and recreation considerations all influence cultural resource management decisions. Integrating cultural compliance into a comprehensive planning process reduces the time and effort expended on the compliance process, minimizes conflicts between resource protection and use, allows flexibility in project design, minimizes costs, and maximizes resource protection.

Federal laws protect the resources on Fort Carson and the Pinon Canyon Maneuver Site; theft and vandalism are federal crimes. Protective measures ensure that Army activity does not inadvertently impact National Register sites. Fort Carson does not publcize site location information. Sites are not developed for public visitation. Similar resources are located in the Picketwire Canyonlands where public visits can be arranged through the U.S. Forest Service, Comanche National Grasslands in La Junta, Colorado.

Fort Carson endeavors to make results of the cultural resource investigations available to the public and scientific communities. Technical reports are on file at the Fort Carson Curation Facility and Colorado State Historic Preservation Office and are available through the National Technical Information Service, Springfield, VA. Selected reports have been distributed to public libraries in Colorado. Three video programs produced by Fort Carson are periodically shown on Public Broadcasting Stations. Fort Carson continues to demonstrate that military training and resource protection are mutually compatible goals.

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January 1998

POPULAR ABSTRACT

Archaeological investigations indicate that the Fort Carson Military Reservation, located west of Colorado Springs, Colorado, has been inhabited since approximately 10,000 years ago. During the prehistoric period, which lasted until about 250 years ago, inhabitants lived off the wild game and plants of the area, seasonally visiting the surrounding plains and mountains. About 2,000 years ago, some of these people began to construct more permanent dwellings made of stone. With the coming of the Europeans, their lifestyle changed drastically, and they were forced onto reservations during the 19th century. During the ensuing historic period, Anglo and Hispanic settlers farmed and ranched the area. In 1942, the U.S. Army acquired the land, which is now used as an army headquarters and training ground. During the 1995 field season approximately 1460 acres of Booth Mountain in the military reservation were surveyed for prehistoric and historic cultural resources. A total of 35 archeological sites and 78 isolated finds were located. These sites date from the 6th millennium B.C. to the historic period.

TECHNICAL ABSTRACT

Approximately 1460 acres of Booth Mountain area in the Fort Carson Military Reservation were surveyed and its archaeological sites evaluated for nomination to the National Register of Historic Places in the summer of 1995. A total of 35 archeological sites and 78 isolated finds were identified. These comprised 23 prehistoric aboriginal sites, 8 historic linear features (fence, road, corral), 1 historic habitation, 2 stone features of unknown origin, and 1 multiple-component site that consists of a prehistoric lithic scatter and historic road and quarry. Of these, 12 are recommended as being eligible for nomination. The sites are important for the light they shed on prehistoric and historic occupation not only of the Fort Carson Military Reservation but also of south-central Colorado.

ACKNOWLEDGMENTS

First and foremost, we wish to thank our student field crew for cheerfully putting up with extremely difficult survey conditions (e.g. the *abyss* of Booth Mountain) and still producing excellent work: Dave Bokel; Kris Burke; Dan Hart; Kai Heidemann; Bonnie Hildebrand; Ken Lanik; Virginia Sords; Franci Stagi; and Steve Yeaton. Kris and Ken, together with Sean Larmore consistently produced high-quality laboratory work and analysis. Much of the computer drafting and final report editing were performed by Nikki Salazar whose professionalism and perseverance were greatly appreciated by all involved in the report production. The high quality artifact illustrations are the work of Ewa Krakowska.

We owe a special debt of gratitude to Melissa Connor, of the Midwest Archeological Center, for her assistance in helping us set up this project and for acting as such a good liaison with Army personnel. Anne Vawser was instrumental in ensuring that the use of GPS was such a valuable educational and management element of the project. Brian Goss helped us find our way around the reservation. A special debt of gratitude is extended to the following persons from Range Control: Mr. Berry, Sergeant Garcia, Sergeant Jarmusch. Finally, we sincerely thank Steve Chomko (DECAM) for his commitment to integrating educational needs and values into the management of archeological resources on federal land.

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CHAPTER 1

INTRODUCTION

In 1995, Fort Lewis College (FLC) continued an existing cooperative agreement with the National Park Service, Midwest Archeological Center (MWAC), the purpose of which was to conduct an inventory of cultural properties on Booth Mountain, in the Fort Carson Military Reservation (FCMR), Pueblo County, south-central Colorado (Figure 1.1). Fort Carson Military Reservation was established in 1942, and is currently home to the 3rd Armored Cavalry Regiment, the 10th Special Forces Group, the 43rd Area Support Group, and the 3rd brigade Combat. Under U.S. Army Regulation AR200-4, the installation is required to identify National Register eligible properties and to allow consideration of potential impacts of federal actions on such properties. Because of the nature of current land use (e.g., mechanized maneuvers, infantry training, artillery training, flight training), there is the potential for damage to the cultural resources on the reservation. The purpose of the current inventory was to identify, record, and make eligibility determinations on cultural properties within preselected portions of Booth Mountain, Fort Carson Military Reservation.

A total of 1460 acres of Booth Mountain were inventoried for cultural resources by Fort Lewis College during six weeks from July through August, 1995 (Figure 1.2). The inventory resulted in the identification and recording of 35 cultural resources and 78 isolated finds; these include 23 prehistoric aboriginal sites, 8 historic linear features (fence, road, corral), 1 historic habitation, 2 stone features of unknown origin, and 1 multiple-component prehistoric and historic site. Of these 35 cultural resources, 12 are recommended as being eligible for nomination to the National Register of Historic Places.

Fieldwork commenced on July 12th and continued for three ten-day sessions, each separated by four-day breaks. Fieldwork concluded on August 18th. Dr. Philip Duke served as the Principal Investigator, Mona Charles as the Project Director, and Randy Nathan as the Assistant Director. Other than these three professional archeologists, who served in supervisory roles, project personnel consisted entirely of student archaeologists from Fort Lewis College. The public interest was well served by the participation of Fort Lewis College students in this project. Students gained valuable practical experience in all facets of archeological research: from field inventory and the use of GPS technology, to laboratory analysis and report preparation. This experience materially contributed to the educational mission of Fort Lewis College. The resulting addition to the archaeological knowledge of this part of the state benefits the public in general, in that it helps preserve valuable cultural resources and increases awareness of the rich prehistoric and historic cultural legacy of the nation in general.

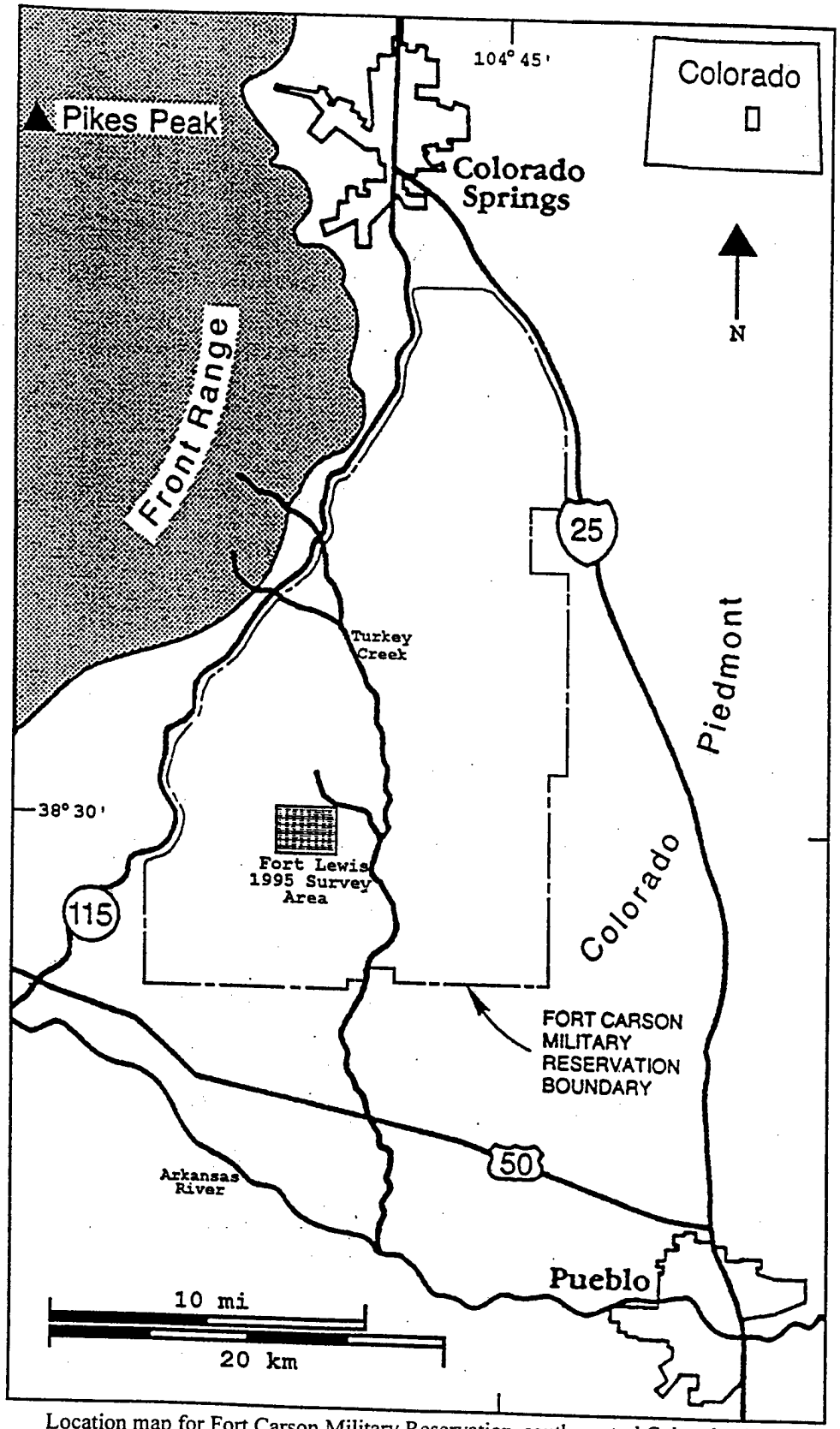


Figure 1.1 Location map for Fort Carson Military Reservation, south-central Colorado. Map adapted from Zier et al. (1996: Figure 1:3)

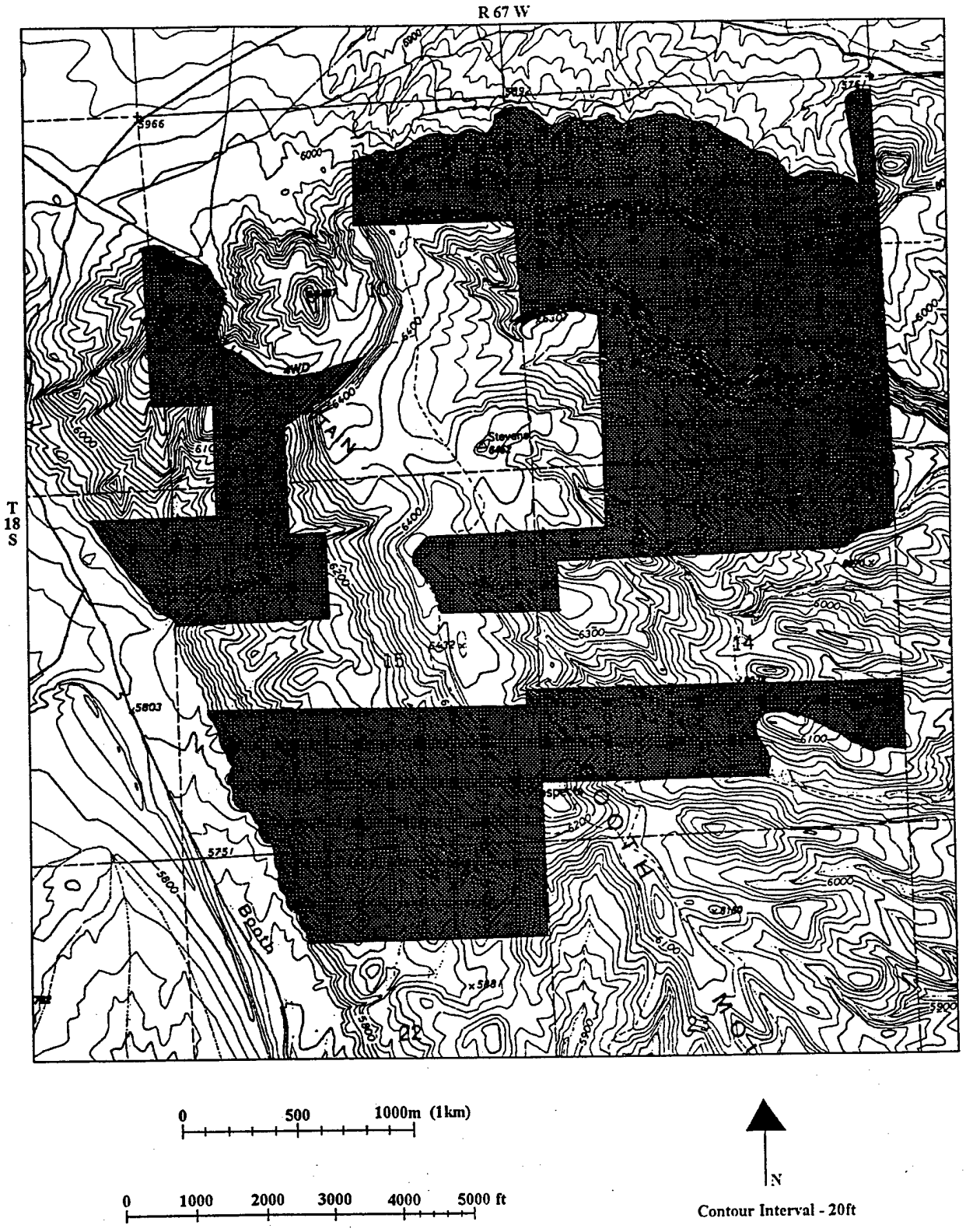


Figure 1.2 Map of 1995 Booth Mountain inventory. Shaded areas designate areas inventoried by Fort Lewis College. This map includes portions of Timber Mountain, Pierce Gulch, and Stone City, United States Geological Survey 7.5' quadrangle maps.

Booth Mountain is located on the Fort Carson Military Reservation in south-central Colorado (Figure 1.1, Figure 1.2). The reservation encompasses 215 square miles (137,400 acres) and straddles El Paso, Pueblo, and Fremont Counties. The inventory area for this project lay totally within Pueblo County and included portions of the north and west slopes of Booth Mountain along with significant portions in the interior. The inventory area ranged in elevation from 1716 m (5630 ft) at the base of the slopes at the southwest corner of the inventory area to 1960 m (6434 ft) asl at the highest position in the area. Although the total range in elevation for the project area was only 244 m (802 ft), the area is heavily dissected by steep slopes with greater than 25 percent grades (for example, 2000 ft per mile on the north slopes of Booth Mountain and within steep drainages).

The purpose of this report is to present the findings of the cultural resource inventory and provide recommendations for the management of each resource recorded during the survey. Chapter 2 offers a description of the natural and cultural settings of Fort Carson and Booth Mountain, so that the findings of this survey can be placed into an appropriate management and research perspective. Chapter 3 reviews previous archaeological work conducted on the military reservation, while Chapter 4 outlines the goals and research design for this project. Chapter 5 describes the specific field and laboratory methods used in this project. A description of each site is presented in Chapter 6. Chapter 7 provides individual management recommendations and ends with concluding remarks based on the results of this work.

CHAPTER 2

BACKGROUND TO THE STUDY: THE NATURAL AND CULTURAL ENVIRONMENTS OF THE FORT CARSON MILITARY RESERVATION

INTRODUCTION

The purpose of this chapter is to present synopses of the natural and cultural environments of the Fort Carson Military Reservation, so that the reader can place the Fort Lewis College work into a better perspective. It relies on, but is not intended to replace, the excellent syntheses provided by Anderson (1990), Athearn (1985), Cassells (1983), Eighmy (1984), Guthrie et al. (1984), Mehls and Carter (1984), and Zier et al. (1987), to which the reader is referred for more detailed and specific information.

THE NATURAL ENVIRONMENT

Climatic Variation

The climate of the reservation is classified as a mid-latitude, semi-arid continental climate with sharp seasonal variations. July has mean annual highs of 88^0 F (31^0 C). January is the coldest month, with a mean low of 15^0 F (-9^0 C). Precipitation falls mainly during the summer (April to September) in the form of heavy thunderstorms (Zier et al. 1987:1-13).

Two models for ancient climatic patterns in North America are commonly used by archeologists. The first, proposed by Antevs (1955), envisages climatic change as slow and gradual. Consequently, he defined only three major climatic episodes for the Holocene (or Neothermal, in his nomenclature): (1) Anathermal (10,150-7000 BP); (2) Altithermal (7000-4500 BP); and (3) Medithermal (4500 BP- present).

Antev's general model has been augmented by one based on the European Blytt-Sernander model, which identifies short periods of climatic stability, or dynamic metastable equilibrium, interrupted by rapid changes to new stable states (Wendland and Bryson 1974; Wendland 1978). The episodes are as follows: (1) Late Glacial - 13,000-10,030 BP; (2) Pre-Boreal - 10,030- 9300 BP; (3) Boreal - 9300-8490 BP; (4) Atlantic - 8490-5060 BP; (5) Sub-Boreal - 5060-2760 BP; (6) Sub-Atlantic - 2760-1680 BP; (7) Scandic - 1680-1260 BP; (8) Neo-Atlantic - 1260-850 BP; (9) Pacific - 850-400 BP; (10) Neoboreal (Little Ice Age) - 400-100 BP; (11) Recent - 100 BP - present. There is, however, much regional variation in the dating and severity of these episodes because of their

transgressive nature (Wilson 1988), and, therefore, local studies are necessary for any intensive study of human-environment relationships.

The Biotic Environment

Three vegetation groups are found in the reservation: coniferous forest; scrub; and grassland (Dames and Moore 1978). The first is characterized by ponderosa pine, pinon, juniper, and Gambel's oak. This group is found primarily in the Booth Mountain and Sand Canyon areas. The second is represented mainly by pinon-juniper stands, sometimes with a Gambel's oak understory. Grasslands are found mainly on the reservation's eastern edge and are comprised of such grass species as blue grama and buffalo.

Fauna are typical of the transitional nature of the reservation's location between plains and mountains. Historically, large mammals included bison, elk, both mule and white-tailed deer, antelope, bear, mountain lion, bobcat, and wolf, as well as smaller animals such as coyote, fox, beaver, jackrabbit, cottontail, skunk, and an assortment of squirrels and rodents. A variety of raptors are present, as well as rattlesnake and other less dangerous reptiles (Zier et al. 1987:1-15-16). Perhaps the most important prehistoric economic resource was the bison (*Bison bison bison*). It provided aboriginal groups with food, and materials for clothing, utensils, glue, bindings, and tipi covers (Roe 1951; McHugh 1958).

Physiography

The Fort Carson Military Reservation is located in the foothills, at the zone of contact between the Plains and the Southern Rocky Mountains. This location gives it a great elevational range, from approximately 5600 ft (1707 m) Asl at the reservation's eastern boundary, to 6500 ft (1981 m) Asl at its western boundary. This range in elevation provides a varied topography that includes plains/steppes, rolling foothills, and steep-sided mesas and cuestas (Zier et al. 1987:1-12).

Geology and Geomorphology This discussion of the geology and geomorphology of the Fort Carson Military Reservation is synthesized from several major resources that include maps (Gilbert 1897; Scott 1975; Scott et al. 1978; Tweto 1979) and specific regional reports (Dames and Moore 1978; Jepson et al. 1992; Van Ness et al. 1990; Zier and Kalasz 1985). The maps were useful for regional coverage of the bedrock lithology and structure of the Fort Carson Military Reservation and surrounding areas, while specific information on the local lithology and geomorphology was obtained from the reports cited above. Interpretations of the Pleistocene and Quaternary geological history of Booth Mountain have been compiled from research along Turkey Creek (Madole 1989; 1990; Zier 1989; Zier and Kalasz 1991), and in areas surrounding Fort Carson (Benedict 1973, 1979; Holliday 1987; Madole et al. 1988).

Definitions for geological stratification used in this report follows those of the North American Stratigraphic Code (Prothero 1990):

Formation is the basic lithostratigraphic unit in geology. It is defined as a stratigraphic unit with internal characteristics distinguishing it from adjacent stratigraphic units above and below. It must be mappable at the surface and traceable below the surface. Two or more formations comprise a group.

Members are subdivisions of formations. Formations may consist of several members, but it is not necessary for a formation to consist of members.

Bed is a distinctive horizon marker. A volcanic ash layer is an example of a bed.

Bedrock Geology Geologic bedrock of the Fort Carson Military Reservation in general is composed of sedimentary rocks ranging in age from Pennsylvanian through Cretaceous (Table 2.1). On Booth Mountain, outcrops are represented by Jurassic and Cretaceous Formations only (Figure 2.1). The Upper Jurassic Morrison and Ralston Creek Formations, which outcrop along the steep north slopes of Booth Mountain and along the sides of a few interior meadows, form the oldest mapped lithostratigraphic units within the inventory area. Purgatoire and Dakota Sandstone Formations conformably overlie Jurassic Formations, and these Lower Cretaceous sandstones are the dominant lithological units of Booth Mountain. Lower Upper Cretaceous Graneros Shale and Greenhorn Limestone outcrop as thin bands along the west, east, and south flanks of Booth Mountain (Figure 2.1).

Jurassic

Morrison Formation - a varicolored siltstone, claystone, and sandstone containing fossil dinosaur bones.

Ralston Creek Formation - sandstone, siltstone, and gypsum beds.

Lower Cretaceous

Purgatoire Formation - fossiliferous, marine, dark-gray claystone, siltstone, and sandstone.

Dakota Sandstone - yellowish brown, crossbedded, cliff-forming sandstone.

Lower Upper Cretaceous

Graneros Shale - hard, silty shale, dark gray to black, fissil, noncalcareous shale.

Table 2.1 Generalized bedrock lithology, Fort Carson Military Reservation.

System	Series	Formation	Member	Physical Description
Quaternary	Holocene	Alluvium		Gray, poorly sorted stony sand and silt forming flood plain
	Pleistocene	Landslide debris		Earth flows, debris flows on steep slopes (Holocene and Pleistocene)
		Eolian sands		Fine to coarse windbown sand (Holocene and Pinedale glaciation)
		Louviers alluvium		Thin gravelly deposits on terraces 70' (21m) above streams on plains
		Slocum Alluvium		Weathered gravel on cut surface 100' (30m) above modern streams (Sangamon Interglaciation or Illinois)
		Verdos Alluvium		Weathered gravel on cut surface 200-250' (60-75m) above modern streams (Yarmouth Interglaciation or Kansas Glaciation)
		Rocky Flats Alluvium		Weathered gravel on cut surface 350' (105m) above modern stream (Aftonian interglaciation or Nebraskan glaciation)
		Nussbaum Alluvium		Weathered gravel on pediment 450' (96-108m) above stream (Nebraskan glaciation)
Tertiary	Absent			
Cretaceous	Upper Cretaceous	Pierre Shale		Predominantly siltstone and claystone. Contains sandstone and sandy shale near top and bottom. Limestone masses forming conical buttes near middle, and fossiliferous concretions throughout. Thickness near 3900' (1170m)
		Niobrara	Smoky Hill Shale Member	Yellowish-gray, fossiliferous, calcareous shale and silty limestone
			Fort Hays Limestone Member	Beds of chalk 0.15 to 1 m thick separated by beds of dark-gray chalky shale 2.5 52 cm thick
		Carlile Shale	Juana Lopez Member	Calcrete
			Codell Sandstone Member	Upper part is thin lenses of dark limestone interbedded with a limey shale. Basal 0.75 to 1 m is a dense, near-black, fossiliferous limestone
			Blue Hill Shale Member	Dark fissile shale with large calcareous concretions
			Fairport Chalk Member	Tan to black, chalky, calcareous shale
		Greenhorn Limestone	Bridge Creek Limestone Member	Interbedded, fossiliferous limestone and limey shale

System	Series	Formation	Member	Physical Description
Cretaceous			Hartland Shale Member	Light gray limey shale with thin beds of Bentonite
			Lincoln Limestone Member	Limey shale with platy limestone beds near base and top
		Graneros Shale		Dark gray to black, fissile, noncalcareous shale, with two beds of dense, dark limestone
	Lower Cretaceous	Dakota Sandstone		Yellowish brown, crossbedded cliff-forming sandstone
		Purgatoire Formation	Kiowa Shale Member	Fossiliferous, marine, dark-gray, claystone, siltstone and sandstone
			Cheyenne Sandstone Member	Massive white to yellowish brown, crossbedded sandstone
Jurassic	Upper Jurassic	Morrison Sandstone		Varicolored claystone, brown weathering sandstone and gray sandstone
		Ralston Creek Formation		Greenish gray claystone, gray limestone with jasper and agate
Triassic		Lykins		Red siltstone, claystone, and sandstone about 180' (55m) thick
Permian		Lyons Sandstone		Red sandstone forming two resistant ledges 700 - 800' (210-240m) thick
Pennsylvanian		Fountain Formation		Red conglomerate and sandstone
			Glen Eyrie Shale Member	Sandstone, sandy shale, and black fossiliferous shale

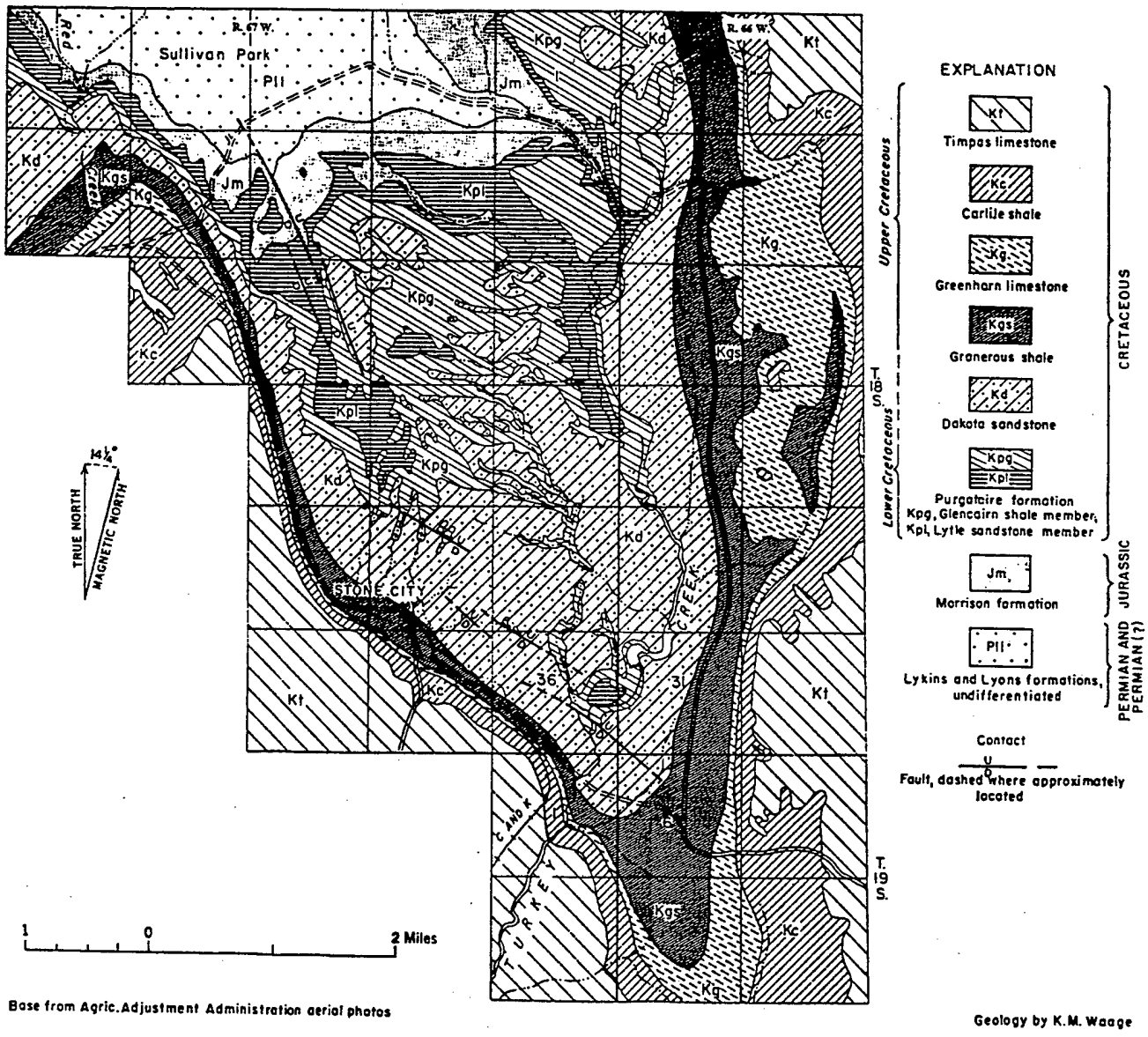


Figure 2.1 Bedrock geology map of Booth Mountain and Turkey Creek areas. Map taken from Waage (1953:Plate 1).

Greenhorn Limestone (three members)

Bridge Creek Limestone Member - interbedded, fossiliferous limestone and limey shale.

Hartland Shale Member - light gray limey shale with thin beds of Bentonite.

Lincoln Limestone Member - limey shale with platy limestone beds near base and top.

Structure. The topography of the Fort Carson Military Reservation is largely the result of uplift, folding, and downwarping during the Late Cenozoic when block faulting and uplift were accompanied by volcanic activity over most of the Front Range. Sediments that had eroded from the rising Front Range were carried onto the Great Plains to the east and into intermontane basins to the west (Madole 1990:110). During the Miocene, accelerated uplift resulted in intensive canyon cutting in the mountains and erosion of the softer sediments (Ogallala Formation) from adjoining basins. The Colorado Piedmont, a physiographic entity, was shaped at this time. The Colorado Piedmont is topographically lower than the surrounding regions because the surface was stripped of the Miocene fluvial rocks that cover most of the adjoining Great Plains.

In Fort Carson, the sedimentary rocks were warped through folding and plunge to the southeast, where they merge with the plains some 20-30 km from the Front Range. Booth Mountain and Timber Mountain are the topographic expressions of the Red Creek/Turkey Creek anticline. Turkey Creek and Booth Gulch adjacent to Booth Mountain mark the position of the synclines. The Red Creek/Turkey Creek anticline trends in a northwest by southeast direction with the axis along the western portion of Booth Mountain. Several smaller faults, all with downdrop sides to the west, are present just to the west of the axis of the anticline. The largest of these faults occurs at the northwestern end of Booth Mountain and parallels the anticline for a considerable distance. This fault may be locally expressed where the two-track road parallels the sandstone cliff at the top of Booth Mountain on the western side. The road follows a fairly level bench that is bounded to the west by the steep sandstone cliff that forms the top of Booth Mountain

Younger Cretaceous-age Graneros Shale and Greenhorn Limestone outcrop along the base of Booth Mountain on the west, south, and east edges. These formations were eroded from the steeper slopes of the anticline during the Tertiary. These deposits contained a source of clay that was mined for several years from three locations in Booth Gulch (Zier et al. 1987). Scars from clay-mining are visible at Stone City along the western slopes of Booth Mountain below the limits of our inventory at Stone City.

Hydrology. Aside from Turkey Creek, Booth Gulch, and Sullivan Canyon, hydrology within Booth Mountain is basically an expression of the dip of the slopes. The drainage divide occurs at the crest of the axis with flow generally to the east/southeast into Turkey Creek or west/southwest into Pierce and Booth Gulches. At the southern end of Booth Mountain

stream flow follows the slope to the south. Stream flow in most drainages on Booth Mountain is ephemeral with primary recharge supplied by storm flow. Smaller amounts of baseflow are present within the larger, interior basins where rain water is likely to be impeded by underlying Jurassic clays, claystones, and siltstones. As a result of the impermeable contact with the underlying strata, water is diverted into the drainages through interflow. These basins support lush vegetation; a sign of effective moisture retention.

To the east Turkey Creek follows the trend of the syncline. The Turkey Creek valley was established during the Cenozoic. Ancestral Turkey Creek eroded the fluvial Tertiary rocks until its course was lowered onto the folded Mesozoic rocks. At this point, the stream course took the path of least resistance, eroding into the softer Upper Cretaceous shales and claystones. Eventually the channel was lowered onto resistant Dakota Sandstone. The superposition of the channel onto the eastward-dipping Dakota Sandstone resulted in the formation of Turkey Canyon (Madole 1990). The steep sandstone cliffs on both sides of Turkey Creek Canyon provide suitable locations for prehistoric shelters as well as smooth cliff faces for rock art.

Defining the geomorphology of the inventory area relies on interpretation of aerial photographs and from observations made during this inventory project. Booth Mountain has a steep north slope, more gentle slopes to the east and west from the crest of the anticline axis, and a gentle slope to the south. The presence of several steep-walled tributary drainages was noted during the inventory. These drainages pose an interpretive conundrum because the present available moisture is insufficient to have produced drainages of this size. Their size indicates that they were once third- or fourth-order drainages; presently they appear to be first- and-second order drainages. Increased precipitation at the end of the Pleistocene would not account for the flow necessary to incise such steep drainages through the Purgatoire and Dakota Sandstone and into the underlying Jurassic Morrison Formation. That the drainages are deeply incised into pre-Cenozoic formations suggests that they were formed by ancient fluvial processes.

In order to explain the origin of these drainages, present topography, bedrock lithology, and aerial photographs were researched. It is suggested here that Table Mountain and Booth Mountain are the physical expressions of the once continuous Red Creek/Turkey Creek anticline, that is now separated by Sullivan Canyon. Regional uplift of the Front Range and the adjoining Great Plains in latest Tertiary times resulted in fluvial degradation and canyon cutting. Large tributaries from the Front Range, supplied with glaciofluvial recharge from the melting Pleistocene glaciers, eroded the Cenozoic sediments from the anticline. As the cover of these rocks was eroded, the streams were lowered onto the folded and faulted Cretaceous and Jurassic Formations. Supplied with a heavy discharge and increased sediment load, the streams from the uplifted Front Range created a braided channel pattern. These braided streams flowed in a generally southward pattern and eroded the softer sediments from the anticline. The course of Sullivan Canyon was probably formed during the Pleistocene through weathering of the overlying Jurassic, Cretaceous, and Tertiary

sediments through fluvial processes. The softer rock has since weathered in places below the crest of the anticline to create the flat valley bottom of Sullivan Canyon that separates the two once continuous folded and faulted anticlines. At a later date - probably during the early Quaternary - water was captured by headward erosion of Sullivan Canyon from the various streams flowing across the anticline and diverted into a single large drainage. With the increased velocity, Sullivan Canyon continued to erode into the softer, Jurassic sediments to create the broad valley of Sullivan Canyon as it is seen today.

The steep north slopes of Booth Mountain and the west slopes of Table Mountain are eroded into the Morrison and Ralston Creek lithostratigraphic units. Three prominent notches are visible along the northern rim of Booth Mountain, while similar notches are visible along the western slopes of Table Mountain. These notches mark the courses of pre-Holocene stream channels. Small interior basins that support meadow flora often appear at the downstream sides of the notches. These basins are superimposed over Jurassic claystones and limestones. These impermeable strata trap rainwater and to a lesser extent snowmelt and, through interflow, channel the water into the larger drainages. The water that is retained in the basins permits meadow ecozones to survive in an otherwise pinon and juniper woodland.

The relict courses of two streams are clearly visible at the northern end of Booth Mountain. These stream courses are manifested as steep-walled canyons, one that originally flowed southwest into Booth Gulch, and a second that flowed southeast into Turkey Creek. Both of these stream courses are close to prominent notches at the top of Booth Mountain. The original channel course was from the north through the notch where there is a bend to the east. Today, the drainage exits Booth Mountain through Booth Gulch and takes a bend to the north to enter Pierce Gulch, but the drainage may have at one time continued along a more southerly route to Booth Gulch. These seemingly out-of-place drainages on Booth and Timber Mountains represent relict drainage patterns that were diverted from their courses into Sullivan Canyon through either stream capture or isolation due to the weathering of the erodible Jurassic Formation. Steep-walled drainages, small interior basins superimposed onto Jurassic strata, and prominent notches are the topographic expressions of an ancient hydrological system.

Holocene History. The Holocene geological history of the project area in particular has not been documented. However, Madole (1989, 1990) has hypothesized a generalized Holocene history for the Turkey Creek drainage that is based upon a paleoclimatic model of general atmospheric-circulation experiments and early Holocene paleoenvironmental data from other sites in the region. The alluvial stratigraphy of Turkey Creek was recorded by Madole (1989) for the purpose of providing a geoarchaeological setting for the Recon John Shelter. Madole's interpretations are summarized below.

The eastern edge of Booth Mountain is bounded by Turkey Creek, which is superimposed over the eastern axis of the Turkey Creek/Red Creek syncline. Three

lithostratigraphic units are identified in the Turkey Creek alluvium: a basal gravel unit (Unit 1); a sand unit that is comprised of two members (Unit 2); and a poorly-sorted, gravelly alluvium (Unit 3).

Although dates for Lithostratigraphic Unit 1 are not known, the unit was probably deposited during the early-to-mid Holocene. The total thickness of the unit is not known, but commonly it is as much as 4 m thick. The lower .5 m to 1 m consists of clast-supported coarse gravel. This basal gravel may be of Pleistocene age, although the possibility exists that the gravel represents reworked Pleistocene deposits. The gravel are mostly pebble-to-cobble size, with local exposures of boulders ranging from 25 cm to 75 cm in diameter. Most of the gravel are Precambrian granitic and gneissic rock, and Dakota Sandstone. The intercalated sand and silty beds and lenses are interpreted as having been deposited in or near paleochannels. The basal gravel is conformably overlain by 2.5 m to 3 m of poorly sorted clayey and silty sand. The distinctive reddish hue and coarse columnar structure distinguishes the top of Unit 1 from the bottom of Unit 2. The reddish hue is to a large degree the result of the parent materials; the sediments are derived mainly from Fountain Formation and Lykins Formation redbeds. A relatively thick but weakly developed soil marks the contact between Unit 1 and Unit 2. This soil consists of an A/C horizon in which the A horizon is cumulative. The A soil horizon varies in thickness considerably among locations. This variable thickness is a result of differential soil formation processes and degradation within the valley floor. In places the contact between the top of the soil and the overlying Unit 2 is undulating and occasionally marked by stone lines. These boundary features suggest a period of erosion after landscape stability and before the deposition of Unit 2. Radiocarbon assays on detrital charcoal from a section near the top of Unit 1 at the Recon John Shelter produced ages of 4050 ±120 BP and 4400±80 BP (Zier 1989).

Lithostratigraphic Unit 2 unconformably overlies Unit 1 over most of the valley floor. Unit 2 consists of two subunits: a lower grayish brown to brown calcareous sand that grades downward to a basal sand. The lower portion of the unit is thicker and more extensive than the upper portion. Typically, the entire unit is less than 75 cm thick, but the stratum ranges from 25 cm along the valley margins to 1.6 m in paleochannels along the valley axis and in small alluvial fans and rills emanating from the valley sides. Well-stratified beds of sand and silty sand are interspersed throughout the unit.

Besides sediments' in the lower portion of the unit being generally coarser and better sorted than those in the upper portion and exhibiting slight color differences, the two subunits are distinguished chiefly by the degree of pedogenesis. The upper, younger soil is characterized by an A/C profile. The A horizon in the lower soil, although weakly developed, is fairly thick (30 - 40 cm). The younger soil consists only of a thin A horizon (5 - 6 cm) and has little to no pedogenic structure. The younger soil is currently exposed at the surface along Turkey Creek. Contact between the two soils suggests a brief period of landscape stability followed by a period of aggradation with a return to landscape stability. Radiocarbon dates from the older part of Unit 2 at Recon John Shelter range in age from

2000 BP to 1000 BP (Zier 1989). The weak soil structure of the younger soil in Unit 2 suggests that a brief period of landscape stability has elapsed since deposition of the unit ceased. Madole (1990) estimates that deposition of the younger part of Unit 2 correlates with an episode of deposition that occurred between about 800 and 100 BP in drainage basins from southern Utah and western Oklahoma. This period of deposition is believed by Madole (1990:108) to have ceased in Turkey Creek between 150 and 100 years ago.

Quaternary deposits within the interior of Booth Mountain are most notable as narrow alluvial terrace deposits along the bottom of some large drainages. Usually these terraces are restricted to the south side of the drainage. These were carefully examined for cultural deposits and none were observed; however, aside from the alcoves, these small fill terraces could contain some of the better geoarchaeological research potential. Regardless of their archeological potential, the terraces may contain locally significant information on the Holocene stratigraphy of the interior of Booth Mountain.

THE CULTURAL ENVIRONMENT

The location of Fort Carson in the foothills of the Rocky Mountains means that prehistoric populations undoubtedly had cultural ties to and were influenced by contemporary cultures in the adjacent plains and mountains. There is even evidence that at certain times during prehistory southeastern Colorado was influenced by cultures of the American Southwest.

The Regional Context

In order to give a context for Fort Lewis College's work at Fort Carson, the following section briefly reviews the archeology of both the plains and the mountains (in particular the Front Range). It draws on historical overviews provided by Frison (1973), Wedel (1983), and Duke and Wilson (1995a) for the Plains, and Cassells (1992) for the mountains, as well as from others that are referenced as appropriate.

Plains archeology was a relatively late entry into American anthropology, probably for two reasons. First, it lacked the monumental architecture and the sophisticated and well-preserved technologies that had attracted early students to places like the Southwest. Secondly, influential early anthropologists, from Clark Wissler to Alfred Kroeber, had declared the region uninhabitable prior to the acquisition of the horse (Frison 1973:151).

Throughout the 1920s, archeologists began working in the Plains. However, there were still no systematic investigations or excavations, and some strange theories still prevailed: for example, the supposed Welsh influence on the Mandan of the Middle Missouri region (Frison 1973). This attitude changed as a result of the number of early human discoveries found in the area, which put Plains archeology in the forefront of this study in

the 1930s. Sites like Lindenmeier and Dent in Colorado, together with Clovis and Folsom in New Mexico, were discovered in this decade. Also, during this decade, theoretical contributions from Strong, Wedel, and Krieger helped Plains archeology gain a national stature (Duke and Wilson 1995a:3), and for a while the Plains became a "high-status" area of study.

The second boost to Plains archeology resulted from the threatened loss of thousands of archeological sites in the Missouri River floodplain through reservoir construction for recreation, storage, and hydroelectric facilities. Surveys to locate and record these sites began in 1946 under the direction of the Smithsonian Institution, with field headquarters located at the University of Nebraska. The final survey was completed in 1968; massive data banks were produced and a regional culture history constructed. Plains archeology was for a critical part of its life dominated by salvage archeology concerns (Lehmer 1971; Frison 1973). Government involvement in Plains archeology became even greater in the 1960s with the onset of the modern era of cultural resource management. However, because large portions of the Plains are privately-owned and therefore not under the jurisdiction of federal conservation laws, the importance of archeological studies of large federally-owned areas such as the Fort Carson Military Reservation becomes especially great.

Despite the early important theoretical contributions of Plains archeologists like William Duncan Strong (1935) and Waldo Wedel (1936), Plains archeology has never flirted with archeological theory for its own sake. Rather, it has been dominated by the practical necessities of dating sites and erecting spatio-temporal frameworks (Duke and Wilson 1995a), although elements of processualism have become important mainstays of much contemporary Plains archeology, whether it be Ahler (1970), Calabrese (1972), Johnson (1988), Bamforth (1988), or Kelly and Todd (1988). Even postprocessual studies have made their way onto the Plains (Duke and Wilson 1995b). The advocacy of particular theoretical paradigms seems, however, to have been driven primarily by the need to understand the prehistory of the Plains, as opposed to Plains data being used merely as a testing ground for proposed theoretical contributions to the discipline at large.

The cultural taxonomies and classifications used for the southern Colorado Plains are an implicit amalgamation of taxonomic systems proposed by McKern (1939), and Willey and Phillips (1958). Thus, we note the interchange of McKern's "focus" and Willey and Phillips's "phase" throughout much Plains archeological writing (see also Chomko et al. 1990:9). The terms stage and period have also become virtually synonymous. This confusion is particularly apparent in discussion of the Archaic - a confusion fueled by the use of the term "Archaic" by Frison (1978) for the Middle Prehistoric Period. While this interchange is acceptable for Wyoming, where the Altithermal of the early Middle Prehistoric Period created the need for Archaic-stage adaptations, it is less applicable elsewhere in the northern Plains, where a commitment to large-animal hunting may have continued unabated, despite the stress caused by Altithermal climatic deterioration.

It is fair to say that the processes behind the patterns that constitute the culture-historical sequences of southeastern Colorado are still essentially unknown. For example, although lengthy discussions on the (dis)similarities between projectile points and other diagnostic materials have been made by numerous workers (e.g. Gunnerson 1987), there has been less discussion on whether these patterns are the result of migration, diffusion, or other cultural factors. Projectile-point styles seem to constitute distinct horizon styles that cross-cut other cultural boundaries, and it is clear that an adequate understanding of the area's prehistory cannot be completed until these factors have been evaluated.

Eighmy (1984:10) has divided the chronology of southern Colorado into four periods, and we apply these to the Fort Carson area: Paleo Indian, Archaic, Ceramic, and Protohistoric/Historic. We have excluded discussion of the pre-Paleo Indian period, as defined by Krieger (1964) because of its absence thus far in this part of Colorado.

Paleo Indian Period The Paleo Indian Period, which dates from approximately 12,000 B.P. to 7500 B.P., is a well-documented phenomenon in the Colorado Plains, this area producing some of the more significant finds of that period. The Period straddles the transition from terminal Pleistocene to early Holocene environments with an accompanying change in fauna and flora. It is typified by nomadic hunters and gatherers, concentrating on the killing of large fauna, such as mammoth and now-extinct forms of bison. The Paleo Indian Period is divided into the Clovis (11,500-11,000 B.P.), the Folsom (11,000-10,200 B.P.), and the Plano (10,200-7500 B.P.) Traditions. Although both Clovis and Folsom Traditions are identified by distinctive fluted points, the processes of transition between the two are unclear, and Frison (1978) has proposed a transitional Goshen Complex. The Plano Tradition is characterized by a proliferation of point types, which may reflect increased territoriality and technological specialization as greater resource stability pre-empted the need for long-distance interaction networks (Hayden 1982:119).

The presence of humans in southern Colorado and surrounding areas during the Paleo Indian Period is evidenced primarily by surface finds (there are two Folsom finds on the Chaquaqua Plateau [Campbell 1976], for example). However, this area is relatively close to the Folsom type-site, located just southeast of Raton, New Mexico, the bison kill-site of Olsen-Chubbuck (Wheat 1972) is also relatively close, and it is likely that more Paleo Indian sites will be found in the future. Within 200 miles of Fort Carson, are some of the better known Paleo Indian sites, such as Cattleguard, Lindenmeier, Olsen-Chubbuck, and Jurgens.

Archaic Period The Archaic Period begins about 7500 B.P. in southern Colorado and, as a whole, sites attributed to the Archaic Period are well represented. It is characterized by a shift to a wider subsistence spectrum of hunting and gathering, an increase in the use of groundstone tools used in plant preparation, and, at the end of the period at least, greater sedentism, which perhaps is a precursor to a dependence on cultivated plants.

Early Archaic Period (7500-5000 B.P.) sites are rare in southern Colorado (Eighmy 1984:68), and indeed it is possible that during this period, which coincides with the Altithermal warming episode, the Plains were abandoned or minimally occupied by humans (Reeves 1973; Benedict and Olson 1978; Buchner 1979). The Middle Archaic Period (5000-3000 B.P.) is well represented by both radiocarbon and typologically dated components in southern Colorado (Eighmy 1984). Point types seem to bear a resemblance to Southern Plains and Southwest types (including the Picosa Culture). During this period, stone circles (tipi rings) first appear, along with an increase in the size and complexity of communal bison-hunting techniques (Forbis 1978; Reeves 1978). Archeological evidence for the Late Archaic Period (3000-1800 B.P.) in southern Colorado is provided by a series of sites - including stratified rock shelters - such as Carrizo, McEndree Ranch, Medina, Recon John (which is located on the Fort Carson Military Reservation and described in more detail below), and Trinchera. The last site provided not only stratigraphic sequences, but also organic material and bones that indicate an emphasis on small-game hunting (Wood-Simpson 1976:177). Archaic sites in southern Colorado are sufficiently numerous to allow for the reconstruction of settlement systems: for example, Alexander et al.'s (1982) study of the archeology of the Fort Carson Military Reservation, Lutz and Hunt's (1979) of the Purgatoire and Apishapa highlands, and Eddy's et al.'s (1982, 1984) of the John Martin Reservoir.

Ceramic Period The Ceramic Period, according to Eighmy (1984), is not fully *formative*, because it is still based primarily on hunting and gathering, and it lacks established village life. Eighmy divides the Ceramic Period into Early and Middle sub-periods. Gunnerson (1987:97) and Zier et al. (1987:2-13) have added a Late sub-period, which corresponds to Eighmy's Protohistoric Period. The major technological innovations of the Ceramic Period are, of course, ceramics (albeit in small numbers), the bow and arrow, stone architecture and the appearance in small quantities of cultivated plants, in particular maize.

The Early Ceramic Period dates between A.D. 200-1000 and corresponds to what has been termed the Plains Woodland Tradition (cf. Eighmy 1984). We prefer the former designation in view of the rather oxymoronic nature of the latter term. Cultures of this period appear to represent an indigenous outgrowth from Archaic systems. After about A.D. 450, there appear to be differences between sites found along the Arkansas and Platte River systems, respectively. Sites along the Arkansas River system are assigned to the Graneros Focus (Withers 1954), which is characterized by cord-marked pottery, corner-notched projectile points that are later replaced by side-notched forms, and slab-constructed circular dwellings. The Parker Focus, which might be merely a geographical variant of the Graneros Focus (Butler 1986:213) - or vice-versa - is heaviest in the Denver Basin and South Platte River Valley region, and may extend to the San Luis Valley. According to Baugh (1994:269), the most recent - Early Ceramic - component at the Recon John Rockshelter, located on the Fort Carson Military Reservation, may represent the most southerly and westerly extension of the traditional Plains Woodland Complex as exemplified by the Valley and Keith Foci of the Central Plains.

The Middle Ceramic Period (A.D. 1000-1500) of eastern Colorado contains variants of the Plains Village Tradition, such as the Upper Republican Complex, the Upper Purgatoire Complex, the Apishapa Phase, and the Upper Canark Variant. The Upper Republican Complex (A.D. 1000-1450) is characterized as a sedentary culture based on hunting, gathering, and horticulture (Gunnerson 1987:68-71). It is located primarily in southern Nebraska and northern Kansas. The complex is associated with the prehistoric Pawnee by Strong (1935). The Upper Purgatoire Complex (Dick 1963) is dated to between approximately A.D. 1000-1225 (Cassells 1983:177; Wood and Bair 1980:15), and is divided into three phases: Initial Sopris; Early Sopris; and Late Sopris (Cassells 1983:177). Subsistence during this time was a mixture of foraging and farming, and its architectural and ceramic styles reflect both Plains and Southwestern influences. Indeed, it has recently been suggested that Sopris Phase sites represent an archeological frontier of the northern Southwest (Mitchell 1996). Alternatively, Turner (1980) has suggested that Sopris Phase populations may be Athabascan, based on a fairly high frequency (23%) of triple-rooted molars in a Sopris Phase skeletal assemblage from the Trinidad Lake area.

The Apishapa Phase was first recognized by Renaud (1931) and later defined by Withers (1954). It may have antecedents in the Graneros Focus (Baugh 1994:269). It is characterized by villages - of varying size - composed of upright stone slab houses, often in defensible locations. The proximity of these sites to arable land (Campbell 1969:418-419) suggests some level of commitment to horticulture. Ireland (1968) proposed that at the Snake Blakeslee site (Gunnerson 1989) occupants subsisted primarily on corn and bison. Campbell (1969), on the basis of supposed similarities between Apishapa sites and contemporary materials in the Texas and Oklahoma Panhandles, placed the phase into the Panhandle Aspect. Lintz (1978, 1984, 1986) in a reworking of this material, proposed the Upper Canark Variant (A.D. 1200-1500), which contains the Apishapa Phase and the Antelope Creek Phase of northeastern New Mexico and the Texas and Oklahoma Panhandles. Baugh (1994:282) has further added to the Upper Canark Variant the Zimms Complex of western Oklahoma and the eastern Texas Panhandle, and the Burial City Complex of the northeastern part of the Panhandle.

The Late Ceramic or Protohistoric Period (A.D.1500-1800) is characterized by a number of ethonographically recognized tribes who were either hunters and gatherers, or part-time horticulturalists. Aboriginal inhabitants during this period had access to European goods, but were not in regular face-to-face contact with Europeans. One of the major Colorado Plains groups were the Athabascans (specifically the Apache), who migrated south as part of the large Athabascan movement that began in Alaska sometime in the first millennium (Duke and Wilson 1994; Vickers 1994). They grew corn, beans, and squash, hunted extensively, and traded with Puebloan groups in northern New Mexico. These groups are represented archeologically by the Dismal River Aspect (A.D. 1675-1725), which is found throughout large portions of the western plains including eastern Colorado (Gunnerson 1987:102-107).

Archeological evidence suggests that the Apache entered southern Colorado sometime after A.D. 1300 (Campbell 1969:496). Excavations at a series of stone-circle sites associated with the Eastern Apache, located on the Carrizo Ranches on the Chaquaqua Plateau, were radiocarbon dated to the 14th century (Kingsbury and Gabel 1983). These sites also contained Pueblo IV pottery indicative of interaction with groups to the south. Other tribes of note during this period were the Comanche and the Arapaho and Cheyenne. A more detailed review of the ethnohistoric evidence is found in the succeeding section on Fort Carson ethnohistory.

The Front Range, as a unit of study, consists of that portion of the eastern flanks of the Rocky Mountains from southern Alberta in Canada to southern Colorado. Although, in general, the eastern slopes of the Rockies provide a dramatic and abrupt boundary to the western plains, in many areas, most notably Wyoming and, to a lesser extent, Montana, the mountain wall is broken by large basins that serve as western extensions of the plains grasslands. Indeed, Chomko (1991), in referring to Wyoming, has shown how that state's prehistory has been confused by mistakes over what constitutes *plains*, and by extension, therefore, the application a priori of Plains cultural taxonomies to the state's archeology.

Archeological investigations of the Rocky Mountains are recent, beginning in earnest only in the 1970s with the advent of federal conservation laws in both the United States (Matlock and Duke 1992:176) and Canada (Ronaghan 1986:passim). Prior to this period, anthropologists, beginning with Alfred Kroeber (1939), believed that the mountains were uninhabitable prior to the acquisition of the horse. Archeologists, turned away by limited access to high mountain areas (Cassells 1992:12-13), were not inclined to test Kroeber's proposition.

Despite the massive increase in the data base as a result of government-mandated investigations, much of the archeological record of the Front Range is still "spotty", as a result not only of the nature of the archeological record itself (cf. Weimer 1995:96), but also of the rather "shot-gun" approach to investigations. Long-term research projects -- such as Benedict's (1992; Benedict and Olson 1978) in the Indian Peaks Wilderness Area of Rocky National Park -- appear as exceptions to the rule. Thus, long-term archeological investigations at locations such as Fort Carson Military Reservation are important for their contribution to our archeological knowledge not only of the immediate area but also of the Front Range in general. Despite the different goals of the various individual research and management problems that have been conducted or are in progress along the Front Range, and despite the different backgrounds of the investigators involved in them, it is possible to isolate a number of issues that seem consistently to be addressed.

The first issue concerns the nature of the archeological record itself. This record is a product of essentially nomadic inhabitants existing in environments that are often not conducive to good archaeological preservation (Benedict 1992:1; Weimer 1995:96). Consequently, archeological interpretation has tended of necessity to oversimplify complex

patterns of human behavior. Indeed, it can be said that mountain archeology, as with most hunting-and-gathering situations, can define only *average* behavior patterns, "that is, how groups in general solved certain problems over long time periods" (Driver 1978:125). All archeologists working on the Front Range are hampered by an inadequate temporal resolution for their sites, which causes great variation between *precise* and *archaeological* contemporaneity, to use Higgs and Jarman's (1975:5) nomenclature. This irresolution, caused by the nature of the archeological record, is at the root of all the other issues discussed below.

The second issue concerns the degree to which the culture chronologies of the Front Range and mountains can be based on those of adjacent areas, especially the Plains (cf. Black 1991). This ambivalence has lead to the application of oxymorons, such as foothills-adapted Plains Woodland cultures (recognized as such by Black [1994]) in the Hogbacks west of Denver). More insidiously, the importation of external systematics has hampered a fuller understanding of the actual cultural dynamics of the area. Recognizing heterogeneity in the archeological record might help in constructing local chronologies, but is of less value in the reconstruction of actual prehistoric *behavior*. For instance, witness the relatively small differences in assemblages between the Hogback, Graneros, and Parker Phases (Cassells 1983:170). Our inability to correlate artifactual heterogeneity with actual behavioral patterns, whether they be at the level of seasonal facies of a single economy or at the level of distinct ethnic groupings, will continue to confound the creation of more sophisticated and realistic prehistoric behavioral models.

The third issue, obviously related to the first two, concerns the specific ways in which the Front Range and Rocky Mountains were exploited prehistorically. The first strategy implicates these two areas as marginal, exploited by prehistoric peoples whose primary territories lay either on the Plains, the Great Basin, or the Southwest. As noted earlier, ethnographers like Kroeber were disposed to this strategy.

The second strategy sees these areas simply as part of an overall seasonal round that encompassed other adjacent areas. Examples of this strategy have been proposed by Bender and Wright (1988), Quigg (1974), Duke (1978), and Benedict (1992). Benedict (1992:11-14) has proposed two different systems for the Colorado Rockies, specifically in the central and northern parts of the state. The first, *up-down system*, is best represented by sites of the Early Archaic Mount Albion Complex. In this system, nomadic hunters and gathers moved between the foothills and high-altitude areas in an essentially east-west line. Benedict (1992:12) sees this strategy as particularly attractive to inhabitants newly forced from their traditional homelands on the Plains by Altithermal droughts. However, there is no reason why this system could not have been practiced by longer-established residents, and at other time periods, too. The second, *rotary system*, is characterized by a circular annual round that encompassed not only the Front Range, but also North Park and Middle Park, making an annual round of up to 400 km. It is best represented by sites of the Late Prehistoric Hogback

Phase. It is difficult to determine if these systems were practiced simultaneously by different groups.

The third strategy sees the Front Range and mountains as capable of supporting year-round nomadic populations. This strategy has been proposed most forcefully in southern Canada by Brian Reeves (1978, 1981) who has gone so far to say that at least in certain time periods, the Front Range was a separate cultural area, supporting year-round residents who considered themselves ethnically separate from groups resident both to the east and west. Frison et al. (1986:360) have similarly argued that the "mountains-foothills cultural groups were separate and practiced subsistence strategies different from those used by the classic Plains bison hunters of the same time period."

The third strategy is also represented by Black's (1991) Mountain Tradition. This tradition existed from about 9500 B.P. to at least 4500 B.P., with a continuation in certain areas until 700 B.P. when it was replaced by assemblages assignable to the prehistoric Numic - (Ute and Eastern Shoshone). Spatially, the Mountain Tradition is found in upland areas as far north as southern Montana to as far south as northern New Mexico. It is recognized by at least six characteristics:

> 1) settlement systems emphasizing upland environments on a year-round basis; 2) frequent use of a split cobble core reduction strategy and derivative split cobble tools, particularly in late Paleo-Indian and Early Archaic contexts; 3) presence of microtools (not microblades), especially after 6000 B.P.; 4) divergent styles of projectile points with general similarities to Great Basin types; 5) habitations and shorter-term dwelling structures in upland settings; and 6) distinctive rock-art with general similarities to Great Basin styles.
>
> Black (1991:4)

Included in this tradition are the following complexes: Rio Grande; Uncompahgre; Rocker; Mount Albion; Magic Mountain; and Apex. Important sites along the Front Range, such as LoDaiska, Wilbur Thomas, and Willowbrook, probably served as winter residential bases, as did sites along the foothills west of the Continental Divide, such as Deluge Shelter, Sisyphus Shelter, Taylor and Moore (Black 1991:13). Proposing this tradition argues for a year-round exploitation of the mountains by nomadic to semi-sedentary groups, for a long-term continuity in patterns of exploitation, and for an archeological identity for the mountains that is distinct from adjacent lowland areas, beginning as early as the late Paleo Indian period (Black 1991:1).

While it is doubtful whether the *present* archeological record (anywhere along the Front Range) allows us to adequately test such hypothetical strategies; nevertheless, merely their reasonableness as *hypotheses* throws into doubt any complacency archeologists might

have about the hopes of soon achieving any degree of understanding of prehistoric exploitation patterns in the area (Duke 1978).

Fort Carson Prehistory

Generally, sites become more common at Fort Carson as they get more recent, reflecting not only increased human populations, but more likely the better preservation potential of more recent archeological resources (Zier et al. 1987:2-44). The numerous surveys conducted on the reservation in the last ten years suggest that the majority of dateable prehistoric components fall between approximately 1500 B.C. and A.D. 1500, while most dateable historic structures date to the last few decades of the 19th century and the first half of the twentieth (e.g. Van Ness et al. 1990; Jepson et al. 1992).

Prior to the current inventory, there was only one piece of evidence on the Fort Carson Military Reservation that belongs to the Paleo Indian Period, an isolated projectile point dated to approximately 8000 B.P. (Zier et al. 1987).

Although definite Archaic sites are relatively rare on the reservation, most lithic sites are undated, and so many of these could actually be Archaic in age. An important multi-component site on the reservation is the Recon John Shelter (Zier and Kalasz 1991). This rockshelter contained three radiocarbon dated components: Middle Archaic (4400-3700 B.P.); Late Archaic (2000-1800 B.P.); and Early Ceramic (1800-1000 B.P.). Evidence for a hunting-and-gathering economy, with some degree of maize horticulture, was recovered from this site.

Early Ceramic Period sites are common at Fort Carson (Zier et al. 1987:2-9), although Zier cautions that some of these may be misidentified Middle Ceramic sites, because both periods have cord-marked pottery. There are numerous Middle Ceramic sites in the reservation, especially in its southern part. Apishapa Phase lifeways have been elucidated through long-term investigations at the Avery Ranch site, the most recent of which were conducted by Centennial Archaeology in 1985 and 1986 (Zier et al. 1988, 1990). The Avery site, a multi-functional camp occupied in a single episode during the fall, dates to the thirteenth century. Zier identified four major activity areas, three of which contained architectural remains. Large quantities of butchered bison bone and charred seeds, especially *Chenopodium* (goosefoot), indicate a hunting-and-gathering economy, although a small amount of maize was also recovered. In general, Apishapa lifeways seem to have been organized around the efficient gathering and storing of wild plants, the hunting of deer, antelope and some bison, and the farming - albeit limited - of at least five different varieties of maize (Baugh 1994:278). No Late Ceramic sites had been positively identified as of 1987.

Ten different prehistoric site types have thus far been identified on the reservation (Zier et al. 1987:2-36-28). These comprise: (1) burial, both primary and secondary; (2)

hearth; (3) open lithic scatter (which comprises 7 sub-types identified by the presence or absence of specific artifact types and features); (4) quarry; (5) rock art site (both pictographic and petroglyphic); (6) stone architecture (both upright slabs and stone circles); (7) rock shelter; (8) talus shelter; (9) tool sharpening grooves; and (10) wickiup. As of 1987, the most common of these (105 out of 158) were site type 3, open lithic scatters (Zier et al. 1987:2-39).

Zier et al. (1987:2-19-35; 2-142-149), as part of the Fort Carson Historic Preservation Plan, identified nine research themes that could be reasonably addressed by future archeological work on the base. These comprise: (1) chronology; (2) settlement patterns; (3) economics; (4) horticulture; (5) paleoclimates; (6) technology and material culture; (7) architecture; (8) rock art; (9) geomorphology (Zier et al. 1987:2-19-35). Prehistoric sites considered eligible for nomination to the National Register include: (1) pre-Paleo Indian and Paleo Indian sites; (2) Early Archaic sites; (3) sites with buried deposits; (4) stratified multi-component sites; (5) architectural Early and Middle Ceramic sites; (6) Late Ceramic structural sites; (7) communal kill sites; (8) intact rock art; (9) complex lithic material quarries; (10) unique aboriginal sites (Zier et al. 1987:3-3-5).

Additionally, in keeping with the generally processual nature of archeological research conducted during the 1970s and 1980s, the Fort Carson prehistoric data base has been subjected to a variety of settlement modeling (Zier et al. 1987:2-45-51). Zier et al. (1987:2-47-51) reject inductive-based models in favor of deductively generated predictive models that allow for a better control of sample universes. Despite the persuasiveness with which Zier makes his case, inductive models at least avoid the problem of a priori assuming which environmental variables were important in the selection of specific site locations (*cf.* Butzer 1982; Weimer 1995).

Predictive models for the Turkey Creek, Booth Mountain, and Red Creek areas were generated by Zier et al. (1987:2-86), with Booth Mountain providing the most surprising results in terms of the frequency and distribution of archeological sites in an area that was assumed to be too rugged to have supported a large prehistoric population. It was determined that the highest site probability lay on the southern and western slopes of the mountain, with sites located along the drainages that flow into Booth Gulch rather than into Turkey Creek. It is possible that the very inaccessibility of Booth Mountain made it an attractive habitation. Very few sites were found on the eastern half of the mountain with the exception of the rock art that is pervasive on the Turkey Creek side.

The subsistence and settlement model for Fort Carson, and on which the predictive modeling is based, acknowledges that during the prehistoric period the Fort Carson area was part of a human migratory pattern that ranged from the high mountains to the open plains. A variety of animals and plants, of which pinon nuts are considered to be of fundamental importance (Zier et al. 1987:2-59), were utilized. In keeping with studies elsewhere (e.g. Quigg 1974; Duke 1978), Zier et al. (1987:2-52) has proposed that large, winter base camps

were probably established in the more sheltered foothills, along the Arkansas River and its permanent tributaries. Smaller camps established in the spring and used throughout the rest of the year were located along different routes radiating from the winter base camps, in response to the seasonal availability of particular resources. In this regard, it is important to acknowledge that such annual subsistence rounds may have been far-ranging. Rockafellow's (1881) history of Fremont County, for instance, described historic Utes as summering in the higher elevations of the Rockies, before coming down to winter base camps in the Arkansas River Valley, in the vicinity of Canon City. Thus, prehistoric sites found in the Monarch Pass area (Hutchinson 1990) may well have relevance to explicating subsistence patterns in the Fort Carson area, especially given that the Arkansas River Valley was the primary communication corridor to the Monarch Pass area during the historic period.

Fort Carson Ethnohistory and History

From the initial period of European contact, which began in the middle of the 16th century, Plains Indians underwent profound cultural, social, and economic changes, descriptions of which need not be replicated here. Initial contact was at first indirect, in the form of long-distance trade (beaver and muskrat pelts in exchange for numerous European goods), but this was replaced by face-to-face contact and exchange. Beaver trapping (and later bison-hide tanning) brought the Plains into the world economic system (cf. Lewis [1942] for an early surgical analysis of the economic and social effects of this on Northern Plains groups, particularly the Blackfoot). Acquisition of the horse and gun helped individual Indian groups to resist European expansion, but often this was done by taking over the territories of Indian groups who were not so well-equipped. The horse also caused major economic and social changes to Indian tribes, and these are well documented by Roe (1955). In general, the period of European contact, then, can be seen as one in which Native Americans were forced to become much more mobile and to cope as best they could with the European economic nexus into which they had been so unwillingly drawn.

It is difficult to determine precisely which Indian tribes used the Fort Carson area because of its location at two major physiological zones (Plains and Mountains) in three culture areas (Plains, Mountains, and Southwest), and its proximity to important passes and trails that were used by many different groups. However, based on general knowledge of the ethnohistoric period in southern Colorado, as well as specific references to places like Manitou Springs, some degree of confidence can be placed in stating that the area was utilized by at least four tribes: the Apache; Comanche; Arapaho; and Ute (Zier et al. 1987:2-166-171).

Southern Plains tribes first made contact with Spanish groups beginning in 1541, when Coronado led an expedition across parts of New Mexico and Kansas (Hammond and Rey 1940). Coronado's description of the groups he met provides a good description of peoples who were still essentially "prehistoric." Coronado encountered two groups called "Querechos" and "Teyas", although there is dispute as to whether both were Apache, or

Apache and Caddoan groups respectively (cf. Weber 1990:XVIII-5-6). During the 16th century, more Spanish expeditions were sent throughout what was to become northern New Mexico and adjacent regions, in order to extend Spanish sovereignty and to convert the Indians to Christianity. Of particular interest is the 1593 expedition of Francisco de Bonilla and Antonio de Humana. Although their exact route is not clear, it is possible that they traveled through the Fort Carson area (Zier et al. 1987:2-94).

Beginning in the late 17th century, the Apache, mounted and heavily armed, became a dominant force on the Southern Plains, raiding for both horses and slaves that were then traded to the Spanish (Weber 1990:XVII-7). Despite the unstable relations between Apache and Pueblo groups it was, nevertheless, the former to whom the latter fled after a series of revolts (the biggest revolt started in 1680 and lasted for 12 years).

In the early part of the 17th century, the Taos and Jemez Pueblos revolted against Spanish rule, and established a new settlement called El Cartelejo in western Kansas, which was under the control of the Apaches. It is unclear whether El Cartelejo was a specific pueblo or a region, however (cf. Forbes 1960; Schroeder 1974). By the 1660s the Spanish had moved the fleeing Puebloans back to their original settlements (Forbes 1960:137-139), although the area continued to act as a refugium for Puebloan and Apache groups trying to escape Spanish domination. Throughout the 18th century, the Apaches lost both power and territory as the Comanche expanded, as eastern groups like the Kansa, Oto, Iowa, Ponca, and Omaha moved west, and as the area became a geopolitical arena contested by both France and Spain (Schlesier 1972).

The Comanche, together with the Ute, began to move into southern Colorado and adjacent Kansas at the beginning of the 18th century (Weber 1990:XVII-13). Notwithstanding their defeat by de Anza in 1779 in the vicinity of modern-day Pueblo (Athearn 1985:18), the Comanche continued to expand their hegemony throughout the southern Colorado plains and areas to the south and east during the 18th century. The Utes raided with the Comanche until the middle of the 18th century, when the Comanche turned on them. The Utes were originally mountain dwellers who made incursions into the Plains through numerous mountain passes (Hyde 1976:54-57; papers in Nickens 1988).

Ulibarri, who in 1706 brought back dissident Pueblo Indians from refuges across the Arkansas River, reported that the Utes and Comanches were raiding the Apache between present-day Pueblo and Trinidad, although they had not yet succeeded in driving them out completely (Hyde 1976:64). A later Spanish expedition in 1719 led by Governor Valverde found Apache groups still occupying southeastern Colorado (Schroeder 1974). Valverde's professed objective was to prevent Ute and Comanche raids on the Apache, although the leisurely nature of the expedition indicates that he had no urgency in accomplishing this (Hyde 1976:67-70). Certainly, at least a secondary objective of the expedition was to show the Spanish flag in response to increasing French incursions into Spanish territory (Athearn 1985:14-16). These Spanish incursions increased until the outbreak of the French Indian

War of 1754 (Athearn 1985:17). During the latter part of the 18th century, increasing Arapaho and Cheyenne incursions into the western Plains began to shunt the Comanche southward (Hyde 1976), and in 1786, the Spanish were able to make a peace treaty with both the Comanche and the Ute (Athearn 1985:18).

During the 18th and early part of the 19th centuries, southern Colorado was infiltrated by comancheros and ciboleros, Hispanic and Pueblo Indian traders, and buffalo hunters (Weber 1990:XVII-15; Baugh 1994). The comanchero trade was based on well-established prehistoric trade patterns between Pueblo farmers and Plains bison hunters (cf. Spielmann 1991). Initially involving native corn and bison products, by the beginning of the 18th century the trade system incorporated Spanish goods, including horses and guns, as well as slaves. Trade fairs, such as the one at Taos, become an important component of the New Mexico economy (Carrillo 1990:XVIII-8). This changed, however, under American rule, since the comancheros were now considered to be thieves and villains (Carrillo 1990:XVIII-9).

Cibolero hunting comprised huge bison-hunting expeditions from New Mexico into the adjacent plains in order to take back bison products to their home settlements. These expeditions climaxed in the early 19th century. Increasingly, Anglo traders were attracted to southern Colorado and northern New Mexico to trade with both Indians and Hispanic settlements (Weber 1990:XVII-18-19).

Up to 1821, the ethnohistoric period of southern Colorado, as for adjacent areas, was characterized by processes that led both to the demise of aboriginal groups as independent entities and to increasing control over these areas by Spanish residents in areas to the south. However, southern Colorado was never successfully colonized by the Spanish (Carrillo 1990:XVIII-7), and the area was important to the Spanish primarily for the resources that it offered. After 1821, what Carrillo (1990:XVIII-1) calls the second period of historical culture change in the area was initiated. Mexican independence intensified trading opportunities between southern Colorado and Hispanic settlements to the south. This second period lasted until the Mexican War of 1846-48, which effectively ended Mexican domination of the area.

The earliest American interest in the area resulted from attempts to explore beyond their recognized territorial boundaries as a result of the Louisiana Purchase of 1803, which put newly-acquired American territory immediately adjacent to long-held Spanish lands (Athearn 1985:25). In 1806, Zebulon Pike led an official U.S. expedition up the Arkansas River into what would become Colorado. Pike traveled up the Arkansas as far as South Park and then returned to journey to Santa Fe as a "prisoner" of Spanish troops. Pike's foray was followed by a wave of fur trappers and then by more scientific and military expeditions (Zier et al. 1987:2-100), such as the Long (1820), Dodge (1835), and Fremont (1843-44) expeditions, all of which went through or very near to Fort Carson. The fur trade, in particular, which began with French traders about one hundred years earlier was responsible

for a system of trails linking the area to the Spanish settlements to the south. Most importantly, Bent's Fort was founded in 1829, at the mouth of either the Huerfano River or Fountain Creek (Zier et al. 1987:2-104). This fort dominated regional trading for the next twenty years. There was little that the waning Spanish power could do to oppose increasing American incursions into their lands (Athearn 1985:27). Finally, in 1822, the Republic of Mexico declared its independence from Spain, and the New Mexican governor, Facundo Melgares, immediately opened up the province to traders of all nationalities (Athearn 1985:27).

The "American Period" officially began in 1848 with the annexation of Mexican lands by the U.S. under the terms of the Treaty of Guadalupe-Hidalgo (Athearn 1985:31; Carrillo 1990:XVIII-14). Manifest Destiny and the spirit of western entrepreneurship swept the study area. In 1851, the U.S. government decided to allocate specific tribal territories to the individual groups (Weber 1990:XVII-19-20), and in 1867 the government signed a treaty with numerous southern Plains tribes, including the Comanche and Kiowa-Apache. This led ultimately to the Reservation Period and the removal of tribes from their homelands. The Comanche, for example, were placed on a reservation in western Oklahoma (Wallace and Hoebel 1952). The land now identified as Fort Carson became part of the newly defined Territory of Colorado, enacted by Congress in 1861 (Athearn 1985:64).

Gold mining played an important role in the European development of the Fort Carson area, particularly after the 1848 finds in California, which encouraged miners to search in various places throughout Colorado. Both Canon City (founded in 1859) and Pueblo served as supply centers for miners prospecting the Leadville lodes, but after 1863, the gold deposits there began to play out, and the two towns lost much of their importance (Zier et al. 1987:2-111). A silver rush in 1878 in the Wet Mountain Valley just outside Canon City temporarily revived hopes of renewed mining wealth (Athearn 1985:120), as did a second gold strike in the Cripple Creek area in 1890, which temporarily revitalized the industry and led to renewed prospecting in the Fort Carson area, as well.

After the Civil War, population increased as the mining and agricultural potential of Colorado was realized, and as a result, various railroads were constructed throughout southern Colorado (Athearn 1985:89-110; Carrillo 1990:XVIII-21). Many of the local lines were built to transport coal that was being mined from deposits east of Canon City, and the last 15 years of the nineteenth century saw Florence's brief rise as an oil-drilling center (Zier et al. 1987:2-113). Also, during this period local stone-quarrying and cement-manufacturing plants were built in the general area, including Booth Gulch. Quarrying for building stone and clay was conducted at Stone City over a ten to fifteen year period. Clay mining was a viable operation at Booth Gulch and proved to be more long-lived than the quarrying of stone (Zier et al. 1987:2-115).

Cattle ranches, associated with the Santa Fe Trail, had been established in the area by the 1860s. The first herds were all longhorns brought in from Texas (Zier et al. 1987:2-

119-120), although sheep were for a while the most important livestock (Zier et al. 1987:2-127). Settlement in the immediate Fort Carson area took the form of fairly isolated ranches, with most of the area being used as open range (Zier et al. 1987:2-125). A list of the late 19th century ranches in the Fort Carson area is provided in Zier et al. (1987:2-128-133). Colorado Springs was established in 1871, and in that same decade freight and passenger services were established between Colorado Springs, Canon City, and South Park (Athearn 1985:99).

Fort Carson Military Reservation began life in the Second World War; Camp Carson was established in 1941, and Ent (later Peterson) Air Force Base was built a year later. Camp Carson was renamed Fort Carson in 1954, and in that same year both the United States Airforce Academy (USAF) and what would become NORAD were established (Zier et al. 1987:2-137-141).

Research themes established by Zier et al. (1987) for the study of the Historic Period of Fort Carson comprise: (1) open range ranching; (2) homestead settlement patterns; (3) mining; and (4) military occupation and training (Zier et al. 1987:2-142-149). Historic site types comprise: (1) settlement sites; (2) mines or quarries; (3) railroads; (4) townsites; (5) rock shelters/petroglyphs; (6) dams and ditches; (7) roads; and, (8) isolated agricultural facilities (Zier et al. 1987:2-150).

Historic sites considered eligible for the National Register of Historic Places are: (1) sites associated with the fur trade, early exploration, and pre-1880 military activities; (2) open range ranching sites; (3) original homestead or ranching sites; (4) sites which contain unique or outstanding examples of architectural styles, periods, construction techniques, materials, or craftsmanship; (5) "homestead" settlement sites which are particularly representative of site classes; (6) sites which exhibit historically important engineering features or industrial processes (Zier et al. 1987:3-6-7).

CHAPTER 3

REVIEW OF PREVIOUS ARCHEOLOGICAL WORK IN THE FORT CARSON MILITARY RESERVATION

The Fort Carson Historic Preservation Plan (HPP) compiled and edited by Zier et al. (1987) contains a detailed discussion of archeological investigations on the reservation and in surrounding areas, and so the following is intended only as a brief synopsis, in order to place current work into perspective. The HPP is in the process of being updated. Archaeological investigations at Fort Carson parallel the evolution of twentieth century American archeology in general, from ill-trained, albeit enthusiastic, amateurs to the theoretically and methodologically sophisticated projects of today's researchers, both private- and university-based. Most work has concentrated on the southern part of the military reservation. Specific results of these studies are summarized in chapter two of this report.

The earliest known archeological work in the area of Fort Carson was conducted in the 1930s and 1940s by E.B. Renaud of the University of Denver, this work being recorded by Renaud in a number of individual publications (Zier et al. 1987). It was Renaud who named the *Turkey Canyon District* and recognized its potential archeological importance. In this district, which is immediately east of Booth Mountain, Renaud identified a number of prehistoric campsites, some of them with structural remains, as well as some rockart and rockshelters, including the famous Avery Ranch site. Renaud excavated at least one rockshelter site, 5PE62, although it is unclear where the excavated materials were finally reposited (Zier et al. 1996:41).

During the 1950s, an amateur historian, C.W. Hurd (1960), incorrectly identified what he thought was Bent's first fort in the Arkansas River Valley. Later excavations and documentary research suggest that this site is later than Bent's stockade and it is also in the wrong place (Zier et al. 1996:41).

The University of Denver returned to the reservation in the 1960s and surveyed pieces of land along Red Creek, Turkey Creek and Beaver Creek that were to be annexed by the U.S. Army (Withers 1964). A field crew from the university later excavated portions of the Avery Ranch site in 1965 and 1969 (Ireland 1968; Watts 1971, 1975). In that same decade Bass and Kutsche (1963) reported on an aboriginal burial found by amateurs adjacent to Turkey Creek.

More amateur work was conducted by members of the Colorado Archaeological Society in the first part of the 1970s. Two rock-art sites were recorded. One of these had originally been located by Renaud (Zier et al. 1996:42).

The appearance of the modern era of cultural resource management witnessed more intensive archeological investigations of the reservation. A 480-acre piece of land that straddled Renaud's original survey area was placed on the National Register in 1976. This district was placed on the register based on the significant rock-art sites, as well as other archaeological sites, found within its boundaries. However, the district was not fully inventoried until 1988.

Grand River Consultants sample-surveyed about one-third of the base between 1978 and 1982 and provided a comprehensive listing of all the different site types that are to be found in the reservation (Alexander et al. 1982; Hartley et al. 1983). A total of 38,291 acres (approximately one-third of the reservation) was surveyed to produce a total of 98 prehistoric and 51 historic sites. Of these, 35 sites were then test excavated.

Other consultants who have contributed materially to the data base and knowledge of the reservation include Goodson and Associates (Burns and Killam 1983), Metcalf-Zier (Zier 1984) and Centennial Archaeology (e.g. Zier and Kalasz 1985; Schweigert 1987; Zier et al. 1987).

Most work in the past ten years has been conducted by Centennial Archaeology. For example, this same company conducted a cultural resource inventory of 1900 acres in the Multi-Purpose Range Complex, 2595 acres in Turkey Canyon (Van Ness et al. 1990) and 8639 acres of high-priority areas in other parts of the military reservation (Jepson et al. 1992). In 1984 and 1985, portions of the Avery Ranch site were re-excavated by a field crew from Centennial Archaeology (Zier et al. 1988), and in 1986 the Recon John Rockshelter was excavated (Zier 1989). Details of both these sites can be found in chapter two of this report.

Archeologists from Centennial Archaeology were contracted to prepare a comprehensive *Historic Preservation Plan* for the future management of cultural resources on the reservation (Zier et al. 1987). Preliminary site-location models generated as part of the preservation plan were subsequently tested in the field by Grant and Zier (1987). Since the preparation and implementation of this plan, further work has been conducted under its rubric. Centennial Archaeology was also responsible for producing the Fort Carson Database system to facilitate access for managers and researchers to archeological data on the reservation (Mueller 1995).

Besides these large-scale surveys and excavations, smaller surveys have also been conducted: for example those related to the construction soil conservation structures, a fiber-optic line, and other small projects (Butler 1990, 1991, 1992). In 1993, Metcalf and

Associates surveyed a small portion of land in the southeastern part of the reservation for the City of Colorado Springs. No cultural resources were located (Spath 1993).

The recent work in the Fort Carson Military Reservation has produced at least two important reports published in refereed journals. In 1991, Zier and Kalasz published a synthetic site report of their excavations of the Recon John Rockshelter in *Plains Anthropologist*. A full report of their work is found in Zier (1989). This site is significant for the light it has shed on the transition between the Archaic and Woodland periods in this part of Colorado. Zier with a team of colleagues has also published in the same journal the results of his testing at the Avery Ranch site, important for its information on subsistence and settlement patterns during the Apishapa Phase (Zier et al. 1990). Watts (1971) had earlier produced a master's thesis (University of Denver) on this site. In 1985, a human burial was discovered in the southwest portion of the FCMS. This burial, which dates after 1000 B.P. was found by army personnel during training exercises. The results of excavation of the burial are reported in *Southwestern Lore* (Butler et al. 1986).

In conclusion, up to and including 1993, various investigations, conducted for different purposes and by different institutions, have resulted in a total of 60,116 acres of the reservation being archeologically surveyed (Zier et al. 1996), for a total of 495 archeological sites and 670 isolated finds. Moreover, a historic buildings survey (Barnes 1991) has documented over 200 buildings of World War II vintage located close to or in the cantonment. Most recently, The Old Hospital Complex (5EP1778) at Fort Carson has been fully documented by the National Park Service (Connor and Schneck 1996). This semi-permanent complex was constructed during WWII and consists of 59 buildings that functioned as wards, clinics, mess halls, support services, administrative, recreation, and utility structures. In September of 1996, limited test excavations were conducted in the vicinity of the Mountain Post Sports Complex, located on the Fort Carson Military Reservation (Korgel 1996). Results of the testing identified a large catacomb filled with rested metal. The catacomb is believed to be part of a larger dump that once was assoicated with one of two historic ranch complexes. The report does not identify a specific time period for the artifacts, and the exact origin of the dump remains unknown. No further work was recommended at this location.

CHAPTER 4

RESEARCH DESIGN AND OBJECTIVES

The specific field and laboratory techniques used in this project are documented elsewhere in this report. These techniques were used to evaluate each site for potential nomination to the National Register, supplemented by state and local criteria.

The federal legal criteria used in this evaluation are found in 36CFR60 and are as follows: the quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
B. that are associated with the lives of persons significant in our past; or
C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. that have yielded or may be likely to yield information in prehistory or history.

Sites may have national, state, or local significance.

The *Colorado Plains Prehistoric Context* (Eighmy 1984: 48-49, 64-65, 77-78, 103, 142-143,152-153) provides criteria for each of the major cultural periods represented on the Colorado Plains that further assist in the evaluation of a site's significance and potential eligibility nomination to the National Register. Of lesser importance are the research problems identified for the mountains and foothills by the *Colorado Mountains Prehistoric Context* (Guthrie et al. 1984: passim) and the *Colorado Southern Frontier Historic Context* (Mehls and Carter 1984: passim).

This present work also conforms to the Historic Preservation Plan mandated for all Army installations (Department of Army 1984:2-1):

1) To integrate historic preservation requirements with the planning and conducting of military training, construction, other undertakings, and real property or land use decisions;

2) To set up a legally acceptable compliance procedure with the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO);

3) To set priorities for field, analytical, and documentation projects that are designed to develop, evaluate, and manage the inventory of significant historic properties;

4) To establish a procedure for evaluating historic properties;

5) To provide guidelines for the protection or treatment of historic properties; and

6) To identify funding, staffing, and milestones.

The Fort Carson Military Reservation Historic Preservation Plan (HPP) was prepared in 1987 (Zier et al. 1987) by personnel from Centennial Archaeology (Fort Collins, CO), Cultural Research and Management (Bismark, ND), Statistical Research (Tucson, AZ), and by Kenneth Weber (Boulder, CO). This document provides a comprehensive synthesis of all cultural resources on the base, places these data into a regional context, and offers a detailed plan to ensure the army's compliance with its mandates regarding the correct treatment of cultural resources on army property. Specifically, the Fort Carson HPP "provides cultural resource managers with pertinent background about the prehistoric and historic resource base while outlining procedures for dealing with the resources in such a manner that the requirements of applicable historic preservation statutes are fully met" (Zier et al. 1987: 1-2).

To this end, Zier et al. (1987:2-19-35; 2-142-149), identified nine research themes that could be reasonably addressed by future archaeological work on the base. The prehistoric research themes comprise: (1) chronology; (2) settlement patterns; (3) economics; (4) horticulture; (5) paleoclimates; (6) technology and material culture; (7) architecture; (8) rock art; (9) geomorphology (Zier et al. 1987:2-19-35). Research themes for the historic Period were of a different nature, concentrating primarily on sub-periods rather than specific topics *per se*: (1) open range ranching; (2) homestead settlement patterns; (3) mining; (4) military occupation and training (Zier et al. 1987:2-142-149). Prehistoric sites considered eligible for nomination to the National Register include: (1) pre-Paleo Indian and Paleo Indian sites; (2) Early Archaic sites; (3) sites with buried deposits; (4) stratified multi-component sites; (5) architectural Early and Middle Ceramic sites; (6) Late Ceramic structural sites; (7) communal kill sites; (8) intact rock art; (9) complex lithic material quarries; (10) unique aboriginal sites (Zier et al. 1987: 3-3-5). Historic sites considered eligible for the National Register are: (1) sites associated with the fur trade, early exploration, and pre-1880 military activities; (2) open range ranching sites; (3) original homestead or ranching sites; (4) sites which contain unique or outstanding examples of architectural styles,

periods, construction techniques, materials, or craftsmanship; (5) "homestead" settlement sites which are particularly representative of site classes; (6) sites which exhibit historically important engineering features or industrial processes (Zier et al. 1987:3-6-7).

CHAPTER 5

FIELD AND LABORATORY METHODS

Field Methods and Techniques

Field work for the 1995 Fort Carson - Fort Lewis field season began on July 10 and was completed on August 18, 1995. Prior to fieldwork, a literature search was conducted at the Division of Environmental Compliance and Management (DECAM) at Fort Carson, Colorado Springs, Colorado. This literature search included consulting the United States Geological Survey, 7.5' quadrangle maps housed at the facility and the reports from the cultural inventories conducted within the general area of Booth Mountain. A search of the site files was conducted at DECAM and at the Wildlife Building. Also, a records search was conducted by the State of Colorado Historical Society. Forms for sites adjacent to the area surveyed by Fort Lewis and xerox copies were taken to the field. At the time of the file search, site forms were not available from the work conducted by Centennial Archaeology, Inc. between 1991 and 1994.

Prehistoric archeological sites are defined as any prehistoric feature or structure, a cluster of five or more artifacts, or any prehistoric evidence occurring in the context that suggests high potential for buried cultural materials (Zier et al. 1987:A6). Features and structures which lacked any visible artifacts, but which were presumed to be of prehistoric origin, were also defined as prehistoric sites. Historic sites are defined as any locus of historic behavior that possessed five or more artifacts and is greater than 50 years in age. Historic sites such as brush fences, enclosures, and roads that did not possess five or more artifacts, but which were believed to be at least 50 years in age were defined as historical properties. The designation of these features as sites was to a degree subjective. In the case of roads, factors such as a trails' lack of use, the presence of axe-cut limbs, the presence of artifacts not related to military activities, and the lack of connections with modern road systems, were all factors to be considered. Historic fences were constructed of standing trees, dead trees, cut branches, boulders, and strands of barbed wire. Since the age of the fences and roads could not be positively determined, these features were designated as sites if the above criteria were met. On the other hand, if military debris was found in direct association with features, the determination was often made to dismiss these resources as the product of recent military activity.

An isolated find was defined as any locus of prehistoric or historic behavior with four or less artifacts and that was separated from any other artifact by 20 or more meters. Exceptions to this definition include single artifacts broken into multiple pieces such as a

historic bottle. One cluster of nine lithic artifacts appeared to represent a single core reduction event and was designated as an isolated find. Alcoves are common along the ridge escarpments. They were recorded as isolated finds when no definitive cultural material was associated with the alcove, but when it was suspected that the alcove may have served as a temporary shelter. Evidence along this line included branches and stone that may have been intentionally placed in the alcove. The decision to record these geologic features was made in conversation between Steve Chomko (DECAM) and Mona Charles (Fort Lewis College) at the beginning of the second field session.

Artifact collections were confined to diagnostic artifacts or unusual items that needed a more thorough examination in the lab to determine diagnostic characteristics. A total of 18 artifacts that included 16 prehistoric artifacts and 2 historic artifacts were collected.

An intensive inventory (Zier et al. 1987:3-9) of selected areas of Booth Mountain was conducted with a total of eight persons; two crews of four members each. The area to be inventoried was located on three United States Geological Survey, 7.5 ' quadrangle maps: Stone City, CO; Timber Mountain, CO; and Pierce Gulch, CO. The field methods used for the project followed the survey standards described in the research proposal (Duke and Charles 1995), the standards for survey for the State of Colorado, and those guidelines established for Fort Carson and Pinon Canyon (Dean 1992). A combination of field techniques was used to ensure adequate coverage for the types of terrain encountered within the inventory area. The preferred survey technique was the directional transect, followed by contour survey. Transect survey was preferred over contour survey for the following reasons: dense vegetation and undulating terrain made following contours tedious and extremely time consuming; negotiating the terrain was a challenge to the most experienced field archeologists, and the limited experience of the students made surveying in contours impractical; large survey areas were divided into smaller, more manageable units that were often accessed from opposite ends, and transect survey was easier to predict ending and beginning points when connecting these individual survey units; and lastly, for our purpose ground coverage was best accomplished using transect survey governed by azimuth direction.

The majority of the intensive inventory was accomplished through pedestrian survey in transects that followed a pre-established azimuth reading (usually one of the cardinal directions) . The width between survey members was generally 20 meters; however, transect width varied between 15 and 30 meters depending on the terrain. This survey technique provided consistent coverage of the area. To ensure complete coverage, the outer edges of each transect were flagged. On the return transect, the flagging tape was retrieved. The flagged line served as a marker for previously surveyed areas while also providing a starting point when returning to the area at a later time. Crew members on the end transects were responsible for maintaining the correct orientation. Transects that followed the contours were used primarily in steep canyons where this type of transect was necessitated. The

survey members were paced-out along the slope at 20 meter intervals, and the contour elevation of each transect was maintained to the destination point.

Topographical features were used to break up the survey areas into manageable segments. Meadows, canyons, and drainages were all used as physical survey markers. United States Geological Survey quadrangle maps and aerial photographs, which were provided to us by DECAM, were used consistently in the field for orientation and for plotting archeological sites and isolated finds.

The survey area is located on the Fort Carson Military Reservation where training activities are routine; these activities often include "live fire". Therefore, safety regulations for the base were rigorously followed. The crew was briefed on these safety regulations, which included an awareness of military activities as well as of natural dangers such as rattlesnakes. The survey area falls within three Range Areas and a very small part of the aircraft firing fan. These areas were all active at some time over the course of fieldwork. A telephone call was placed to Range Control each morning before entering the base. Instructions as to the proposed daily activity within the survey area were supplied by Range Control. These instructions were, at all times, followed. When any Range Area was active, survey activities were confined to the Range Areas that were inactive and safe.

Communication between field crews was also important. Each crew carried a Benedix two-way radio provided by Fort Carson. These radios were left on at all times while in the field. Radio communication between crews greatly improved survey logistics. The radios were used by the crews to stay in contact with each other. The radios also provided a way to contact base personnel if needed. A cellular phone, property of the Midwest Archeological Center, was carried by one of the crews for use in case of emergency.

Two Global Positioning Systems (GPS) were employed during the survey. Two Trimble Pathfinder Basic Plus GPS units were issued to Fort Lewis College by DECAM to be used during the survey. One unit was assigned to each crew. Each unit consists of a receiver and external antenna that were carried in the field. Instructions on the use and care of the GPS units was provided to the survey members by Ann Vawser of the Midwest Archeological Center. Ms. Vawser supplemented her oral instruction with a set of written instructions on the use and care of the GPS units, as well as instructions for downloading the data each day from the GPS unit into the Gateway Notebook computer. The computer was supplied by Fort Lewis College. The GPS units had multiple locational uses in the field. The unit was helpful in accurately plotting the cultural resources, and it was often instrumental for determining base reference points.

For accurate coordinate readings, the GPS units needed to receive signals from a minimum of five satellites. A single reading was recorded every five seconds. Fifty data points were recorded at the datum of each new site, and twelve points were recorded on the isolated finds. Readings were taken at previously recorded sites primarily as a locational

check. The GPS units were particularly valuable when recording linear sites such as roads and fencelines. Reference points were taken at intervals along the linear features to help map site boundaries onto the topographic maps more accurately. The GPS units were also helpful in the delineation of the boundaries of larger sites. A final application of the GPS unit was simply that of a locational tool. Many areas surveyed by Fort Lewis were adjacent to previously surveyed areas. In areas where there were no physical separations such as section lines or salient topographic features, the units were used to determine the proximity of the previously surveyed area to the new survey area.

The coordinate readings from the GPS are issued as Universal Transverse Mercator (UTM) readings in meters. The UTM readings obtained from the GPS units are a priori scrambled, but were corrected during post-processing by personnel from MWAC. The isolated finds and sites were plotted on United States Geological Survey, 7.5' quadrangle maps prior to checking them against the GPS readings. Good orientering skills, attention to topographic details, and accomplished reading of the aerial photographs were relied upon most heavily throughout the survey, with the GPS system serving as an additional tool.

All sites were recorded on the appropriate Colorado Cultural Resource Survey forms. These included a Management Data Form, a Prehistoric Component Form, a Historic Component Form, and a Historic Architecture Form. Colorado State Reevaluation Forms were completed for sites that were revisited during our survey. In addition to the state forms listed above, Fort Carson-Pinon Canyon forms were completed (Dean 1992).

Site maps were created using azimuth readings taken with either a Brunton or Silva Ranger compass, and distances were measured with metric tapes. Field maps were drawn to scale on metric graph paper. Cultural features, artifact clusters, and natural topographic features were included on the site maps. On small sites, all artifacts were point-plotted, and on larger sites diagnostic artifacts and tools (flaked and ground stone) were plotted individually. On sites with fifty or more artifacts, lithic concentrations were mapped, and a sample of the lithic artifacts was analyzed. The sample was obtained by placing a one meter-wide transect through a portion (non-random) of the site. Artifacts that fell within the meter-wide transect were field analyzed.

Flaked lithic artifacts were categorized in the field using the method defined by Sullivan and Rosen (1985). This method of determining lithic debitage classes or categories was used exclusively for this project. This method is consistent with the analysis of lithic artifacts from the Recon John Shelter in Turkey Creek (Zier 1989). Debitage was sorted into four categories by means of a simple key of dichotomous technological attributes (Sullivan and Rosen 1985:759). This approach to debitage analysis is designed to describe distinctive assemblages of artifacts rather than the more traditional analysis, which describes assemblages of distinctive artifacts. Furthermore, Sullivan and Rozen argue that current debitage analysis is based on the assumption that technological origins can be identified from key attributes alone, when, in fact, the technological origins of most artifacts cannot be

individually determined because reduction often proceeds as a continuum rather than as a sequence of discrete stages.

The lithic debitage was separated into four categories: debris; flake fragments; broken flakes; and complete flakes. Complete flakes were separated from all other debitage on the basis of the following characteristics: single interior surface; striking platform (point of applied force or impact); and intact margins. A single interior surface is indicated by ripple marks, force lines, or a bulb of percussion. A point of applied force is indicated by an intact striking platform or by the origin of force line radiation where only fragmentary striking platform remains. Margins are intact if the distal end exhibits a hinge or feather termination, or if snap breaks do not interfere with accurate width measurements. The length of a complete flake was measured as the maximum length of the flake from the point of impact to the point where a 90° line intersects the bottom of the flake. The width is described as the maximum width of the flake perpendicular to the percussion axis.

The relative frequencies of debitage categories represented at the site are used to infer site function (lithic manufacture). Under this classification, it is inferred that complete and broken flakes indicate earlier stages of core reduction and tool manufacture, while debris and flake fragments represent the byproducts of later stages of tool manufacture or intensive core reduction. If a site's artifact assemblage was small, all surface artifacts were analyzed; on larger sites a sample of the total assemblage was analyzed.

A datum location was established at every site. This location tended to be near the middle of the site. A piece of ¾" rebar, 8" long, was driven into the ground to mark the datum location. An aluminum site tag bearing the temporary site number was attached to the datum. The temporary numbers used throughout this project consisted of the initials FLC followed by sequential numbers 1 - 39. The date of recording was scratched on the back of the tag. A GPS coordinate reading, consisting of the collection of fifty GPS points, was taken at each datum location. Linear sites, such as roads and fencelines, were mapped with the GPS. Points were taken at both ends or where features could no longer be defined. Several more GPS points were taken along the route of linear features with attention to turns or bends. Maps of these sites were generated by plotting the GPS points and connecting points on the United States Geological Survey quadrangle map.

Two black-and-white photographs were taken of each site. One of these was taken from the datum, if appropriate. Whenever possible, a photograph was taken that included topographic features that would help in relocating the site.

Laboratory Methods and Techniques

Laboratory methods for this project followed those prescribed in the PCMS manual (Dean 1992). All artifact were washed, recorded, cataloged, and rebagged. Recording was

completed on PCMS/Fort Carson catalog forms. This information was computerized in dBaseIII Plus format and saved to diskette. Analysis and cataloging were completed by Fort Lewis College students under supervision of Mona Charles and Randy Nathan. Projectile points and ceramics were classified according to the typologies provided by Lintz and Anderson (1989), and Fulgham and Anderson (1984). Historic ceramics artifacts were typed with the criteria established by Lehner (1980), and the ceramic inkwell was classified according to Munsey (1970).

CHAPTER 6

INVENTORY RESULTS

Introduction

A cultural resource inventory of 1460 acres of Booth Mountain, in the Fort Carson Military Reservation, Pueblo County, Colorado was conducted during the summer of 1995 by personnel from Fort Lewis College through a cooperative agreement with the Midwest Archeological Center (MWAC), Lincoln, Nebraska. The cultural resource inventory resulted in the identification and recording of 113 cultural properties, which include 35 archaeological sites (Table 6.1) and 78 isolated finds (Table 6.2). In addition to the 35 newly recorded sites, 3 previously recorded sites were revisited. Field work began July 10, 1995 and was completed August 18, 1995. Besides the two staff archeologists, the field project was completed with the aid of nine Fort Lewis College anthropology students.

Archeological Sites

Thirty-five archeological sites were recorded during this project. General information about each site is provided in Table 6.1 while more detailed descriptions are provided in the following section. The 35 newly recorded sites are dominated by open, prehistoric flaked artifact and flaked- and ground- stone artifact scatters (N=18), followed by linear historic features (N=8), rock alcoves with definite prehistoric occupations (N=5), stack-stone features of unknown origin (N=2), 1 historic habitation site with visible stone foundations, and 1 multicomponent historic road and quarry pits and light flaked-artifact scatter. In addition to the newly recorded sites, three previously recorded sites are located along the edge of the present survey area. These four sites (one historic and three prehistoric) were revisited and reevaluation forms were completed.

Twelve of the sites recorded during this inventory are recommended eligible for nomination to the NRHP based on the potential for buried cultural deposits (Table 6.1). The remaining 23 sites are recommended as not eligible for nomination to the NRHP due to their limited potential to produce significant data about the prehistory or history of the area. None of the historic sites recorded is considered a significant resource at this time.

The following section provides a sequential summary description of each archaeological site recorded during this project. These descriptions include information on general site characteristics, the geomorphological context, diagnostic artifact descriptions,

Table 6.1 Descriptive data for archeological sites recorded during the 1995, Booth Mountain inventory by Fort Lewis College.

State Site Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	Temporal Affiliation *P/H/MC/U	Description	Eligibility Recommendation
5PE1784	FLC-01	Pierce Gulch	18 S	67 W	16	P	Small, open flaked lithic scatter	Not Eligible
5PE1785	FLC-02	Pierce Gulch	18 S	67 W	16	P	Open flaked- and ground- stone scatter	Eligible
5PE1786	FLC-03	Pierce Gulch	18 S	67 W	15	H	Juniper and boulder corral	Not Eligible
5PE1787	FLC-05	Pierce Gulch	18 S	67 W	15	H	Juniper fence	Not Eligible
5PE1788	FLC-06	Timber Mountain	18 S	67 W	10	H	Juniper and boulder corral	Not Eligible
5PE1789	FLC-07	Pierce Gulch	18 S	67 W	15	P	Small, open flaked artifact reduction site	No Eligible
5PE1790	FLC-08	Pierce Gulch	18 S	67 W	15	H	Road with associated road trash	Not Eligible
5PE1791	FLC-09	Pierce Gulch	18 S	67 W		P	Alcove with stacked-stone structure, and midden	Eligible
5PE1792	FLC-10	Pierce Gulch	18 S	67 W	15	H	Two stone foundations with associated light artifact scatter	Not Eligible
5PE1793	FLC-11	Pierce Gulch	18 S	67 W	10	P	Small, open flaked artifact reduction site	Not Eligible

State Site Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	Temporal Affiliation *P/H/MC/U	Description	Eligibility Recommendation
5PE1794	FLC-12	Stone City	18 S	67 W	22	P	Small, open flaked- and ground-stone scatter	Not Eligible
5PE1795	FLC-13	Stone City	18 S	67 W	11	MC	Small, open flaked- and ground-stone scatter with a historic road and *possible* historic quarry pits	Not Eligible
5PE1796	FLC-14	Pierce Gulch	18 S	67 W	10	H	Juniper fence and associated road	Not Eligible
5PE1797	FLC-15	Stone City	18 S	67 W	11	P	Open, flaked-lithic artifact scatter	Not Eligible
5PE1798	FLC-16	Stone City	18 S	67 W	11	P	Three alcoves with light flaked-lithic artifacts and cord-marked ceramics	Eligible
5PE1799	FLC-17	Stone City	18 S	67 W	11	H	Juniper fence	Not Eligible
5PE1800	FLC-18	Stone City	18 S	67 W	14	P	Large open, flaked-lithic artifact scatter	Eligible
5PE1801	FLC-19	Stone City	18 S	67 W	15	P	Small, open flaked-lithic artifact scatter	Not Eligible
5PE1802	FLC-20	Stone City	18 S	67 W	11	P	Open flaked-lithic artifact scatter	Eligible
5PE1803	FLC-021	Stone City	18	67 W	11	P	Large, open flaked- and ground-stone scatter with possible stacked-stone structure	Eligible

State Site Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	Temporal Affiliation *P/H/MC/U	Description	Eligibility Recommendation
5PE1804	FLC-022	Timber Mountain	18 S	67 W	11	P	Open flaked- and ground- stone scatter	Eligible
5PE1805	FLC-023	Timber Mountain	18 S	67 W	11	P	Open, flaked-lithic artifact scatter	Eligible
5PE1806	FLC-024	Stone City	18 S	67 W	11	P	Rockshelter with minimal surface evidence of prehistoric occupation	Not Eligible
5PE1807	FLC-025	Stone City	18 S	67 W	11	P	Flaked-lithic artifact scatter and alcove	Eligible
5PE1808	FLC-026	Pierce Gulch	18 S	67 W	15	H	Road with associated historic artifacts	Not Eligible
5PE1809	FLC-027	Stone City	18 S	67 W	11	P	Open flaked- and ground- stone scatter	Eligible
5PE1810	FLC-028	Pierce Gulch	18 S	67 W	15	P	Small, open flaked-lithic artifact scatter	Not Eligible
5PE1811	FLC-029	Pierce Gulch	18 S	67 W	15	P	Small, open flaked-lithic artifact scatter	Not Eligible
5PE1812	FLC-030	Pierce Gulch	18 S	67 W	15	P	Alcove with flaked- and ground-stone artifacts	Eligible
5PE1813	FLC-031	Pierce Gulch	18 S	67 W	15	P	Open, flaked- and ground- stone scatter	Eligible

State Site Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	Temporal Affiliation *P/H/MC/U	Description	Eligibility Recommendation
5PE1814	FLC-032	Stone City	18 S	67 W	11	P	Small, open flaked artifact reduction site	Not Eligible
5PE1827	FLC-033	Stone City	18 S	67 W	14	H	Small section of a possible road	Not Eligible
5PE1840	FLC-034	Pierce Gulch	18 S	67 W	15	U	Stacked-stone feature of unknown temporal affiliation	Not Eligible
5PE1841	FLC-035	Pierce Gulch	18 S	67 W	5	U	Stacked-stone feature of unknown temporal affiliation	Not Eligible
5PE1852	FLC-037	Pierce Gulch	18 S	67 W	15	P	Small, open flaked-lithic artifact scatter	Not Eligible

***Site Type, P=prehistoric, H=historic, MC=Multicomponent, U=Unknown**

Table 6.2 Descriptive data for isolated finds recorded during the 1995 Booth Mountain inventory by Fort Lewis College.

State IF Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	IF Type *P/H/U	Description
5PE1815	MCC-01	Timber Mountain	18 S	67 W	11	P	3 silicified wood flakes
5PE1816	MCC-02	Pierce Gulch	18 S	67 W	15	P	1 chalcedony core fragment
5PE1817	MCC-03	Pierce Gulch	18 S	67 W	15	P	1 sandstone chopper
5PE1819	MCC-05	Pierce Gulch	18 S	67 W	10	P	1 chert biface
5PE1820	MCC-07	Stone City	18 S	67 W	11	H	1 pottery ink bottle
5PE1821	MCC-08	Stone City	18 S	67 W	11	P	1 quartzite flake
5PE1822	MCC-09	Stone City	18 S	67 W	22	P	1 quartzite core fragment
5PE1823	MCC-10	Stone City	18 S	67 W	14	P	1 broken chert biface
5PE1824	MCC-12	Stone City	18 S	67 W	14	U	1 alcove
5PE1825	MCC-13	Stone City	18 S	67 W	14	U	1 alcove
5PE1826	MCC-14	Stone City	18 S	67 W	14	P	1 silicified wood biface
5PE1828	MCC-16	Stone City	18 S	67 W	14	P	1 quartzite flake
5PE1829	MCC-17	Stone City	18 S	67 W	14	P	1 quartzite chopper
5PE1830	MCC-19	Stone City	18 S	67 W	14	P	1 quartzite uniface
5PE1831	MCC-20	Stone City	18 S	67 W	11	H	Solarized glass fragments from single broken bottle

State IF Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	IF Type *P/H/U	Description
5PE1832	MCC-21	Stone City	18 S	67 W	11	P	1 sandstone handax
5PE1833	MCC-22	Timber Mountain	18 S	67 W	11	P	3 chalcedony flakes
5PE1834	MCC-23	Timber Mountain	18 S	67 W	11	U	2 alcoves
5PE1835	MCC-24	Stone City	18 S	67 W	15	P	1 quartzite biface
5PE1836	MCC-25	Stone City	18 S	67 W	15	P	3 chalcedony flakes
5PE1837	MCC-26	Stone City	18 S	67 W	15	P	1 chalcedony flake
5PE1838	MCC-27	Pierce Gulch	18 S	67 W	15	U	1 alcove
5PE1839	MCC-28	Pierce Gulch	18 S	67 W	15	U	1 alcove
5PE1842	MCC-31	Stone City	18 S	67 W	11	P	2 quartzite flakes
5PE1843	MCC-32	Stone City	18 S	67 W	11	P	1 chert flake
5PE1844	MCC-33	Stone City	18 S	67 W	11	P	1 quartzite flake
5PE1845	MCC-34	Stone City	18 S	67 W	11	P	1 chert biface, 1 quartzite flake
5PE1846	RN-1	Timber Mountain	18 S	67 W	11	P	9 chalcedony flakes from a single core
5PE1847	RN-2	Timber Mountain	18 S	67 W	10	P	1 chalcedony flake
5PE1848	RN-3	Timber Mountain	18 S	67 W	10	P	1 chert flake, 1 chalcedony flake
5PE1849	RN-4	Pierce Gulch	18 S	67 W	15	P	1 quartzite flake
5PE1850	RN-5	Pierce Gulch	18 S	67 W	15	P	1 chert projectile point base
5PE1851	RN-6	Pierce Gulch	18 S	67 W	15	P	1 quartzite flake

State IF Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	IF Type *P/H/U	Description
5PE1853	RN-9	Pierce Gulch	18 S	67 W	15	H	Solarized glass fragments of single broken gallon jug
5PE1854	RN-10	Pierce Gulch	18 S	67 W	22	P	1 chert flake
5PE1855	RN-11	Pierce Gulch	18 S	67 W	10	H	2 pieces of glass
5PE1856	RN-12	Pierce Gulch	18 S	67 W	10	H	1 piece white crockery
5PE1857	RN-13	Pierce Gulch	18 S	67 W	10	P	1 silicified wood flake
5PE1858	RN-14	Pierce Gulch	18 S	67 W	10	P	1 chert flake
5PE1859	RN-15	Pierce Gulch	18 S	67 W	10	P	1 chert flake
5PE1860	RN-16	Pierce Gulch	18 S	67 W	10	P	1 chalcedony flake
5PE1861	RN-17	Pierce Gulch	18 S	67 W	10	P	2 chalcedony flakes
5PE1862	RN-18	Pierce Gulch	18 S	67 W	10	H	3.5 ft post
5PE1863	RN-19	Pierce Gulch	18 S	67 W	15	H	Aqua glass fragments from single broken bottle
5PE1864	RN-20	Timber Mountain	18 S	67 W	10	H	3 clear glass bottle bottom fragments
5PE1865	RN-21	Timber Mountain	18 S	67 W	10	P	quartzite flakes from single broken core
5PE1866	RN-22	Stone City	18 S	67 W	11	P	1 broken quartzite biface
5PE1867	RN-23	Stone City	18 S	67 W	11	P	4 chalcedony flakes
5PE1868	RN-24	Stone City	18 S	67 W	11	P	1 siltstone flake
5PE1869	RN-25	Stone City	18 S	67 W	23	H	4 crockery fragments

State IF Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	IF Type *P/H/U	Description
5PE1870	RN-27	Stone City	18 S	67 W	14	U	1 alcove
5PE1871	RN-28	Stone City	18 S	67 W	15	U	1 alcove
5PE1872	RN-29	Stone City	18 S	67 W	15	P	1 chalcedony flake
5PE1873	RN-30	Stone City	18 S	67 W	15	U	2 alcoves
5PE1874	RN-31	Stone City	18 S	67 W	15	P	2 quartzite flakes
5PE1875	RN-32	Stone City	18 S	67 W	15	P	1 quartzite core
5PE1876	RN-33	Stone City	18 S	67 W	14	P	1 quartzite flake, 1 chert flake
5PE1877	RN-34	Stone City	18 S	67 W	11	U	1 alcove
5PE1878	RN-35	Stone City	18 S	67 W	11	P	4 quartzite flakes
5PE1879	RN-36	Timber Mountain	18 S	67 W	11	P	1 chert flake, 2 quartzite flakes
5PE1880	RN-37	Timber Mountain	18 S	67 W	11	P	1 chert flake
5PE1881	RN-38	Timber Mountain	18 S	67 W	11	P	1 chert flake, 1 chert core
5PE1882	RN-39	Stone City	18 S	67 W	11	U	2 alcoves
5PE1883	RN-40	Stone City	18 S	67 W	11	U	2 alcoves
5PE1884	RN-41	Stone City	18 S	67 W	11	P	1 chalcedony core fragment
5PE1885	RN-42	Stone City	18 S	67 W	14	P	3 quartzite flakes, 1 chalcedony biface tip
5PE1886	RN-43	Stone City	18 S	67 W	14	U	1 alcove

State IF Number	Field Site Number	U.S.G.S. 7.5' Quadrangle	Township	Range	Section	IF Type *P/H/U	Description
5PE1887	RN-44	Stone City	18 S	67 W	11	P	6 chalcedony flakes from a single core on bedrock
5PE1888	RN-45	Pierce Gulch	18 S	67 W	15	P	2 quartzite flakes, 1 chalcedony flake
5PE1889	RN-46	Pierce Gulch	18 S	67 W	15	H	Solarized glass fragments from single broken bottle
5PE1890	RN-47	Pierce Gulch	18 S	67 W	15	P	2 quartzite flakes
5PE1891	RN-48	Pierce Gulch	18 S	67 W	15	P	4 quartzite flakes
5PE1892	RN-49	Stone City	18 S	67 W	11	U	1 alcove
5PE1893	RN-50	Stone City	18 S	67 W	11	P	1 retouched chert flake
5PE1894	RN-51	Stone City	18 S	67 W	11	P	2 quartzite flakes
5PE1895	RN-52	Stone City	18 S	67 W	14	P	1 chalcedony flake
5PE1896	RN-53	Stone City	18 S	67 W	11	P	6 chalcedony flakes from a single core
5PE1897	MCC-18	Stone City	18 S	67 W	14	P	1 quartzite chopper, 1 silicified wood uniface, 1 quartzite flake

***Artifact Type P=prehistoric, H=historic, U=unknown**

and site maps. More detailed and specific information is available in the site forms (Appendix I).

5PE1784 Site 5PE1784 consists of a light scatter of flaked lithic artifacts and one stone feature (Figure 6.1). The site is on the west side of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle) along a north- to south-trending ridge on a fairly level slope of about 2°. It overlooks Booth Gulch to the west and a small meadow to the east. The site is at an elevation of 5930 ft (1807 m) asl. Aspect from the site is to the southwest. The sediments consist of a light brown silt with gravel. Sediment depth ranges between 5 cm and 10 cm. The parent material is derived from alluvial, residual, and to a lesser extent eolian sources. Mostly, the sediments are derived from the residual weathering of the underlying sandstone. Vegetation in the immediate site area consists of pinon, juniper, cacti, snakeweed, fringe sage, narrow leaf yucca, mountain mahogany, and short grasses. The closest water source is an unnamed ephemeral drainage about 300 m from the site to the south.

The site consists of a light scatter of flaked-lithic artifacts and debris, and the remains of a three-sided stone- and juniper- feature. The total site area is 614 m². The total site assemblage consists of 21 flakes and flaking debris (Table 6.3). The field analysis of the flake debitage shows that complete and broken flakes account for 80 percent of the total assemblage. These percentages can be used to deduce that unintensive core reduction and tool manufacture were conducted at this location. The dominant material type is quartzite.

Table 6.3 Total surface nontool debitage, 5PE1784.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
		8	Complete	8 (38)
1		8	Broken	9 (43)
		2	Fragment	2 (9.5)
	2		Debris	2 (9.5)
1 (4.5)	2 (9.5)	18 (86)	Total (%)	21 (100)

The stone- and juniper- feature measures 4 m long and 2.5 m wide. It has three sides with an open end that abuts the hillside. The northern and eastern sides have two to three courses of small, tabular sandstone. Juniper branches are piled on top of all three sides. One of the branches is axe cut, while the remaining branches appear to be scavenged dead- and downed- limbs. Stumps were also used in the construction of the fence.

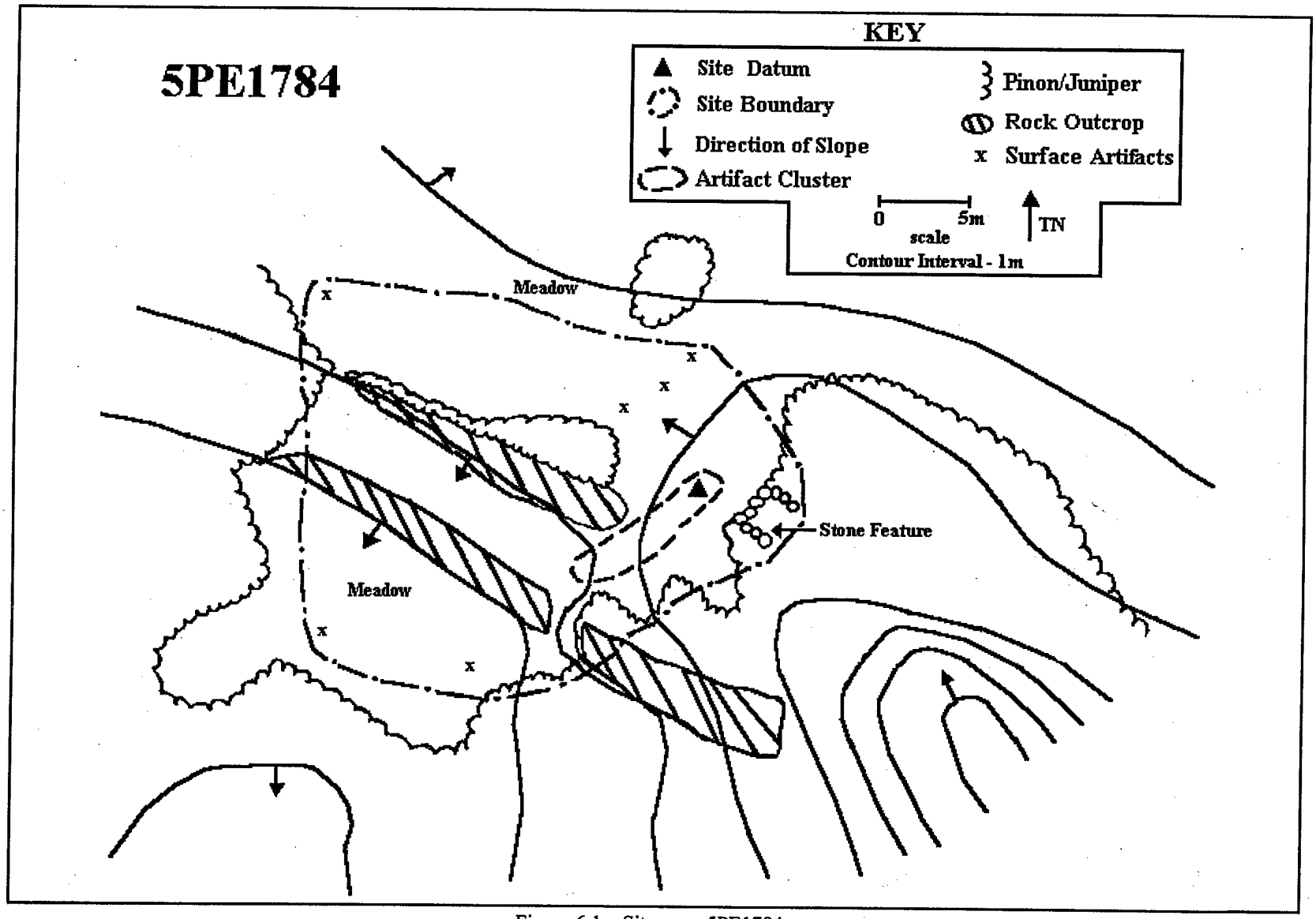


Figure 6.1 Site map, 5PE1784

The site is interpreted to represent unintensive core reduction and limited tool manufacture. The site is small, the artifacts sparse, and the length of occupation is presumed to be short with little potential for buried deposits. Diagnostic temporal artifacts were not found; therefore, site age and cultural affiliation are unknown. The stone- and juniper-feature appears to have served as some kind of blind or shelter. Because of the pervasive amount of military activity in the immediate area, this feature is probably unrelated to the prehistoric occupation. The site has been mapped, recorded, and photographed. All surface artifacts have been recorded and described in the field. The site is not recommended as eligible for nomination to the NRHP.

5PE1785 Site 5PE1785, a prehistoric flaked-and ground-stone scatter, is located on the west slope of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle). The site measures 58 m x 28 m (Figure 6.2), and it is at an elevation of 5935 ft (1809 m) asl. It is in a small saddle at the northern end of a north- to south-trending ridge. A meadow parallels the site along the east. The western boundary of the site is near the position where the sandstone bedrock begins to surface and descend west to the valley below. A massive outcrop of Dakota Sandstone forms the northern boundary, and this eroding bedrock supplies sediments to the site. Sediments exceed depths of 20 cm in places. Currently the site is under a fairly dense ground cover of short and tall grasses, wild flowers, sage, cactus, and a few scattered pinon and juniper. The woods get thicker to the west along the sandstone slopes. The meadow to the east currently attracts large foraging animals such as deer and elk. The aspect from the site is to the east and west. From the site, there is a clear vista of Booth and Pierce Gulches to the west and beyond this the Sangre de Cristo Mountains. The nearest water source is an intermittent drainage 300 m to the south.

There is no surface evidence for structural remains at the site; however, the presence of groundstone and possible fire-cracked rock suggests possible buried features. Sediment depth is such that artifacts and features could be buried beneath several centimeters of build-up. Disturbance to the site context is slight and consists mainly of alluvial and eolian processes. Surface artifacts consist mainly of lithic flaking debris manufactured from quartzite, chert, and chalcedony. Between 75 and 100 surface artifacts are estimated to be present on the site. A sample of artifacts was field analyzed in a 1 m x 16 m transect through a portion of the site (Table 6.4). From this limited sample, a basic interpretation is made regarding the relatively high number of broken flakes and the high number of combined complete flakes and debris. The broken flakes suggest tool manufacture, while the debris and complete flakes may indicate intensive core reduction.

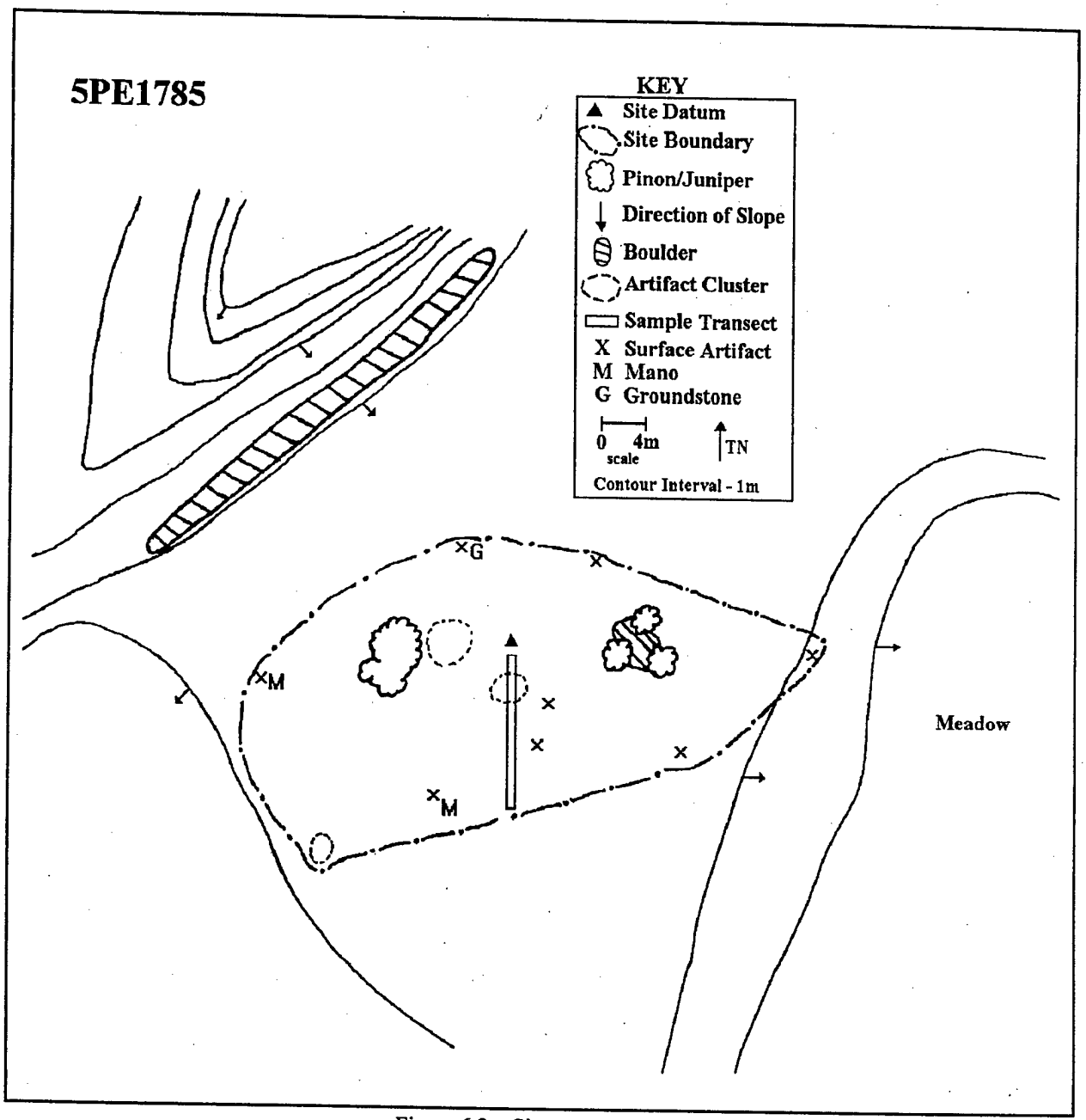


Figure 6.2 Site map, 5PE1785

Table 6.4 Nontool debitage from a sample transect, 5PE1785.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
		4	Complete	4 (28.5)
3	2		Broken	5 (36)
		1	Fragment	1 (7)
3	1		Debris	4 (28.5)
6 (43)	3 (21)	5 (36)	Total (%)	14 (100)

Temporally or culturally diagnostic artifacts are not present within the surface artifact assemblage, but the number of nontool debitage, along with a sandstone mano and a fragment of ground sandstone, imply that diagnostic artifacts may lie buried. The larger groundstone was partially buried.

It is recommended that the site is eligible for nomination to the NRHP. This evaluation is based on the potential for this site to yield information important to the prehistory of the Fort Carson Military Reservation as defined by Zier et al. (1987:2-19-35 [prehistoric settlement patterns and economics]) and to the general research domains outline by Eighmy (1984) for the Colorado Plains. Specifically, the site could contribute to an understanding of resource exploitation and procurement within the Plains/Mountain Transition. The site is one of few recorded in this inventory that contains groundstone. Groundstone indicates food processing and preparation, and its presence suggests possible buried deposits. This prehistoric site type is considered eligible for nomination to the NRHP (Zier et al. 1987:3-3-5).

5PE1786 Site 5PE1786 is a juniper log-and boulder-enclosure on the western slope of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle). It is located at an elevation of 6120 ft (1865 m) asl along the slopes (20°) and at the eastern edge of a small, boulder-strewn ridge that is oriented roughly southwest to northeast. The sediments at the site consist of sand and silt with larger cobbles and boulders. The colluvial sediments are supplied to the site from the weathering of the exposed sandstone bedrock that surrounds the northwestern edge of the site. Vegetation on the site consists of scrub oak, pinon, juniper, cacti, and grasses. Aspect is limited to the southwest. The closest available water is an unnamed intermittent drainage located 200 m from the site.

The site is a 20 m x 11 m juniper log- and boulder- enclosure that may have functioned as a livestock fence or corral (Figure 6.3). The enclosure is constructed of juniper

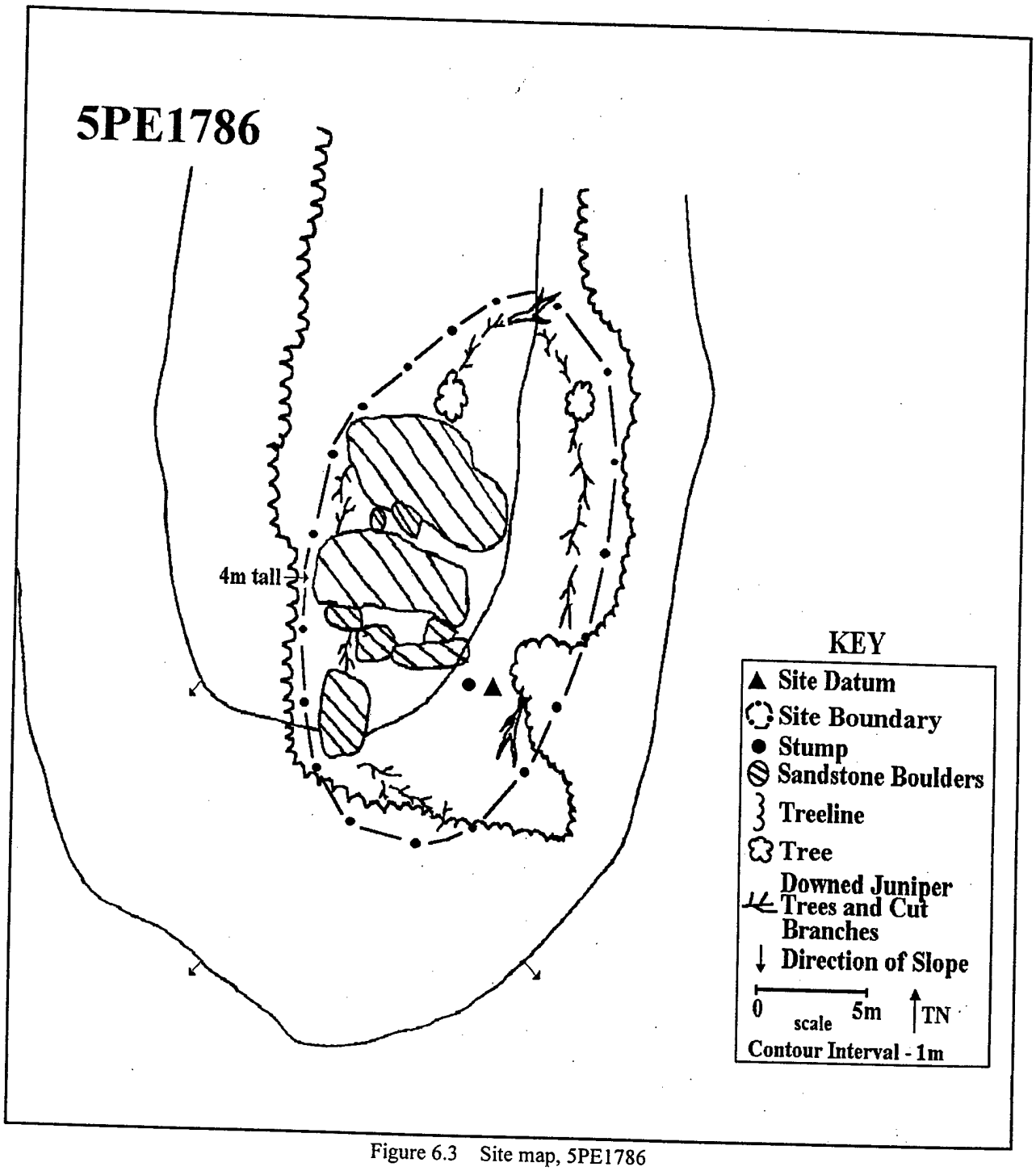


Figure 6.3 Site map, 5PE1786

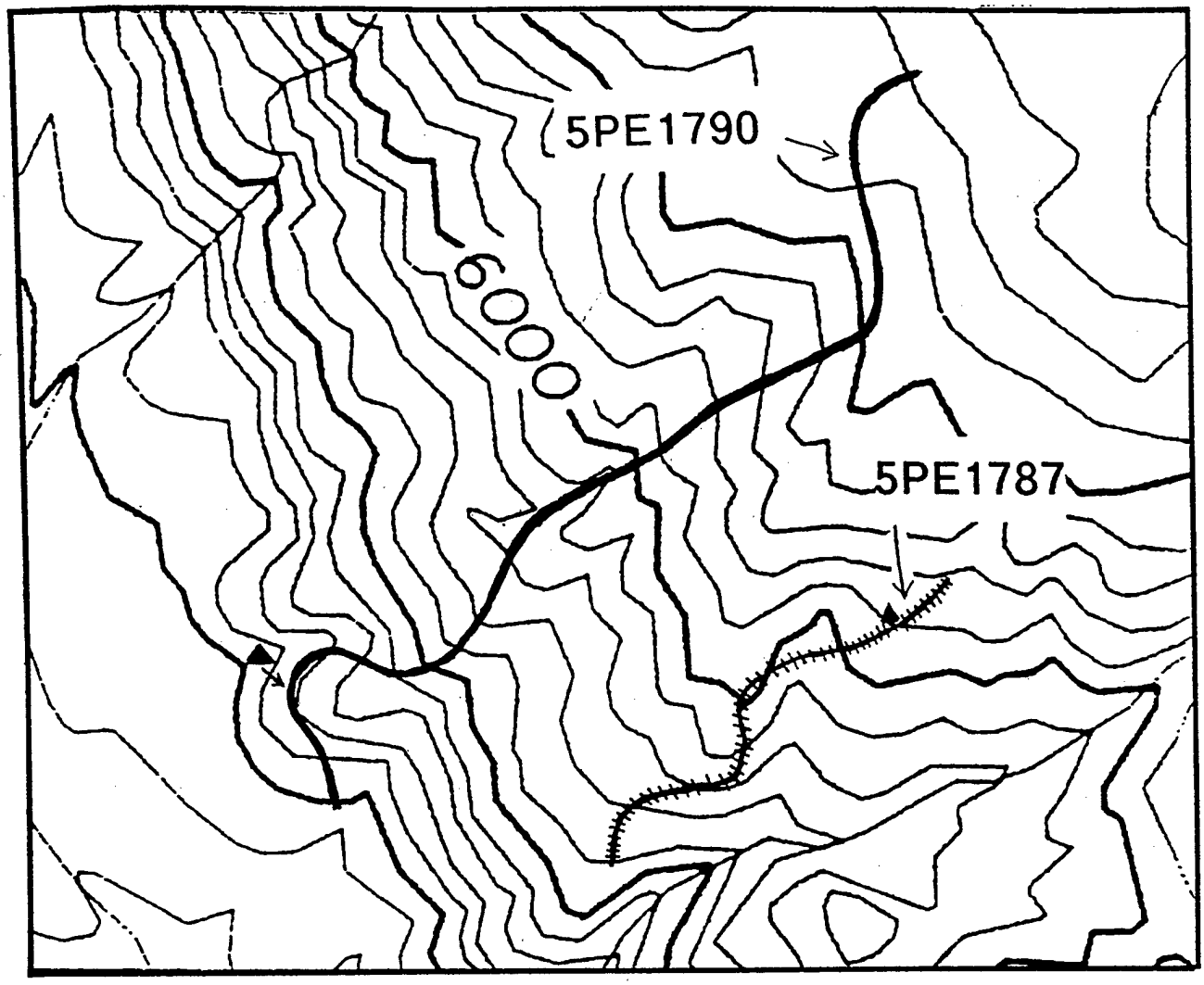
trees and branches (both uncut and axe cut) intentionally placed between sandstone boulders and standing trees. Further down the slope to the west a fairly substantial length of juniper fence was recorded as site 5PE1787. This fence was not observed to connect with the enclosure, but this possibility exists. The juniper logs are deteriorated and falling apart. There were no artifacts recorded at the site. Juniper fences are common cultural properties along Booth Mountain. Because there is, in general, a paucity of artifacts associated with the resources, relative age determinations are based on physical characteristics such as stages of decomposition of the wood, sediment accumulations around the base of the branches, and - whenever appropriate - associated artifact or building materials such as barbed-wire. The site was recorded, mapped, and photographed. The site is not recommended as eligible for nomination to the NRHP.

5PE1787 Site 5PE1787, a historic juniper fence, is along the western slope of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle). Elevation along the fence averages 6000 ft (1829 m) asl. The fence follows a 20° slope along the north side of a northeast-trending drainage along the south edge of a small, rocky ridge. Aspect at the site is to the southwest. Sediments along the fence consist of sands and silts accumulated from the residual weathering of the sandstone bedrock. Sediment depth is about 10 cm to bedrock. The closest water source is an unnamed ephemeral drainage 200 m from the site. Vegetation at the site includes pinon, juniper, cacti, mountain mahogany, sparse grasses, and wild flowers.

The site consists of a line of juniper branches that form a brush fence just over 300 m in length (Figure 6.4). The branches are stacked in places across the bedrock. The fence is constructed of axe cut and uncut juniper branches, logs, and deadfall. Sandstone boulders and live trees are incorporated into this linear structure. From the top of the ridge, the vantage point overlooks Booth and Pierce Gulches and further west, the Sangre de Cristo Mountains. Some logs are deteriorated, while others are in fairly good condition. There were no artifacts associated with the fence. A juniper-and boulder-enclosure (5PE1786) is located upslope from this site.

The site probably represents a historic period livestock or property fence. Juniper fences are common cultural properties along Booth Mountain. Because there is, in general, a paucity of artifacts associated with the resources, relative age determinations are based on physical characteristics such as stages of decomposition of the wood, sediment accumulations around the base of the branches, and - whenever appropriate - associated artifacts or building materials such as barbed-wire. The site was recorded, mapped, and photographed. The site is not recommended eligible for nomination to the NRHP.

5PE1788 Site 5PE1788, an historic brush enclosure, is on a bench halfway up the steep north slope of Booth Mountain (Timber Mountain, United States Geological Survey, 7.5' quadrangle). The bench is formed at the contact of the easily eroded shale and clay and the more resistant sandstone. The slope on the site is a gentle 5°, while that of the surrounding



KEY:

juniper log fence

historic road

site datum

contour interval 20 ft

TN

0 600

scale (feet)

Figure 6.4 Site map, 5PE1787

area is greater. Elevation at the site is 6300 ft (1920 m) asl. Aspect is to the north and northeast. Sediments are accumulated at the site by slope wash from the sandstone cliffs and residual weathering of the underlying bedrock. There may be some winnowing of the finer sediments as a result of eolian processes. Sediment depth is probably no greater than 5 cm. Vegetation on the site consists mainly of pinon, juniper, grasses, and cacti, with lesser amounts of fringe sage, and mountain mahogany. The closest water source is an unnamed ephemeral drainage located 250 m from the site.

The site is interpreted as an oval-shaped historic enclosure constructed of pinon and juniper branches that measures 36 m x 7 m (Figure 6.5). The enclosure incorporates axe cut and uncut branches, standing trees, and sandstone boulders. The overall condition of the enclosure is good. The wood is slowly deteriorating, but the boulders and branches have no evidence of human disturbance. Twelve steel cans (opened by a can opener) are present in the enclosure. The cans, however, appear to military K-rations, and are unrelated to the construction and use of the enclosure.

This enclosure probably dates to the historic period. It is likely that the purpose of the enclosure was to confine livestock. There is no evidence of campfires or domestic refuse other than the cans of military origin; therefore, it appears that the enclosure was used temporarily. Brush fences and brush enclosures are common cultural properties along Booth Mountain. Because there is, in general, a paucity of artifacts associated with these resources, relative age determinations are based on physical characteristics such as stages of decomposition of the wood, sediment accumulations around the base of the branches, and - whenever appropriate - associated artifacts or building materials such as barbed-wire. The site was recorded, mapped, and photographed. It is not eligible for nomination to the NRHP.

5PE1789 Site 5PE1789, a lithic artifact scatter, is located at the base of the west side of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5'). The site is at the interface between the west-sloping sandstone and the alluvial bottoms of Booth Gulch. The site is bounded on three sides by small drainages that form at the contact of the gravelly slope and the valley alluvium. Elevation at the site is 5820 ft (1774 m) asl. The slope at the site ranges from 2° to 6°. The aspect is to the southwest, west, and northwest. The site is situated at the edge of the treeline overlooking Booth Gulch. On-site vegetation includes pinon, juniper, scrub oak, mountain mahogany, cacti, and grasses. Sediments at the site are a result of the combined efforts of colluvial and alluvial processes. Sediments are a silty sand, and the depth of sedimentation is estimated at 35 cm. The closest water source is an unnamed ephemeral drainage 10 m from the site.

The site is a small, open flaked lithic artifact scatter. Site diameter is 35 m x 17 m (Figure 6.6). The total surface inventory includes 15 pieces of nontool debitage (Table 6.5) and 1 retouched flake. Of the three material types represented, quartzite accounts for more than half of the total. Silicified wood artifacts are present at the site, which is relatively

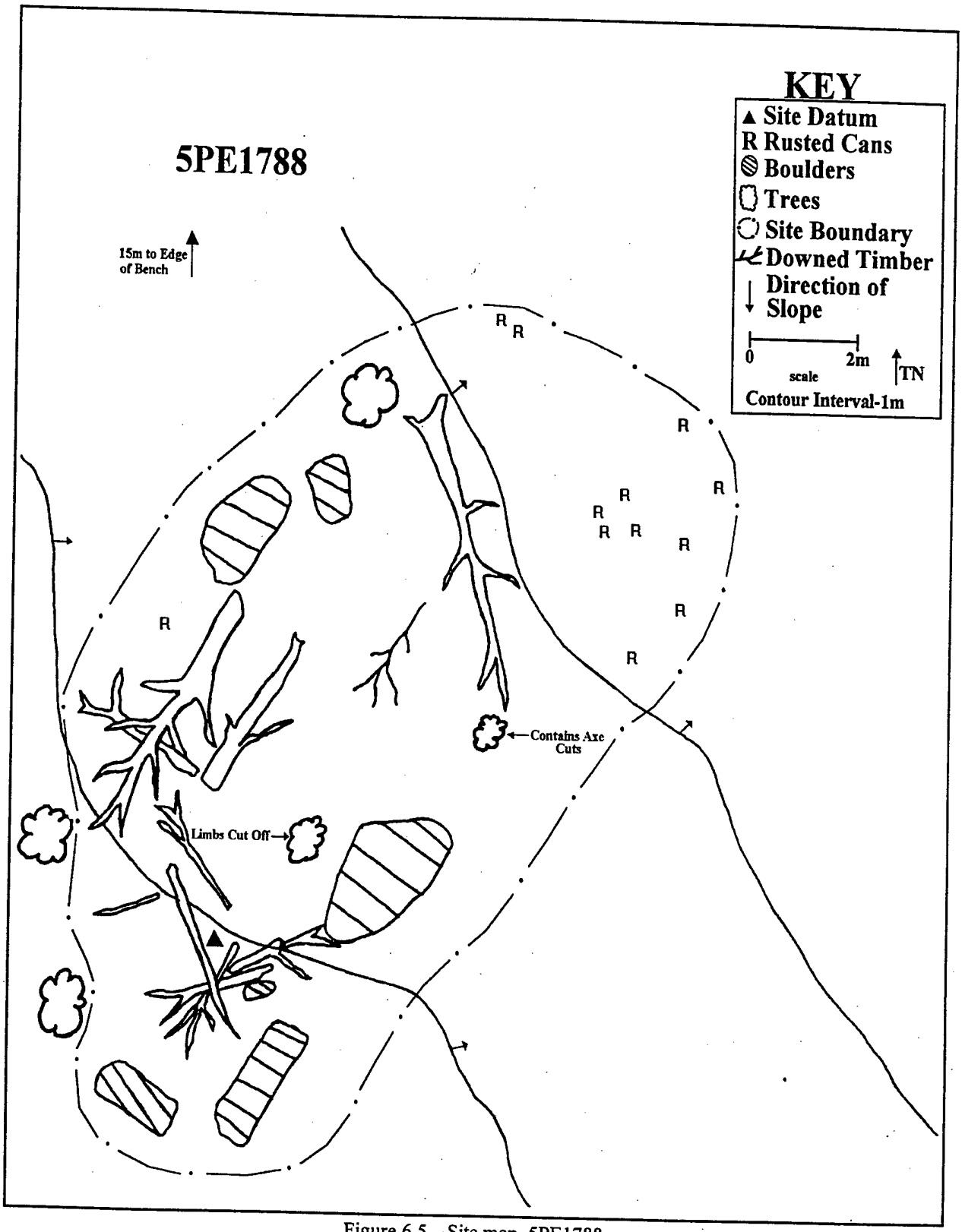


Figure 6.5 Site map, 5PE1788

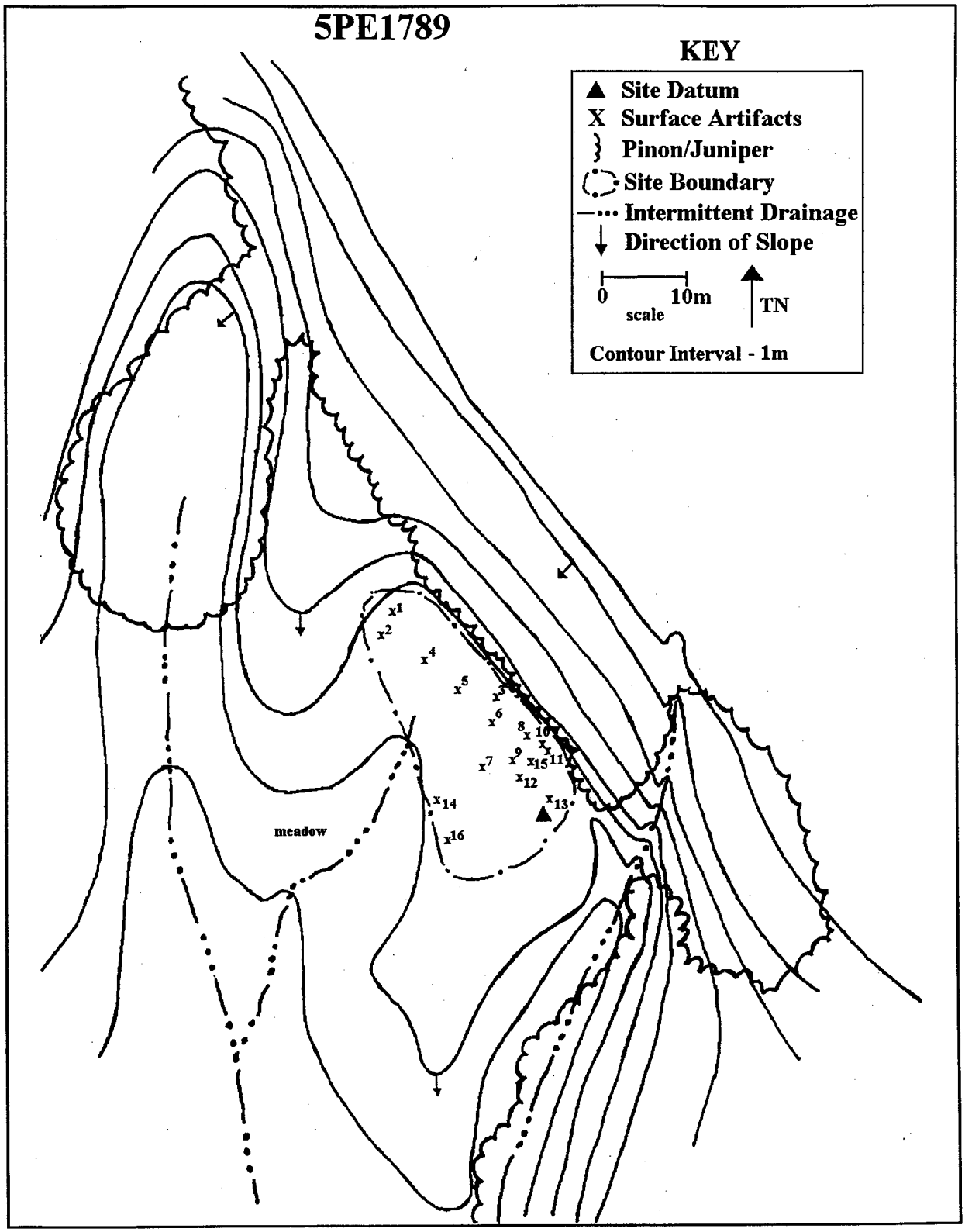


Figure 6.6 Site map, 5PE1789

unusual for sites recorded during this inventory. The nontool debitage categories show relatively equal numbers of all flake types but with a slightly higher number of flake fragments. The spread of flake category percentages suggests that tool manufacture was the primary flaking activity conducted at the site, perhaps with a lesser emphasis on core reduction activities.

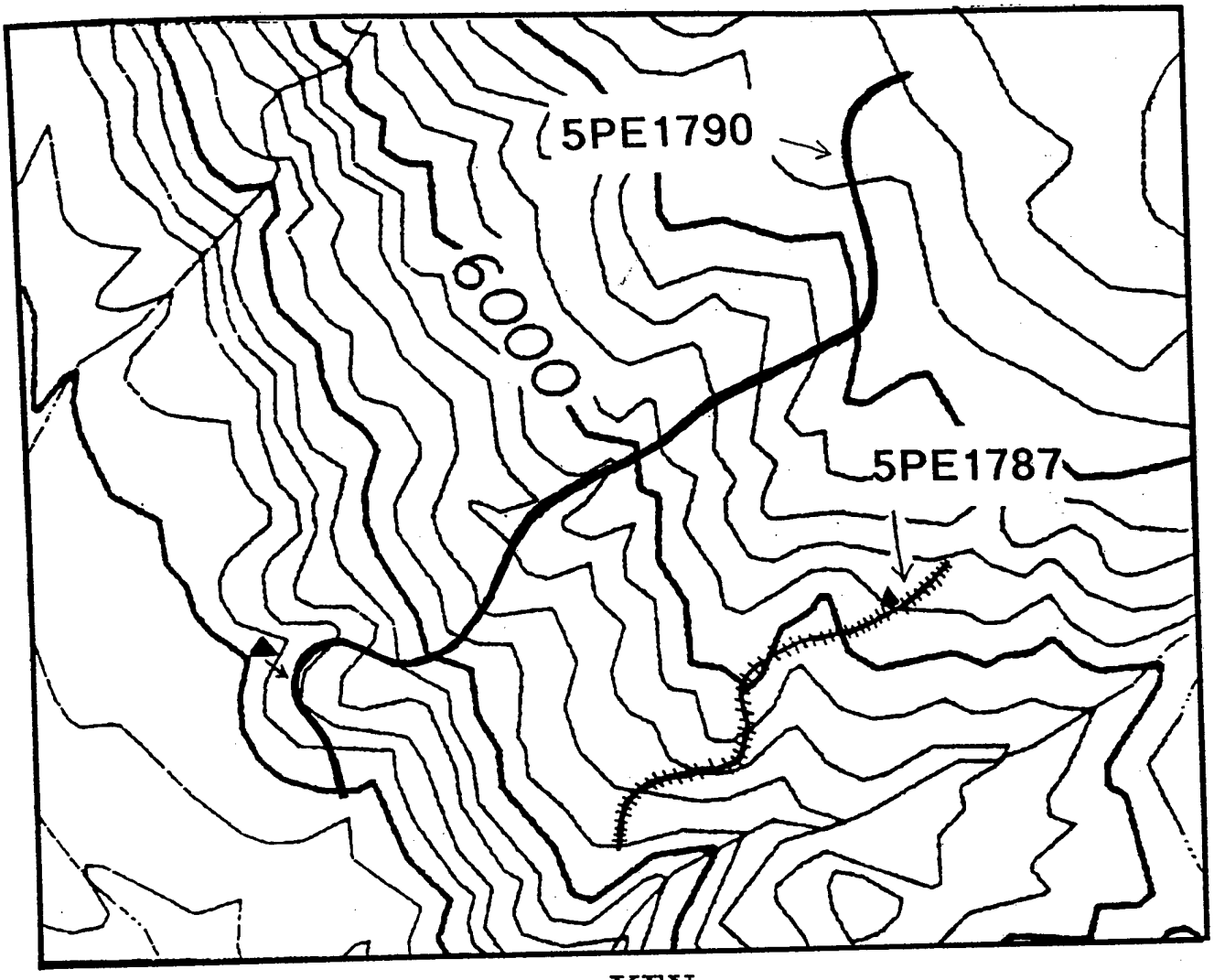
Table 6.5 Total surface nontool debitage, 5PE1789.

Material Type			Flake Type	Total (%)
Chert	Silicified wood	Quartzite		
1	1	1	Complete	3 (20)
1	1	2	Broken	4 (27)
1		5	Fragment	6 (40)
1		2	Debris	3 (20)
4 (27)	2 (13)	9 (60)	Total (%)	15 (100)

No diagnostic artifacts are present on the surface, and the temporal affiliation is described as unknown. Artifacts were not observed eroding from the nearby cut banks.

The site may represent a temporary, perhaps seasonal, locus of lithic flaking activities. The small quantity of artifacts present, along with the lack of evidence for features or buried deposits, are the reasons for determining that the site is not eligible for nomination to the NRHP. The site has been mapped, recorded, and photographed, and the artifacts were field analyzed.

5PE1790 Site 5PE1790 is a historic road (Pierce Gulch, United States Geological Survey, 7.5' quadrangle) that extends for a distance of 2625 ft from the alluvial bottoms of Booth Gulch to an upland meadow on the western slope of Booth Mountain (Figure 6.7). The road begins at the bottom of Booth Mountain, transverses up the slope in a northeasterly direction and ends in the meadow. The elevation along the road ranges from 5810 ft (1771 m) to 6120 (1986 m) asl. Sediments along the road range from cobbles and gravel to a silty sand. The sediments are derived colluvially and residually from the local sandstone bedrock. Sediment depth is about 10 cm. The closest water source is an unnamed drainage that is often parallel to the road. Vegetation in the vicinity of the road includes pinon, juniper, grasses, wildflowers, cholla, and prickly pear cacti. In most places the road is in good physical condition.



KEY:

juniper log fence

historic road

site datum

contour interval 20 ft

TN

0 600

scale (feet)

Figure 6.7 Site map, 5PE1790

The road is narrow (6 to 8 ft), and its width suggests that it was constructed in the early part of this century. Pinon and juniper limbs were cut with an axe to clear a way for the road. In areas where the topography is steep and the road bends, the road is stabilized with courses of dry-laid sandstone on the downslope side. Various historic artifacts are present in limited amounts along the side of the road. The trash includes solder-top tin cans, a metal hinge, miscellaneous metal pieces, a molded bottle top, clear glass, and domestic whiteware with a maker's mark. This piece of whiteware is a cream to white, light weight semi-porcelain fragment from a shallow but large-diameter bowl or serving dish. The manufacturer is Homer Laughlin China Company. The letter and number on the mark indicate the year of manufacture (1921-1930) and the plant where the piece was manufactured. This piece was manufactured in 1924 at the Number Four Plant (Lehner 1980:88). A historic site, 5PE1792, is located at the base of Booth Mountain just north of where the road enters the valley alluvium. At its northern end, the road continues into a small, open meadow where it is no longer visible from the ground surface.

The road represents a historic transportation route. The road was not conclusively associated with any historic structural remains, and how it was used or where it terminated remain speculative. A literature search of historic trails in the area (Scott 1975) did not show any historic-age routes in the vicinity of this road. The road was mapped, photographed, and recorded. This site is not eligible for nomination to the NRHP.

5PE1791 Site 5PE1791, a rock shelter with architecture and a midden, is located on the west slope (5 - 8°) of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle). The shelter is formed in a shallow alcove in the sandstone and along the north side of a fairly large, intermittent drainage that flows into Booth Gulch. The drainage is about 40 meters downslope to the southeast. The on-site elevation is 5920 ft (1804 m) asl. Aspect is to the southeast and southwest. The site measures 55 m x 13 m (Figure 6.8). Sediments at the site consist of silt, sand, and gravel weathered from the local sandstone bedrock. Sediment depth is estimated at 50 cm. In addition to the natural sediments at the site there is a relatively dense, brown-to dark-brown midden that begins within the shelter and continues down the steep slope to the southeast. Vegetation at the site consists of pinon, juniper, prickly pear, cholla, scrub oak, mountain mahogany, and some grasses. The site is in relatively pristine condition except for slope-wash erosion and graviturbation, both of which are affecting the midden. These transformation processes, however, have presumably been active from the original prehistoric occupation of the site, and they have not significantly compromised site context. The structural remains and the portion of the site within the alcove do not appear to have been disturbed by humans, and, from surface reconnaissance, bioturbation appears minimal.

The site is a prehistoric habitation site located in a small southwest-facing rock shelter overlooking a southwest-trending tributary of Booth Gulch. A dry-laid, low, sandstone wall encircles the front of the shelter and forms a semi-circular enclosure that measures 7 m long by 2.5 m wide and is divided into two rooms. In places the wall appears

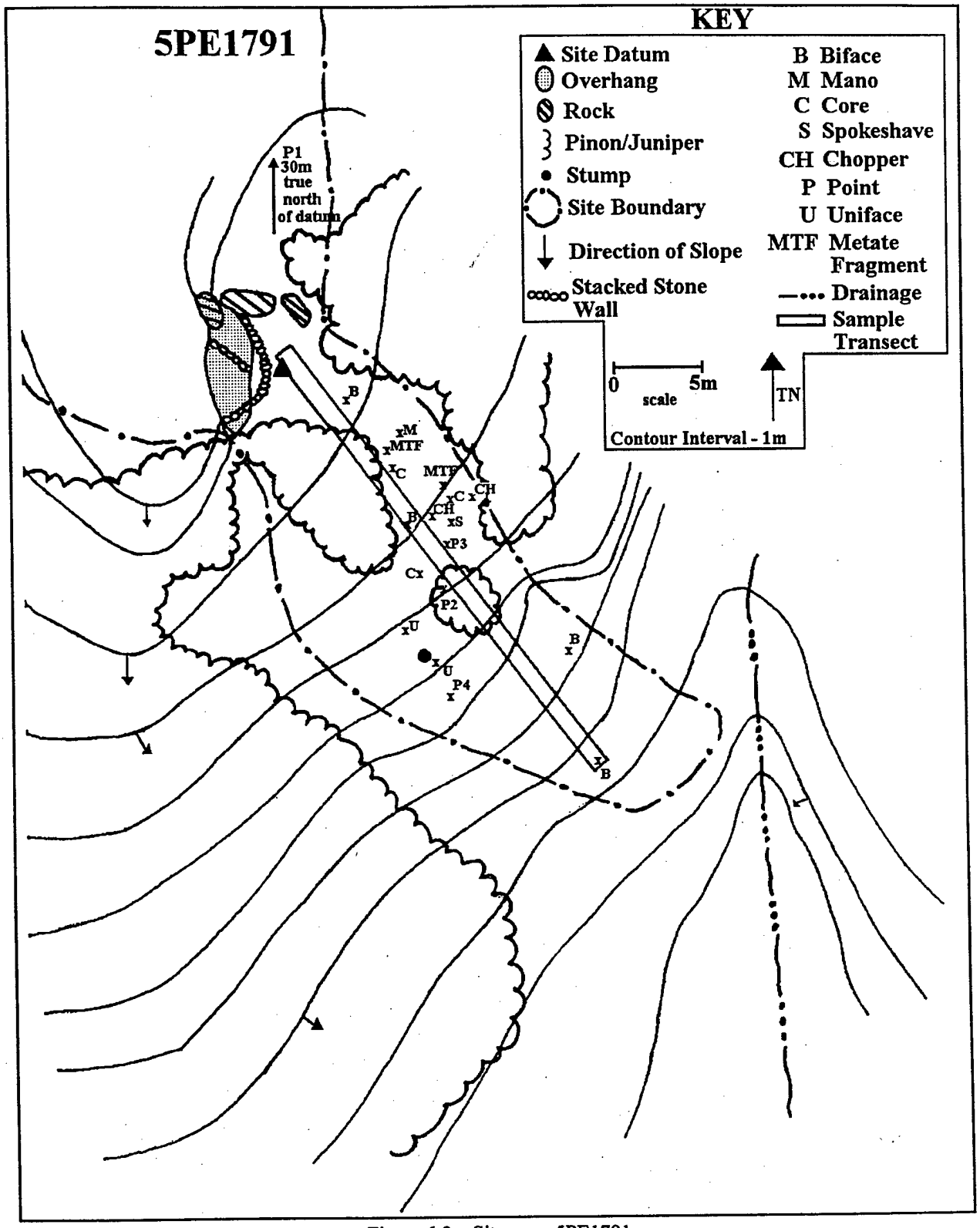


Figure 6.8 Site map, 5PE1791

to consist of two parallel rows. Some upright-sandstone rocks are also used in the construction of the stone wall. A fairly extensive midden begins at the alcove and continues down the slope toward the large tributary drainage. A 1 m wide and 28 m long transect was placed through the midden to record a sample of artifacts (Table 6.6). A total of 23 flakes and flaking debris were analyzed from the transect. Four material types including argillite are represented in the sample. Chalcedony occurs more frequently than any other material type in this sample. Together chalcedony and quartzite account for almost 80 percent of the total assemblage. The flake types represented demonstrate a very high number of complete flakes and debitage (91 percent). These numbers, along with a high number of cores evident at the site, suggest that the principal flaking strategy at this site was intensive core reduction. This reduction activity utilized the core to the its fullest potential, often exhausting the core entirely, which could account for the high number of debitage (shattered striking platforms and bulbs of percussion). Similar assemblages occur on permanently occupied pueblo sites from Arizona (Sullivan and Rozen 1985:763). It can be extrapolated that this sample of nontool debitage from 5PE1891 represents intensive core reduction whereby the cores were thoroughly and often exhaustively reduced; an activity that implies long-term occupation.

The total surface assemblage is estimated to be over 300 artifacts. Cultural materials at the site include fire-cracked rock, unmodified bone, projectile points, bifaces, unifaces, retouched flakes, cores, choppers, and groundstone. The groundstone, which is primarily metate fragments, are made of quartzite and sandstone, while a single mano is made from a conglomerate rock. The tools are manufactured from a variety of material types, which include quartzite, chert, and chalcedony.

Table 6.6 Nontool debitage from a sample transect, 5PE1791.

Material Type				Flake Type	Total (%)
Chert	Chalcedony	Quartzite	Argillite		
3	3	5		Complete	11 (48)
	1			Broken	1 (4.5)
	1			Fragment	1 (4.5)
	5	3	2	Debris	10 (43)
3 (13)	10 (43)	8 (35)	2 (9)	Total (%)	23 (100)

Four projectile points and a spokeshave were collected from the surface (Figure 6.9). The projectile points are identified as Late Paleo Indian to Early Archaic, Early Archaic to Middle Archaic, and Late Prehistoric types. Projectile point 5PE1791a (Figure 6.9a) is manufactured from yellow chert. It is an unserrated, triangular, side-notched point with a

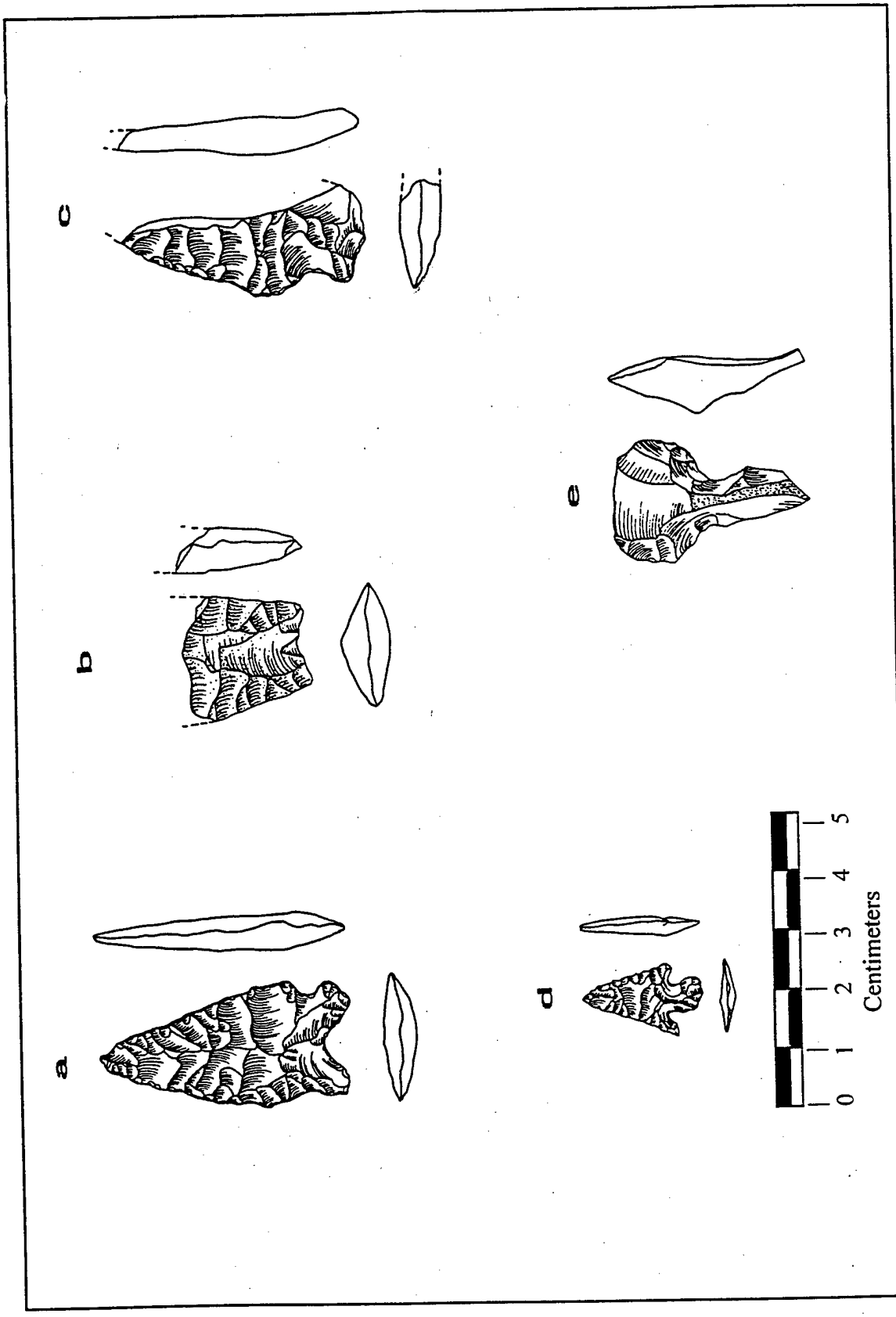


Figure 6.9 Surface artifacts collected from 5PE1791.

split stem and a sharp tip. It is bioconvex to slightly plano-convex in cross section. The shoulders and tangs are rounded, the flange expands, and the base is slightly indented. The projectile point is very well flaked and shaped. It is similar to Category P47 (Lintz and Anderson 1989:168-170) defined for the PCMS. This point type, according Lintz and Anderson (1989) is similar to Frio points of the Southern Plains and Uvalde points of the Southern Plains, Edwards Plateau, and Trans-Pecos of Texas. A general date range for the Category P47 point type is 4000 BC to AD 1000.

A second point, 5PE1791b (Figure 6.9b) is the base of a large, lanceolate point. The base is thick, with a slightly contracting stem. It is manufactured from gray quartzite. The point base is plano-convex in profile. Basal thinning is perpendicular to the base, and there is heavy haft-edge grinding along the sides. The point base was too fragmentary to compare it accurately with other point types; however, it is most similar to Category P1 from Lintz and Anderson (1989:115). The diagnostic attributes include heavily ground haft elements and concave bases. The point is similar to Plainview, Jimmy Allen, or Frederick Types (Lintz and Anderson 1989:115). A general date range is from 8500 BC to 5900 BC (Late Paleo Indian to the Early Archaic).

Projectile point 5PE1791c (Figure 6.9c) is broken through the middle. It is manufactured from a white chert. It possesses a large side notch, an expanded stem with rounded tangs, and a convex base. The blade is convex, while the point is bioconvex to plano-convex in profile. The point is most similar to Category 25 from Lintz and Anderson (1989:142). These points may date from 1500 BC to 1000 BC.

The fourth point, 5PE1791d (Figure 6.9d), is a small, triangular, corner-notched variety. This point is manufactured from a variegated pink chert. The blade is slightly serrated, and the stem is slightly expanding with rounded tangs. The base is straight. This small projectile point is similar to Category 59 points from Lintz and Anderson (1989:187). This point dates from about AD 500 to AD 1200, although it may have persisted until as late as AD 1450. It is similar to Anasazi Pueblo II and Pueblo III points from the Southwest.

A fifth artifact, a spokeshave (Figure 6.9e), was manufactured from a gray, fine-grained argillite. This tool shows bimarginal use with one side exhibiting prominent crushing scars and step fractures. It was probably used as a wood- or bone-working tool.

The site represents a prehistoric habitation site. Projectile points collected at the site suggest that the site may have been occupied over at least two broad temporal periods, Late Paleo Indian and Late Prehistoric. A general age for site occupation ranges from 8000 BC to AD 1100. The overall architecture of the site (i.e., stacked-stone wall within an alcove) fits into the typical habitation sites for Late Prehistoric populations along the Colorado Front Range and within the Fort Carson Military Reservation [e.g., Recon John Shelter (Zier 1989: Zier and Kalasz 1991)]. Ceramics, however, were not present in the surface assemblage. Regardless of the specifics of the site occupation and settlement, the site is in excellent

physical condition, and the depth of the structural remains indicates that the site has demonstrable potential to provide significant data concerning the prehistoric settlement and subsistence practices of populations that inhabited the Plains/Mountain Transition area. The site is recommended eligible for nomination to the NRHP under research objectives outlined for the Colorado Plains by Eighmy (1984) and by Zier et al. (1987) for Fort Carson. These research goals include subsistence and settlement, economics, chronology, architecture, and geomorphology. Moreover, this site fits three site type categories recommended by Zier et al. (1987:3-3-5) as eligible for nomination to the NRHP (sites with buried deposits; possible stratified multicomponent sites; and Early Archaic sites).

5PE1792 Site 5PE1792 is a historic habitation site and associated light trash scatter at the base of the west slope of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle). Specifically, it is at the transition between Booth Mountain and the alluvial valley of Booth Gulch. The elevation at the site is 5780 ft (1762 m) asl. The degree of slope at the site is between 2° and 5° with steeper slopes above the site to the east. Aspect is open except to the east. Sediments on the site are the result of residual weathering from the sandstone bedrock. Because the site is at the base of a fairly steep slope, colluvial transport accounts for the majority of the sediments matrix. The sediments are a sandy loam, and depth of the sediments is estimated between 30 and 50 cm. This estimate is based on the amount of sedimentation around the base of the sandstone foundations. The site is located at the transition between a pinon and juniper woodland and an open meadow of Booth Gulch. Vegetation on the site displays a mix of the two floral zones with noticeable vegetation including tall and short grasses, pinon and juniper, and cacti. The closest water source is an unnamed, intermittent drainage 200 m to the south.

The site consists of a light artifact scatter of cans and bottle glass and the remains of two deteriorated structural foundations (Figure 6.10) that cover an area measuring 175 ft x 75 ft. Both foundations are constructed of cemented tabular sandstone. The foundations range from one to three courses high. Feature 1 measures approximately 15 ft north and south by 20 ft east and west. The larger foundation, Feature 2, measures 16 ft north and south by 20 ft east and west. A 3 ft long stacked-stone wall was also noted along the south edge of the site. The function of this isolated wall is unknown. A few historic artifacts were scattered around the site. These include clear bottle glass, a few pieces of blue bottle glass, 4" common wire nails, a Calumet Baking Powder can, two tobacco cans, a dozen sanitary food cans, a ceramic doorknob, and a metal door plate. Based on a limited number of artifacts with a narrow date range, it is our opinion that the site was occupied between 1920 and 1940 and abandoned soon thereafter. According to Zier et al. 1989 (Appendix E:116-117), the land where the site is located was patented under a Livestock Raising Homestead Land patent by Anton Marsha in 1922 and canceled in 1924. A Livestock Raising Homestead Land patent was entered on the property by Joseph H. Dainty in 1924 and released in 1925. In 1930 a Homestead Patent was entered by John Brown who released the entry later that same year where it was patented by George W. Myers and released by him

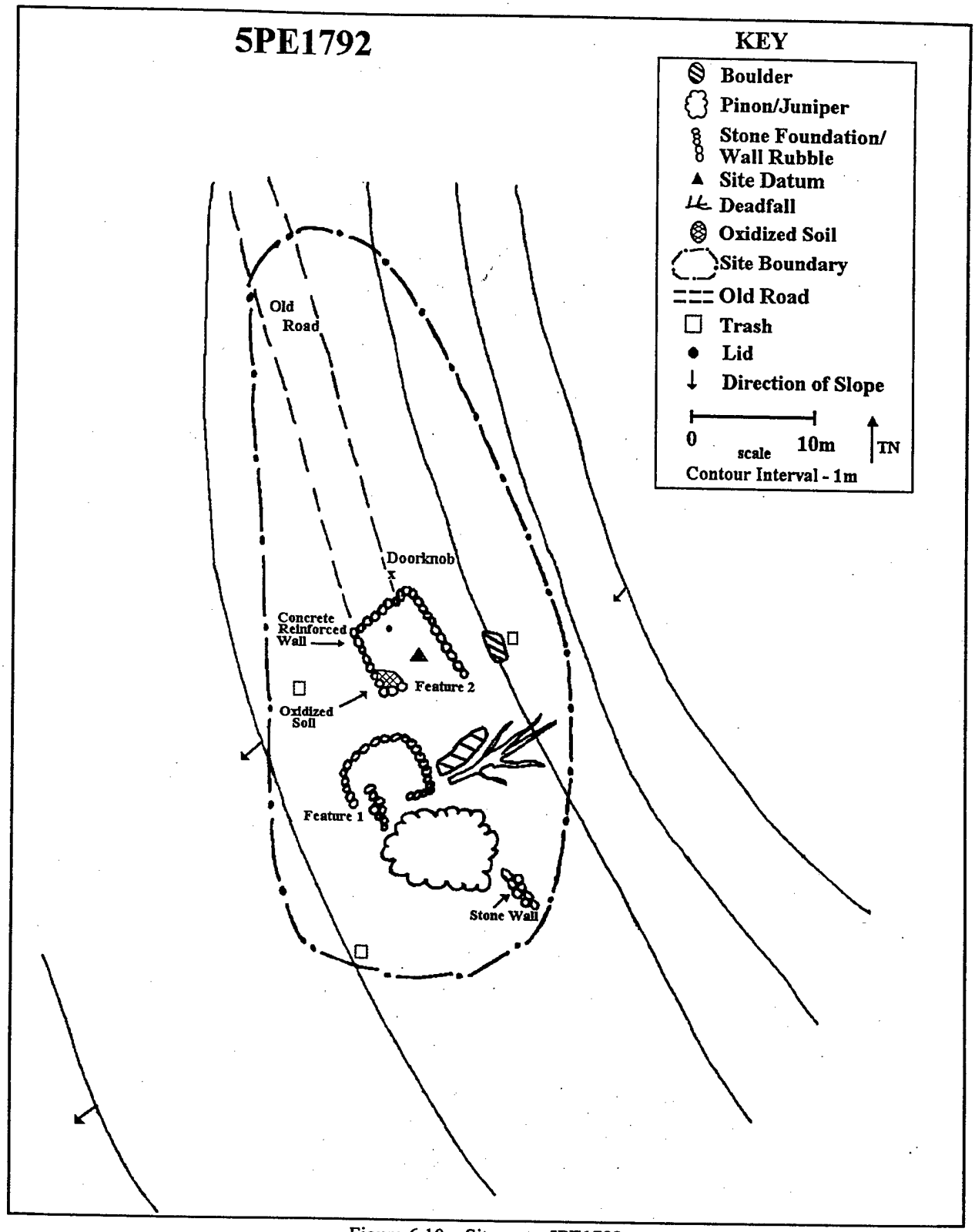


Figure 6.10 Site map, 5PE1792

in 1933. The final action on the land prior to U. S. Army acquisition was in 1943 when Hurley E. Stevens patented the land under a Livestock Raising Homestead Land patent.

Based on the type of artifacts observed and the scant written documentation, the site is assumed to have been associated with early to middle 20th century domestic settlement and livestock raising. The artifacts, although limited, do not suggest an earlier date for the site. The site may have been surface collected, which could explain the scarcity of artifacts. It is also possible that the site was only briefly occupied. A historic road (5PE1791) is located in the immediate vicinity of the site. This road, which ascends Booth Mountain, begins about 100 m southeast of the site and continues up the slope of Booth Mountain eventually appearing to terminate in an upland meadow. Recent historic trash is visible in the meadow. It is not clear whether the trash in the meadow or the historic road is related to site 5PE1792. The site does not possess the potential to provide significant information on the historic settlement and occupation of this area. Therefore, it is suggested that the site is not eligible for nomination to the NRHP. The site has been mapped, recorded, photographed, and the visible artifacts have been field analyzed.

5PE1793 Site 5PE1793 is a small, flaked lithic artifact scatter located on a bench along the northwest slope of Booth Mountain (Pierce Gulch United States Geological Survey, 7.5' quadrangle). The site is in a small meadow that overlooks Sullivan Canyon to the north and west. Elevation at the site is 6100 ft (1859 m) asl. The degree of slope on the site ranges between 0° and 2°. Sediments consist of a sandy silt with a maximum potential depth of 25 cm. The sediments have collected at the site from the residual weathering of the local sandstone, siltstone, and claystone. Some eolian sediments are probably mixed with the residual sediments as well. Pinon, juniper, cacti, chamisa, sunflower, and mixed grasses presently grow at the site. The closest water is an ephemeral wash 400 m northwest of the site.

The site is a prehistoric lithic-procurement site that measures 30 m x 15 m (Figure 6.11). Twenty-eight flakes (8 complete, 9 broken, 1 fragment) and flaking debris (10 pieces) and 4 core fragments are concentrated in 2 loci. All of the artifacts are manufactured from chalcedony, which erodes from the local bedrock. Concentration 1 measures 3 m x 3 m, and Concentration 2 measures 3 m x 2 m. Flakes representing all stages of lithic reduction were recorded, along with a generous amount of flaking debris. The higher number of complete flakes and debris over those of flake fragments and broken flakes, along with the presence of core fragments, suggest core reduction of locally available chalcedony. The presence of broken flakes; however, implies that tools were manufactured here as well. Diagnostic artifacts were not found at the site. The site does not appear to possess the potential for buried features or habitation surfaces because of the low number of surface artifacts and the shallow sediment depth.

The site is interpreted as a limited activity, lithic-procurement and tool-manufacturing site. Intensive core reduction of the locally available chalcedony,

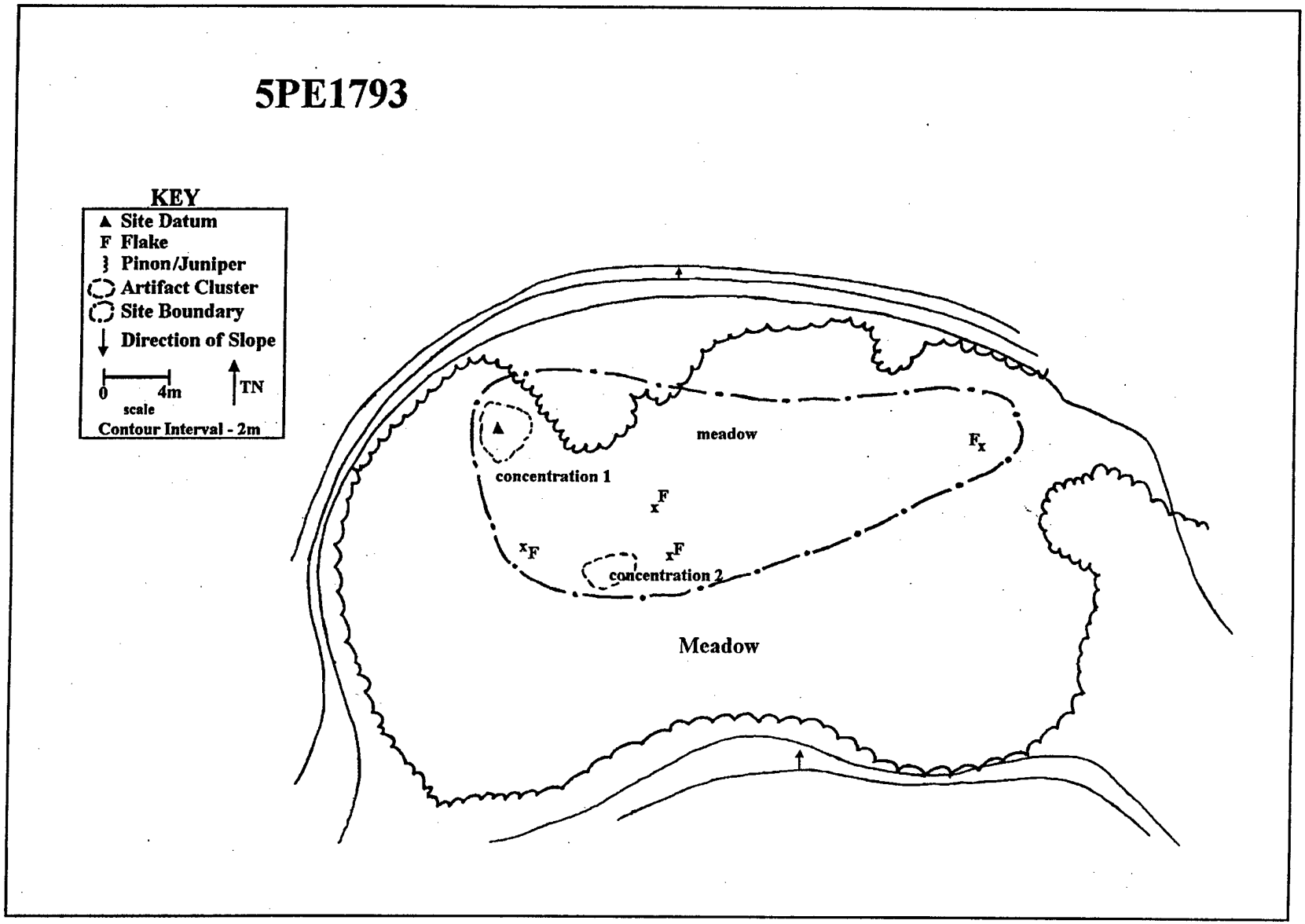


Figure 6.11 Site map, 5PE1793

which is eroding from the underlying Jurassic Formation, is the primary lithic activity conducted at the site. The temporal affiliation of the site remains unknown. The site is not considered eligible for nomination to the NRHP. The site has been mapped and recorded, photographed, and all surface artifacts have been field analyzed.

5PE1794 Site 5PE1794 is a flaked- and ground-stone scatter along the slopes of a ridge on the east side of an ephemeral wash on the west side of Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). On-site elevation is 5900 ft (1798 m) asl. The aspect from the site is southwest. The slope is between 3° and 5°. The site is bounded on the west by an ephemeral drainage that separates two north- to south-trending finger ridges. The sediment matrix consists of a sandy loam with a maximum potential depth of 15 cm to 20 cm. The sediments are a collection of residual and colluvial deposits from the eroding bedrock. The site is in the midst of a fairly dense pinon and juniper woodland. The closest water is the ephemeral drainage that bounds the site to the west.

The site measures 19 m x 3 m (Figure 6.12). The total surface artifact assemblage includes 3 complete flakes, 1 broken flake, 1 flake fragment, 3 pieces of lithic debitage, and 3 possible groundstone fragments. Chert, quartzite, and chalcedony raw material types are present in this small assemblage. Three pieces of tabular sandstone may be fragments of a single groundstone artifact. Because of the limited number of artifacts, site function is inconclusive; although the relatively high number of complete flakes and debitage suggests cores were being reduced at this location, and the possible groundstone fragments infer at least minimal plant and animal processing. A lack of diagnostic artifacts precludes assigning a temporal affiliation to the site. Because the site is located on a slope and at the edge of an ephemeral wash, there is a high probability that the site context has been modified.

This site is interpreted to represent a limited activity area, possibly representing seasonal use of the uplands. Artifacts are few, and site integrity has been compromised by slope wash. The probability is low that the site possesses significant buried deposits representing habitation surfaces, features, or a significant yield of artifacts. Therefore, it is recommended that the site is not eligible for nomination to the NRHP. The site has been mapped, recorded and photographed, and all surface artifacts have been field analyzed.

5PE1795 Site 5PE1795 consists of a segment of a road adjacent to two areas that resemble some type of quarrying activity. The site is on a flat to gentle slope (1°) along the top of Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). Aspect is to the south. Elevation at the site is 6050 ft (1844 m) asl. Sandstone and shale bedrock are exposed at the surface, and the sediments consist of a thin (<10 cm) sandy loam. The sediments have accumulated from residual weathering of the bedrock. In some places, slope wash accumulations are visible. The site is in the midst of a pinon and juniper forest. Vegetation at the site consists of pinon, juniper, cacti, and short grasses. The closest drainage is an unnamed ephemeral drainage 100 m from the site.

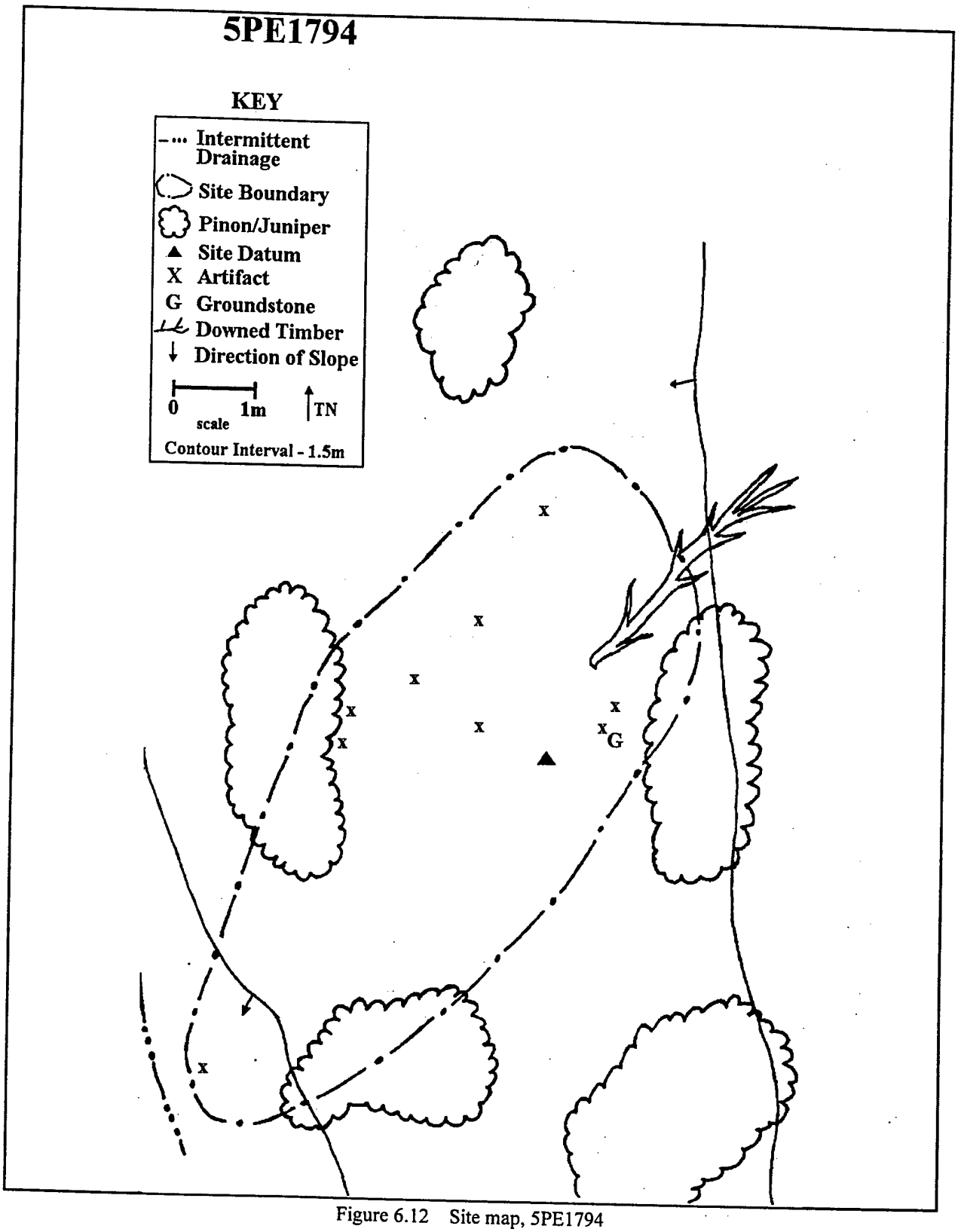


Figure 6.12 Site map, 5PE1794

This site represents somewhat of an enigma for this survey. It consists of a segment of an old road, two excavated pits, one dry-laid sandstone wall associated with the largest pit, one possible sandstone alignment, and three prehistoric artifacts (Figure 6.13). The remains of an old road are visible through the site. The road curves around the south and west side of the site eventually disappearing into the surrounding clearings. The road segment is 600 ft (182 m) long. Upslope and east of the road are two excavated pits. The larger of the two pits (Feature 3) measures 35 ft (10.8 m) x 20 ft (6 m), and is 4 ft (1.3 m) deep. A single, dry-laid sandstone wall is located at the north end of Feature 3. The second pit (Feature 2) is much smaller and measures 15 ft (4.6 m) x 9 ft (2.6 m) and is 2.5 ft (0.75) deep. Both pits have been excavated into a clay-shale stratum. The talus from the excavations is concentrated along both sides of the pits. The function of the pits at this site is unknown. Possibly the pits were excavated for either water or clay although no useable clay was exposed in the pits. The pits are of definite cultural origin, but the exact function or age of the pits is speculative at this time; however, it is concluded that the features are most likely historic. There were no historic artifacts associated with this site; moreover, references to prospecting for clay on Booth Mountain did not identify this area as a potential clay quarry (Zier et al. 1987:2-114 - 1-115). A search on the land patent showed that the land was patented by Theodore Clark in 1929 and filed under a Stock Raising Homestead Entry. It is assumed that the land was owned by Theodore Clark until it was transferred to the U.S. Army.

One quartzite flake, one chalcedony core, and one possible piece of groundstone (sandstone) were also located within the site boundary. Additionally, a possible sandstone alignment (Feature 1) is visible on the surface near the site datum. This U-shaped alignment measures 4 ft (1.25 m) x 2.6 ft (0.8 m).

The site may be related to clay-mining activities, although a plat search did not provide information relating to mining or quarrying (Waage 1953). It was, at first, suspected that the features might be related to military activity, and this possibility is still viable. However, there is no evidence in the immediate site area for any military actions (for example, recent trash, recent hearth or current use of the road). The potential for the site to yield significant information about the history or prehistory of the area is very low, and, therefore, it is not eligible for nomination to the NRHP. The site has been mapped, recorded and photographed, and all visible surface artifacts were analyzed in the field.

5PE1796 Site 5PE1796 is an historic fence and road located in the northwest corner of Booth Mountain (Pierce Gulch, United State Geological Survey, 7.5' quadrangle). The site is between two saddles that are separated by two prominent escarpments and above an open meadow within the interior of Booth Mountain. The average elevation is 6240 ft (1092 m) asl. The aspect is to the southwest. The site follows along two steep slopes between sandstone escarpments on Booth Mountain. The degree of slope on the site ranges from about 5° to 30°. The sediments consist of sand derived from residual weathering and alluvially transported to the site. Depth of the sediments is less than 10 cm. Vegetation in the immediate site area consists of pinon and juniper, cacti, short and tall grasses, mountain

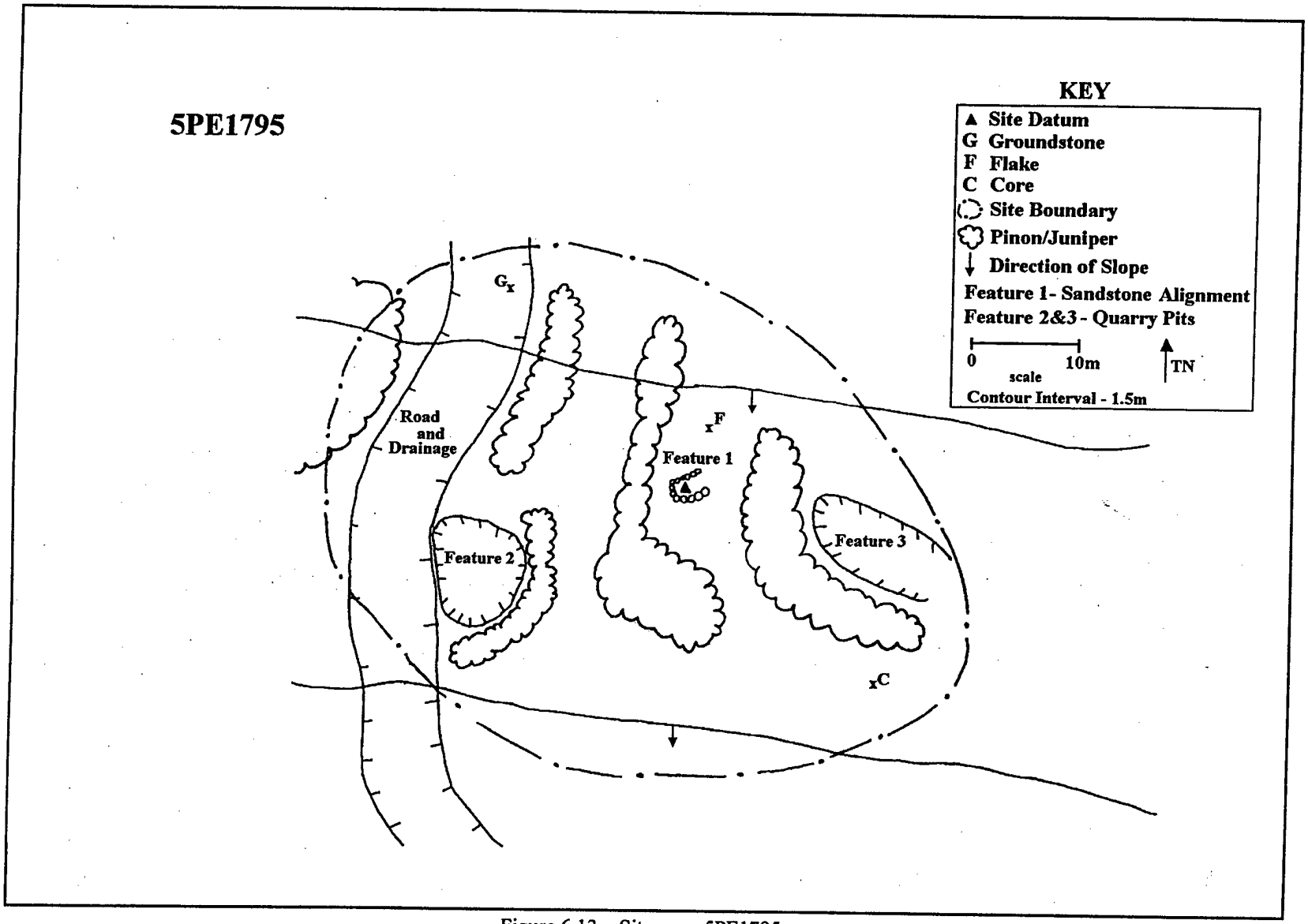


Figure 6.13 Site map, 5PE1795

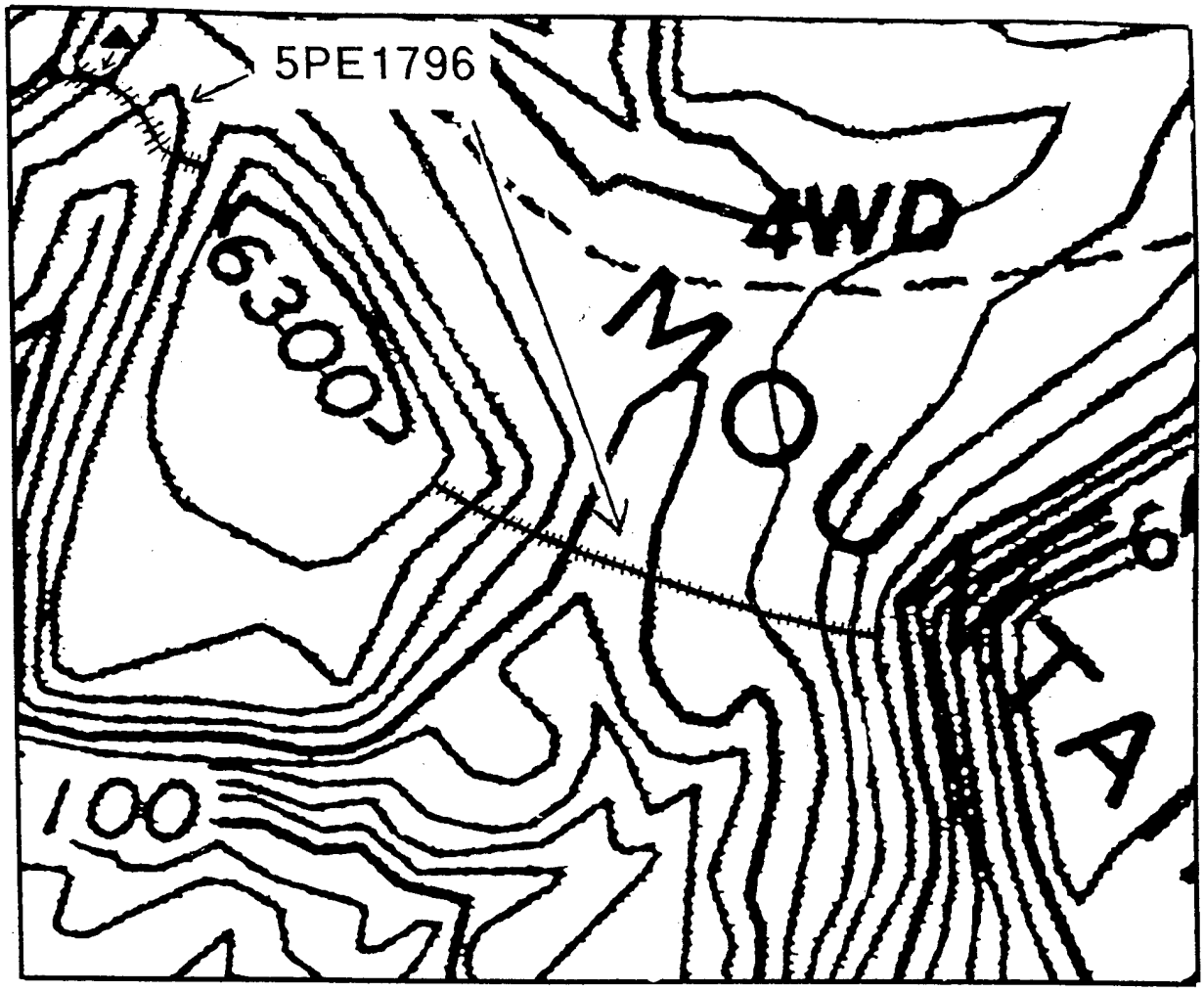
mahogany, and four o'clocks. The closest water source is an unnamed ephemeral wash that crosses the site along one of the saddles.

The site consists of two sections of a historic brush fence and a segment of an old road (Figure 6.14). The northern section is approximately 413 ft (126 m) long, and the southern segment is approximately 817 ft (249 m) long. The fence stretches across two saddles on either side of a common high point. The fence appears to have been used to block off the meadow. The fence utilizes two steep escarpments and the high point between the escarpments (saddles) as natural barriers. Both sections are constructed of dead fall, saw- and axe-cut limbs, living trees, and two-strand barbed wire, similar to that used in fencing today. A portion of an old road runs parallel to the fence along the lower portion of the northernmost section.

The site is interpreted to be the remains of a brush fence used to restrict livestock movements. It is not certain whether the fence was used to keep livestock within or out of the meadow. The fence is in a state of deterioration and has not been used for quite some time. Brush fences are common cultural properties on Booth Mountain. Because there is, in general, a paucity of artifacts associated with these resources, relative age determinations are based on physical characteristics such as stages of decomposition of the wood, sediment accumulations around the base of the branches, and - whenever appropriate - associated artifacts or building materials such as barbed-wire. The fence has been recorded, mapped, and photographed. The site is not considered eligible for nomination to the NRHP.

5PE1797 Site 5PE1797 is a small flaked lithic artifact scatter located in a clearing along the top of Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). The site is in a deflated area, with slightly higher elevations on all sides of the site except to the southwest. The elevation at the site is 6030 ft (1838 m) asl. The degree of slope at the site is about 3°. Aspect is to the southwest. Sediments consist of a thin layer (10 cm) of a gravelly silty sand. The sediments are primarily the product of residual weathering of the sandstone, claystone, and siltstone bedrock. Slope-wash deposits and eolian silts are also present at the site. The site is located in a small clearing within a pinon and juniper woodland. Flora, besides pinon and juniper, include cacti and some grasses. A small gully bisects the site. A larger intermittent drainage is located about 50 m south of the site. The gully on the site flows into the larger intermittent drainage.

The site is a scatter of five flakes, one chert core fragment, three bidirectional cores (one chert, one quartzite, and one silicified wood), and one orthoquartzite chopper in an area measuring 22 m x 15 m (Figure 6.15). The five flakes include one chalcedony complete flake, one orthoquartzite complete flake, two orthoquartzite flake fragments, and one argillite flake fragment. The relatively high number of cores suggests that the site may have been utilized as a locus of short-term, unintensive core reduction. Other activities, as suggested by the chopper, may also have been conducted at this location.



KEY:

juniper log fence

site datum

contour interval 20 ft

TN

0 600

scale (feet)

Figure 6.14 Site map, 5PE1796

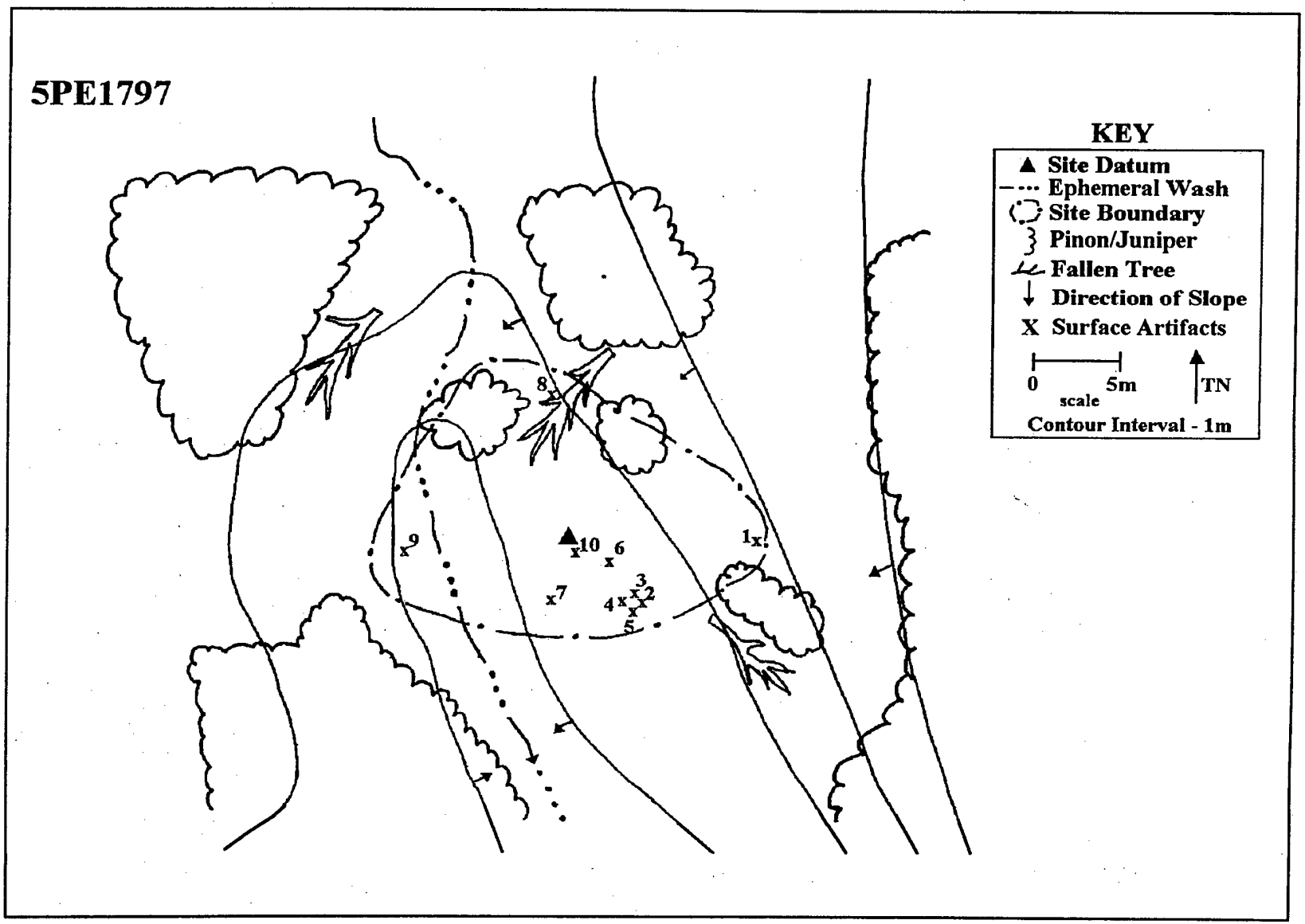


Figure 6.15 Site map, 5PE1797

The site is in an area that is subjected to erosion from slope wash and possibly from eolian processes as well. The probability of buried deposits at the site is low due to the thin sediment layer. The site has been mapped, recorded, and photographed. All surface artifacts have been field analyzed. The site does not possess the potential to yield significant information about the prehistory of the occupants of this area. Therefore, the site is not recommended for nomination to the NRHP.

5PE1798 Site 5PE1798 consists of three alcoves and associated artifacts at the head of an intermittent drainage in the interior of Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). The site consists of three small-to medium-sized alcoves near the top of a sheer sandstone escarpment. The alcoves are at the head of a tributary drainage into Turkey Creek on a north slope, and at an elevation of 6000 ft (1829 m) asl. The alcoves contain a build up of residual and eolian sediments and larger debris from roof spalling. Trowel tests within two of the alcoves demonstrated that the potential sediment depth exceeds 30 cm. Sediments within the alcoves have accrued from both endogenous and exogenous processes such as physical disintegration of the ceilings and walls, eolian silts, animal nests, and fecal matter. Vegetation in the site area includes pinon, juniper, gooseberry, prickly pear cactus, cholla, and scrub oak.

The alcoves cover an area approximately 35 m x 25 m (Figure 6.16). All three alcoves possess limited evidence for prehistoric use. In the largest alcove (Feature 2), which measures 15 m x 4 m, a single argillite biface was found within a small gully that runs from the rear of the alcove to the front. A large talus cone extends from beneath the alcove, beyond the dripline and into the drainage. The talus cone consists of ceiling and wall spalls, and large and small branches. It is not certain how the larger branches came to rest within the alcove unless they were transported down the drainage during a time of considerable runoff. The smallest alcove (Feature 1) measures 7.5 m x 2.5 m. This alcove is situated at the nickpoint where the drainage descends from the top of the mesa. The alcove contained smoothed wooden branches that appeared to have been intentionally placed within natural notches in the bedrock. One small piece of charcoal was noted on the surface. A trowel test in this alcove did not reveal ash or buried charcoal; however, the trowel test demonstrated that sediments exceeded 30 cm. Therefore, the potential for buried deposits is good. The third alcove (Feature 3) measures 9 m x 2.5 m and contained six cord-marked ceramics (two rims and four body fragments. These ceramics were found on the surface or lightly covered by fine, loose sand. A trowel test in this alcove revealed a stratum of dark sand (residual sand possibly mixed with ash and charcoal).

The ceramics are temporally associated with the Plains Ceramic Period (Lintz and Anderson 1989:322-331). The ceramics were collected and analyzed. They are cord-marked gray ceramics (Figure 6.17) and probably from a single vessel. The ceramics have gray interiors and are fire-blackened on both the interior and exterior. The exterior is brown to black. Temper consists of poorly sorted quartz sand, feldspar, and darker ferrugineous minerals. The temper is generally subangular to subrounded and may represent inclusions

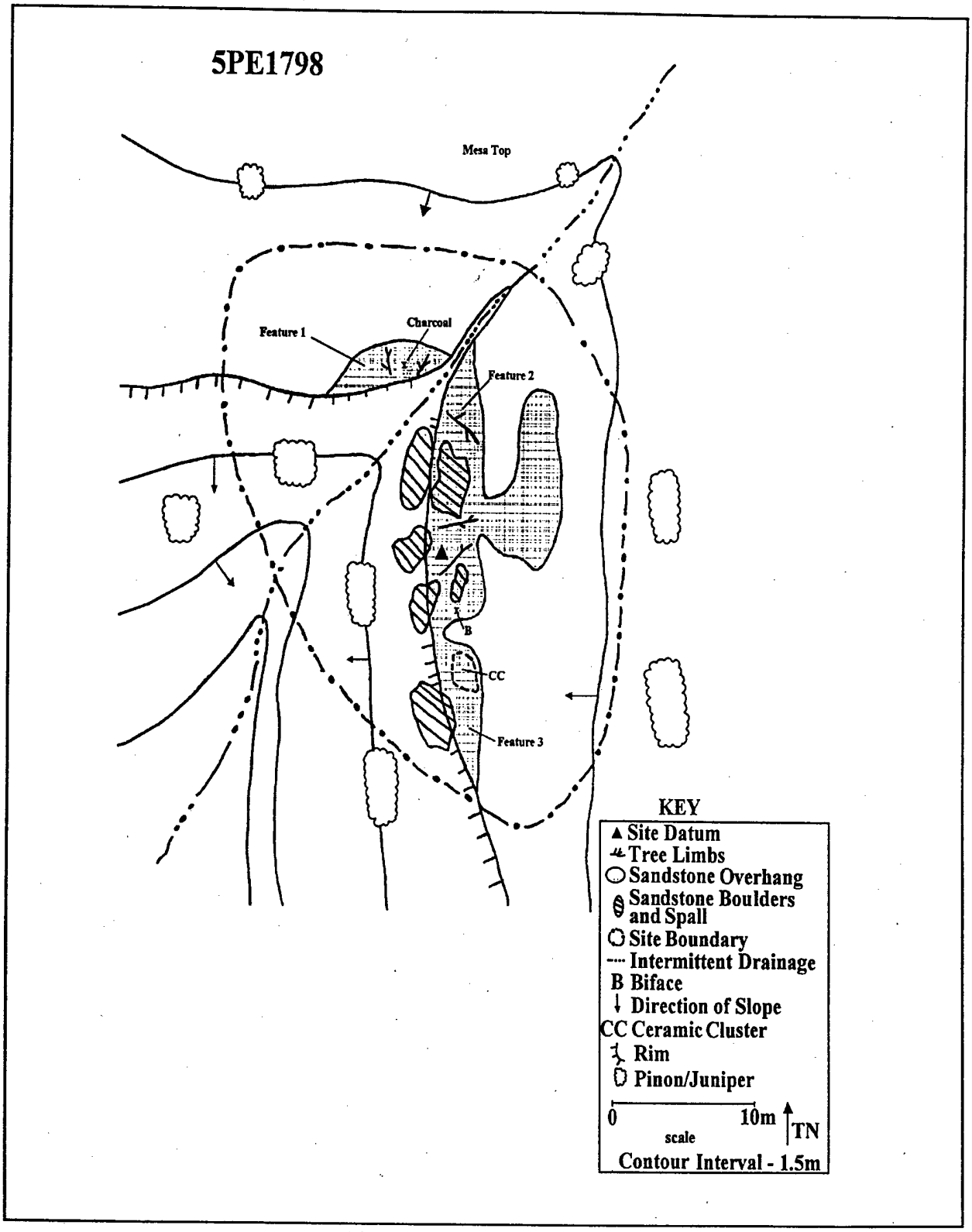


Figure 6.16 Site map, 5PE1798

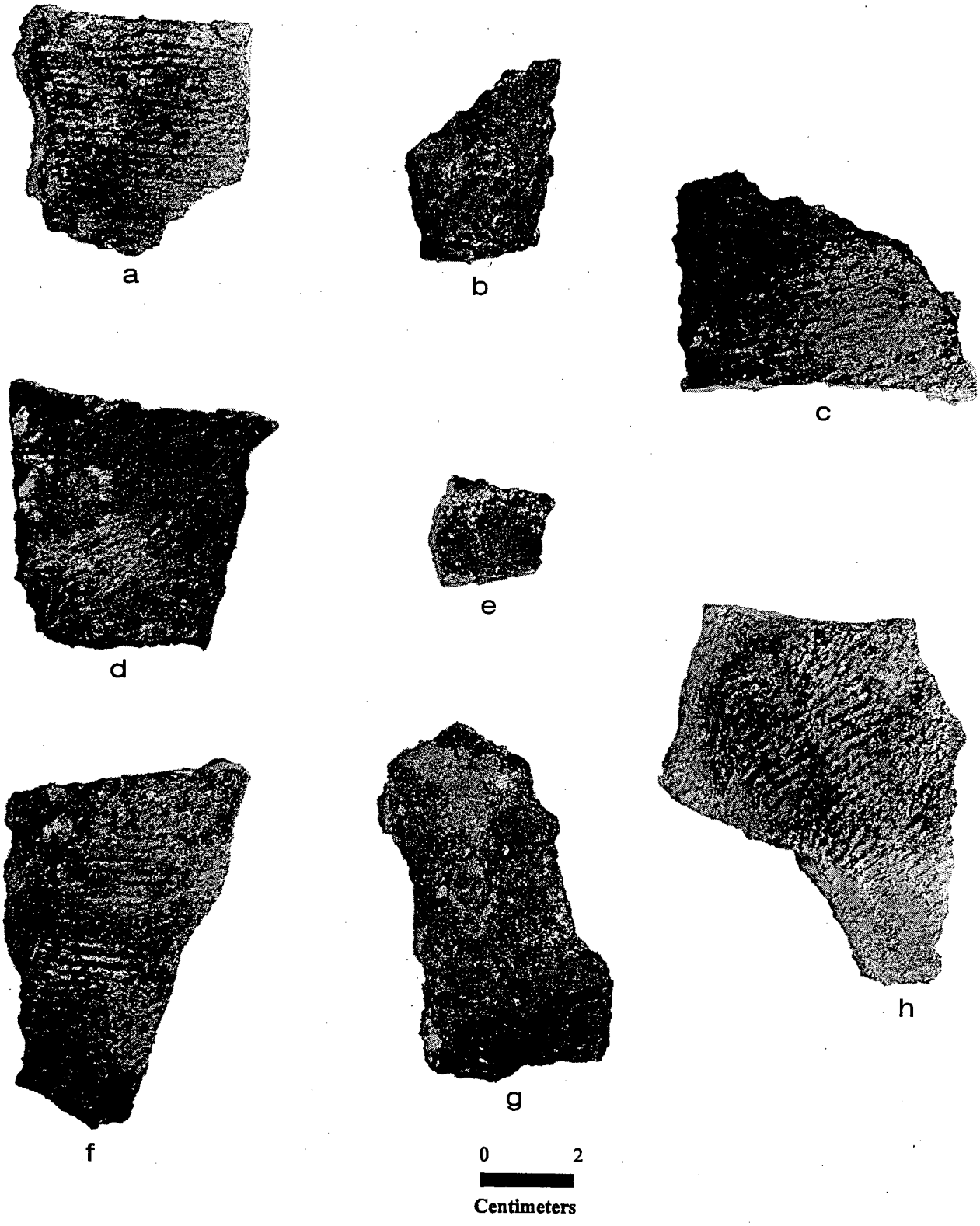


Figure 6.17 Cord-marked ceramics collected from 5PE1798. Ceramics a and e are rims, ceramics c and d fit together, and ceramics e and f fit together.

within the alluvial clay source; however, many of the inclusions are quite large and stand in contrast to the majority of inclusions. The cord impressions are narrow, parallel, and smoothed over. The rim pieces show a diagonally impressed decoration over the top of the lip. The slight flare of some body ceramics suggests a conoidal jar shape. The ceramics are similar to Cord-marked Category 4 (Lintz and Anderson 1989:331). These ceramics do not exactly match this category because Category 4 ceramics described by Lintz and Anderson (1989:331) appear most similar to Apishapa Phase or Upper Republican or Late Prehistoric Borger or Stamper Cord-marked, which are not common in Fort Carson. Dates from the ceramics range from AD 1000 to AD 1450.

The only other artifact noted was a gray, argillite complete flake with cortex and bifacial and bimarginal flaking (Figure 6.18). The tool exhibits steep-edge bifacial flaking along one of the margins. The tool is manufactured from a smooth cobble, which was transported to the site.

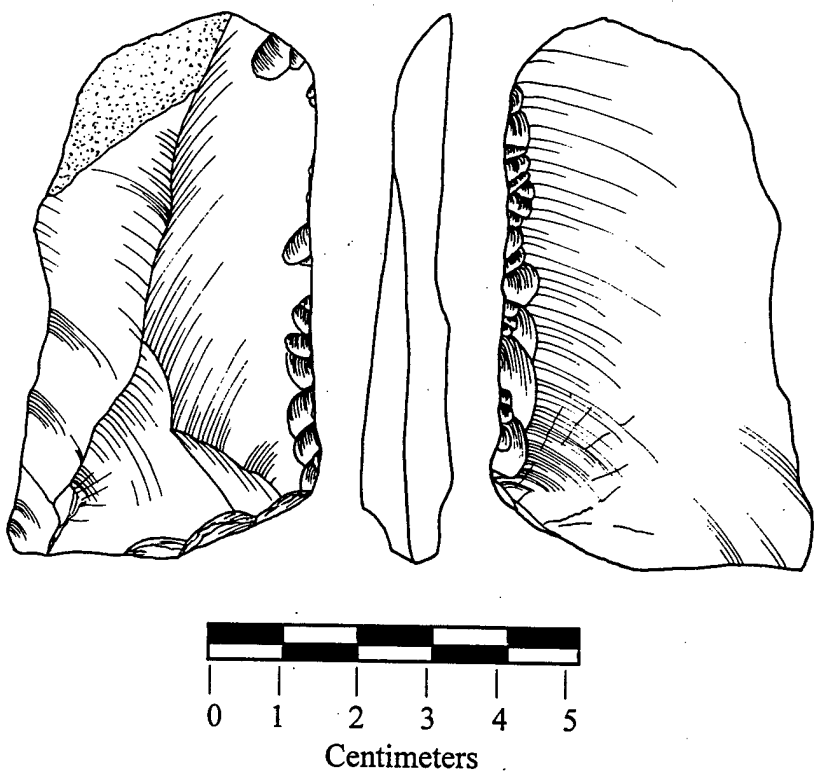


Figure 6.18 Biface artifact collected from 5PE1798.

The site has been at least minimally utilized for shelter and perhaps for occupation during the Plains Middle Ceramic Period. It is uncertain whether other temporal periods are present beneath the sediment and talus. However, the alcoves are located at the head of a rather large, intermittent drainage that flows into a larger, intermittent tributary of Turkey Creek. The southerly aspect of the shelters and the easy accessibility from the mesa top,

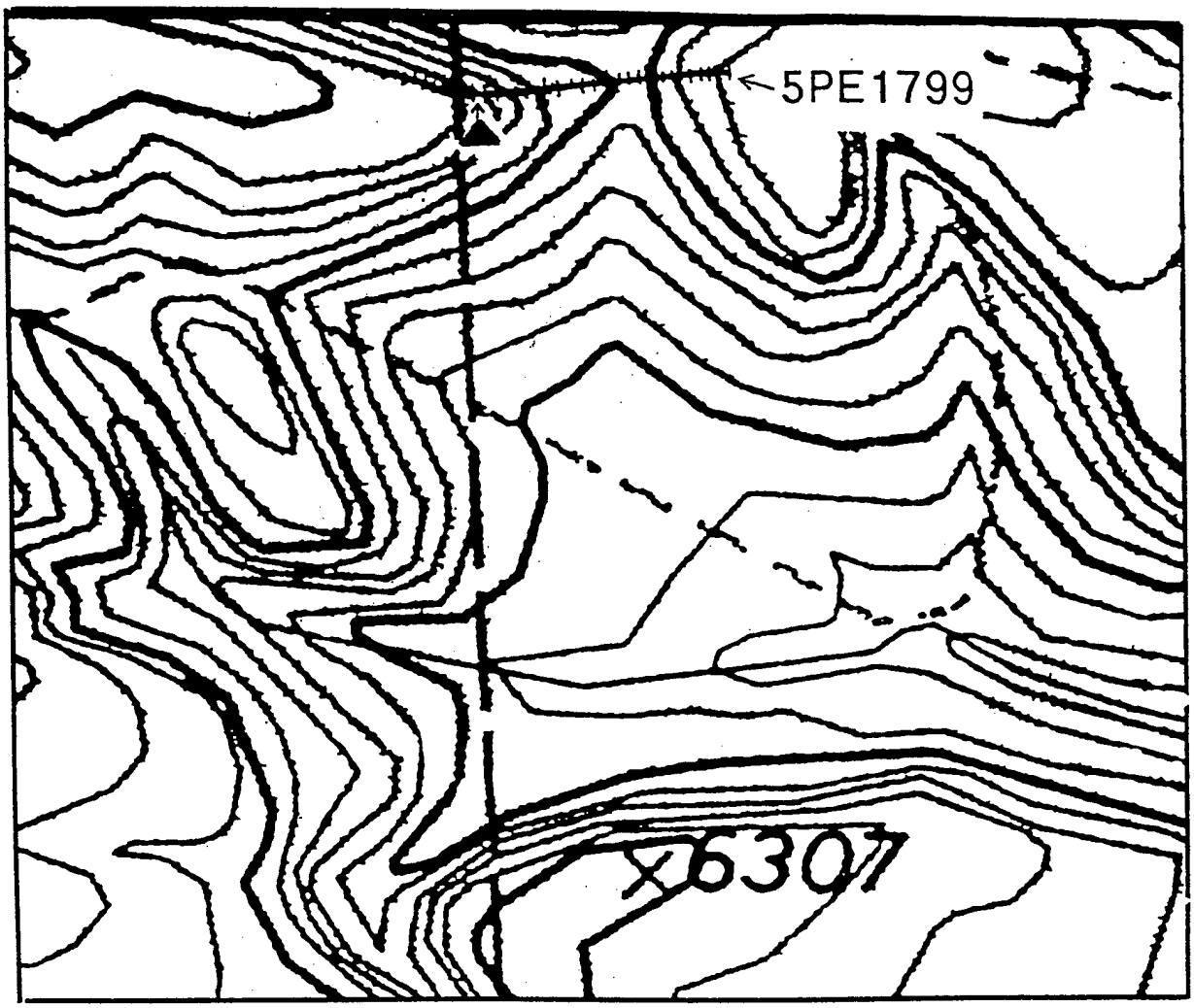
make the alcoves a good location for seasonal or even year-round occupation. Because the alcoves have produced cord-marked ceramics, an uncommon occurrence at sites on Booth Mountain (Zier et al. 1987; Jepson et al. 1992; Van Ness et al. 1990), and because the alcoves possess excellent potential for producing buried deposits (Zier et al. 1987: 3-3-5), relevant information on the settlement and subsistence patterns of the Middle Ceramic Period along the Plains/Mountain Transition (research question posited in Zier et al. 1987:2-47-51), and potentially significant geomorphological information (research question posited in Zier et al. 1987:2-19-35), the site is recommended as eligible for nomination to the NRHP. It is also recommended that the site be subjected to limited testing to determine adequately the research potential of the site.

5PE1799 Site 5PE1799 is a historic brush fence on Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). The fence crosses a narrow saddle that forms a prominent notch at the top of Booth Mountain. The notch, which marks the path of an ancient channel, is particularly visible north of Booth Mountain. The fence is situated on the south side of the saddle at an average elevation of 6320 ft (1926 m) asl. The slope of the notch varies from 0° to 15 °, and the aspect from the top of the notch is to the north and south. Sediments are residual and colluvial sandstone gravel, sand and silt. Sediment depth is approximately 10 cm. Vegetation surrounding the fence is pinon, juniper, mountain mahogany, prickly pear cactus, cholla, fringe sage, and snakeweed. The closest water source is an intermittent drainage in the meadow at the bottom of the steep slope to the south of the saddle.

The site is described as a brush fence that was placed in a narrow saddle between two steep sandstone escarpments (Figure 6.19). This fence measures 390 ft (120 m) long. The fence is constructed of limbs and larger trunks of both juniper and pinon trees. Some of the construction wood is axe cut, but the majority of the construction materials is comprised of scavenged wood. Live trees were also used in the fence. Barbed wire (double strand with double barb) was incorporated into the eastern half of the fence. A flat horseshoe was found in the middle of the saddle, and it may be associated with the fence.

The site probably represents a historic period livestock or property fence. The fence is placed in a strategic position to deter livestock from crossing the saddle and entering the north face of Booth Mountain. Brush fences are common cultural properties along Booth Mountain. Because there is, in general, a paucity of artifacts associated with these resources, relative age determinations are based on physical characteristics such as stages of decomposition of the wood, sediment accumulations around the base of the branches, and - whenever appropriate - associated artifacts or building materials such as barbed-wire. The fence has been recorded, mapped, and photographed. The site is not eligible for nomination to the NRHP, and no further work is recommended at the site.

5PE1800 Site 5PE1800, a light scatter of flaked lithic artifacts, is located along the gentle slopes of a south- to southwest-trending ridge within the interior of Booth Mountain (Stone



KEY:

juniper log fence

site datum

contour interval 20 ft

TN

0 600

scale (feet)

Figure 6.19 Site map, 5PE1799

City, United States Geological Survey, 7.5' quadrangle). Tall and short grasses are present in the meadow to the north, east, and south of the site. The site is within the pinon and juniper woodland and at the head of a tributary of Turkey Creek at an elevation of 6070 ft (1850 m) asl. Other vegetation at the site includes cacti, grasses, and mountain mahogany. Sediments at the site consist of residual deposits from the weathering sandstone. They are transported to the site through colluvial and alluvial processes as well as residual weathering. Eolian sediments probably constitute a minor portion of the total sediment matrix. The potential maximum depth is 10 cm.

The site is a large (110 m x 50 m) but sparse scatter of flaked-lithic artifacts (Figure 6.20). Artifacts include ten flakes, one utilized flake, one retouched flake, one core, one denticulate, one chopper, and one uniface/spokeshave. The entire artifact inventory was mapped. In addition to the aforementioned tools the 10 flakes were analyzed in the field (Table 6.7). Artifacts were manufactured from a variety of material types that include quartzite, chert, sandstone, chalcedony, and silicified wood. The diversity in artifacts from the site suggests activities such as unintensive core reduction, animal and or plant processing.

Table 6.7 Total surface nontool debitage, 5PE1800.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
3		1	Complete	4 (40)
		1	Broken	1 (10)
	1	1	Fragment	2 (20)
	1	2	Debris	3 (30)
3 (30)	2 (20)	5 (50)	Total (%)	10 (100)

The location of the site near the headwaters of a tributary of Turkey Creek and adjacent to several meadows is good for capitalizing on upland resources such as deer, elk, mountain lion, and bear. Moreover, the site's location may have also have been influenced by its proximity to a natural transportation route from the lowlands to the uplands via the drainage. The site is in good condition with only minimal evidence of surface disturbance. Vehicular traffic impressions are present at the southern margins of the site. The lack of diagnostic artifacts precludes a definite temporal affiliation for the site.

This site is recommended as eligible for nomination to the NRHP. This decision is based on the diverse artifact assemblage representing multiple site function (Zier et al. 1987: 2-19-35), the potential for buried deposits (Zier et al. 1987:3-3-5), and the particular

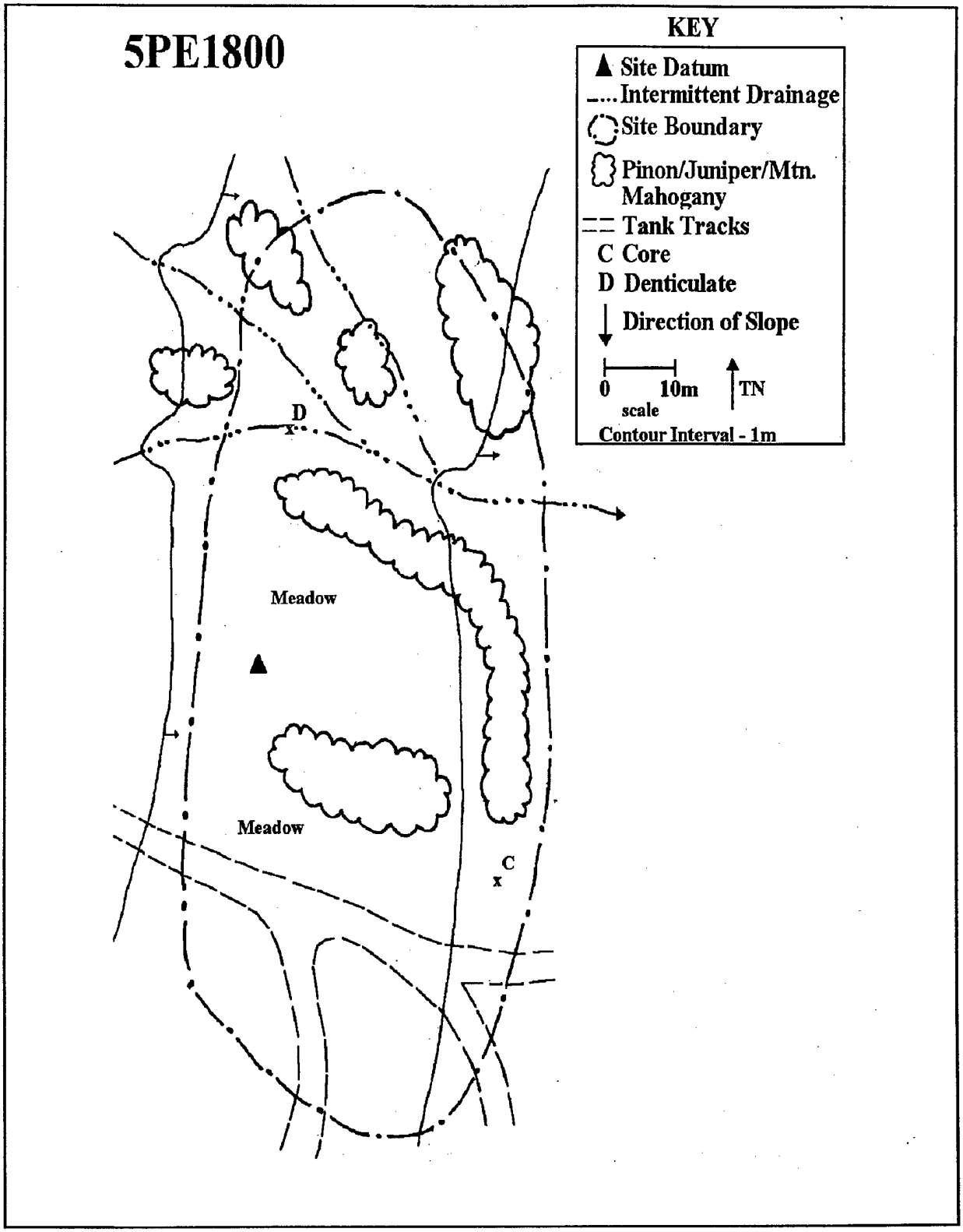


Figure 6.20 Site map, 5PE1800

topographic situation (Zier et al. 1987:33-5). There are few archaeological sites in these upland areas that are not adjacent to alcoves or mesa tops. Perhaps one reason for the dearth of archaeological sites in these upland regions is the combination of limited water supplies and inhospitable terrain. This site is situated in a topographic situation that is rare for much of the uplands, in that it has access to open meadows and seasonal water sources. This topographic situation is assumed to be the primary variable for the location of this site. A few of the artifacts are partially covered with sediments indicating a good probability for buried artifacts and perhaps buried cultural horizons.

5PE1801 Site 5PE1801 is a lithic scatter located along the western edge of Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). The site is located at the edge of a meadow along the southerly extending ridgetop. The site elevation is 6385 ft (1946 m) asl with an aspect to the southwest. The degree of slope on the site ranges between 0° and 2°. Sediments at the site consist of a silty sand over a compact gravel. The sediments are derived from the residual weathering of the sandstone bedrock. Some eolian sands and silts probably comprise a minor portion of the total sediment matrix. Light disturbance to the site is the result of water and wind erosion. The closest water source is an unnamed, intermittent drainage 100 m southeast of the site. The dominant flora at the site are grasses, cacti, mountain mahogany, pinon and juniper. A pinon and juniper woodland surrounds the site.

The site is described as a small (1374 m²) lithic scatter located on the west side of an east- to west-trending meadow (Figure 6.21). The total surface artifact assemblage consists of 27 flakes and flaking debris (Table 6.8), 1 utilized flake, 1 retouched flake, and 1 chalcedony core fragment. Chert is the dominant lithic material type, followed by equal amounts of quartzite and chalcedony.

Table 6.8 Total surface nontool debitage, 5PE1801.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
12	2	4	Complete	13 (48)
2	1	2	Broken	5 (18.5)
1	1		Fragment	2 (7.5)
3	3	1	Debris	7 (26)
13 (48)	7 (26)	7 (26)	Total (%)	27 (100)

Activities inferred from the artifact assemblage include intensive core reduction and limited tool manufacture. Because diagnostic artifacts were not found, the temporal affiliation is

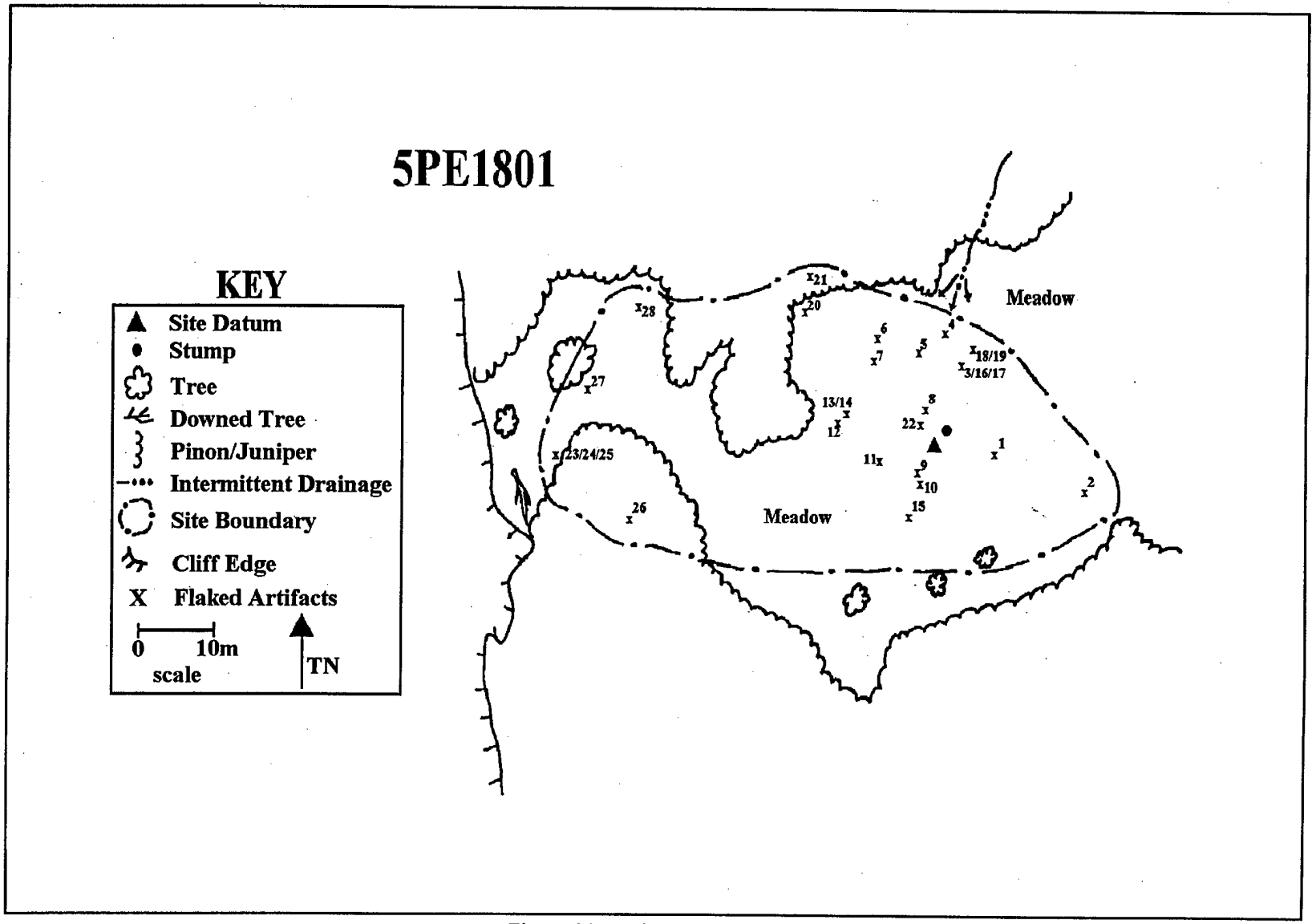


Figure 6.21 Site map, 5PE1801

unknown. The potential for subsurface deposits such as an occupational surface, features, or a significant number of buried artifacts is very limited because of the shallow sediment depth. The site has been recorded, mapped and photographed. All surface artifacts were analyzed in the field. The site is not considered to be eligible for nomination to the NRHP.

5PE1802 Site 5PE1802 consists of a scatter of flaked artifacts on a small, fairly flat area along the southwest side of a drainage in the interior of Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). This drainage is the headwaters of a tributary to a large, unnamed drainage that flows east into Turkey Creek. A small, sandy wash bounds the south side of the site. Elevation at the site is 6210 ft (1893 m) asl. The degree of slope on site ranges between 2 ° and 5 °. The site has an eastern aspect. Sediments at the site are silty sands with gravel. These are the product of residual weathering of the bedrock, slope-wash deposits, and some minor eolian silt. The depth of sediments is at least 10 cm. The site is in good condition with only minor disturbance from natural erosion and military activities. The closest water source is an unnamed ephemeral drainage, about 10 m from the north edge of the site. Vegetation on the site consists of juniper, pinon, cacti, mountain mahogany, and grasses. The immediate site area is surrounded by pinon and juniper woodlands with some riparian flora in the drainage.

The site is described as a flaked lithic artifact scatter (3728 m²) characterized by a small-to-moderate number (32) of flaked lithic artifacts (Figure 6.22). The total surface artifact assemblage includes one projectile point, two multidirectional cores, four core fragments, one preform and twenty-four flakes or flaking debris (Table 6.9). The artifacts are manufactured from chert, quartzite, and chalcedony, which are the typical material types for sites on Booth Mountain. In this assemblage, the three material types are fairly equally distributed. The high number of complete flakes, along with the cores and core fragments, indicate that activities conducted at the site largely consisted of unintensive core reduction. Limited tool manufacture is suggested by the presence of a preform and by the relatively high percentage (50 percent) of broken flakes and flake fragments.

Table 6.9 Total surface nontool debitage, 5PE1802.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
4	3	2	Complete	9 (37)
1	2	2	Broken	5 (21)
1	3	3	Fragment	7 (29)
1	2		Debris	3 (13)
7 (30)	10 (41)	7 (29)	Total (%)	24 (100)

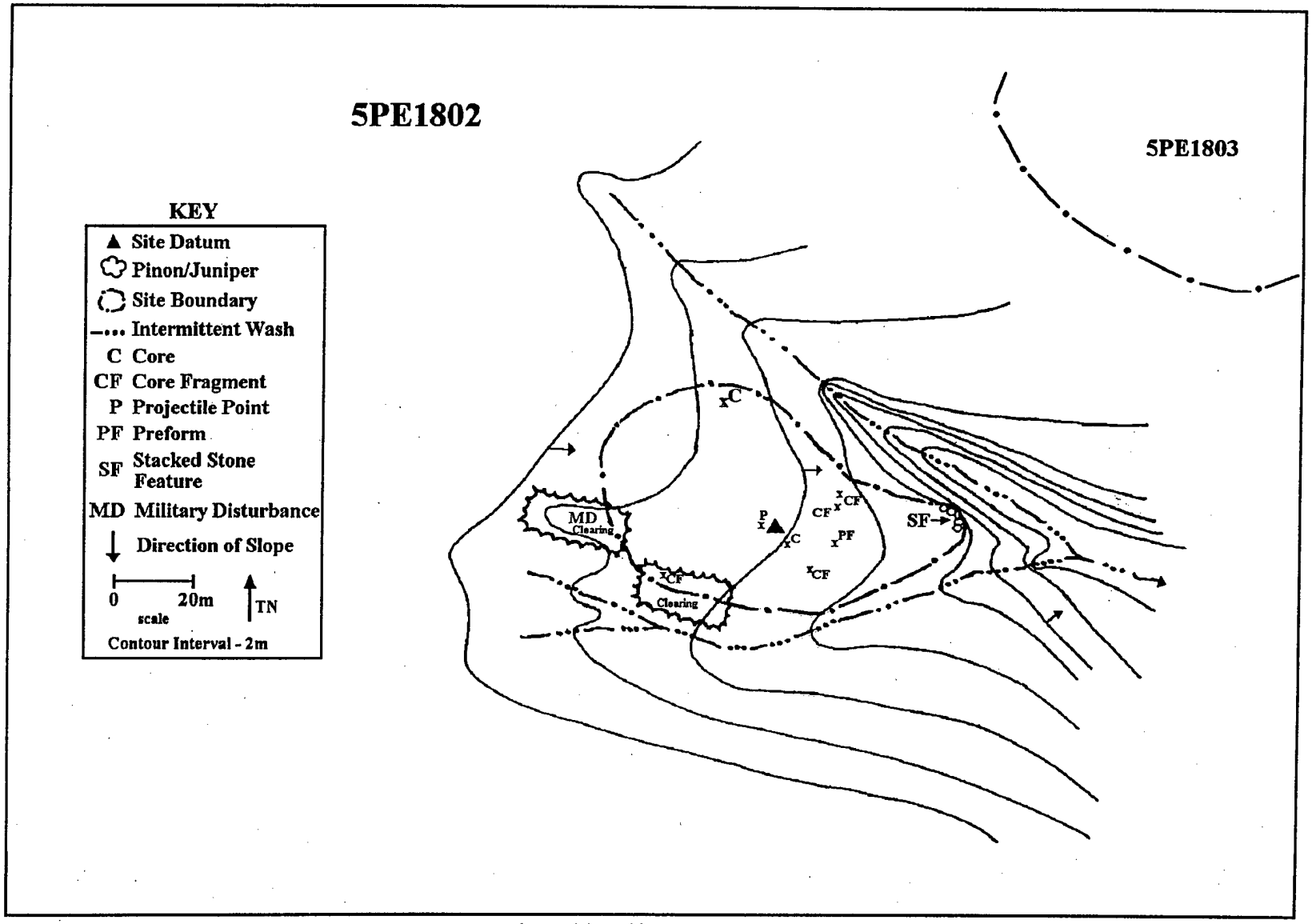


Figure 6.22 Site map, 5PE1802

The projectile point (Figure 6.23) is manufactured from a yellow jasper with some red definition around the edges, possibly indicative of heat alteration. The point is a large, stemmed variety with a slightly expanded stem, a straight to slightly convex base, and a broken tip with weakly barbed shoulders and sharp tangs. The point is rather thick and somewhat roughly shaped. It is biconvex to plano convex in profile. This point resembles those of Category P19 (Lintz and Anderson 1989:134-135). This category is subsumed under the large expanding stemmed point class, which are similar to Ellis points from the Southern Plains and to larger corner-notched points from Vail Pass and Magic Mountain in Colorado (Lintz and Anderson 1989:134). A general date range for the point is 2000 BC to AD 1000. A very large and dense lithic scatter, 5PE1803, is just north and across the drainage from 5PE1802. It is feasible that the two sites represent separate loci of a single temporal occupation. The artifacts at 5PE1802 suggest that activities at the site included core reduction, tool manufacture, and hunting. A core was found partially buried in the sediments, and this is an indication that other buried artifacts and perhaps features are present below ground surface. A rectangular sandstone feature is found on a point of the ridge directly above the northern and larger drainage. This feature measures 2 m by 2 m and is about 15 m from the artifact scatter. Another stone feature occurs across the drainage on site 5PE1803. It is not known whether these features are associated with the prehistoric activities or if they are of recent military construction; however, military refuse was not associated with either feature. The feature on site 5PE1803 is interpreted to be of prehistoric origin, although the possibility that the feature is of recent military origin cannot be entirely dismissed.

The site is eligible for nomination to the NRHP. This recommendation is supported by four criteria: the perceived association between site 5PE1802 and 5PE1803, which makes this a large, multi-activity locus of prehistoric behavior; the topographic position of this site at the headwaters of a large tributary canyon of Turkey Creek, which implies a natural transportation

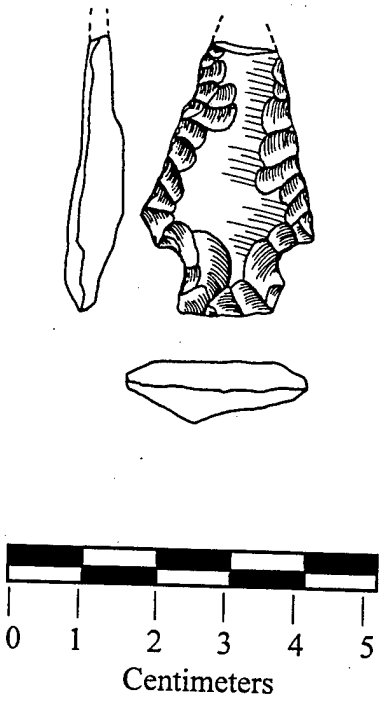


Figure 6.23 Projectile point collected from 5PE1802.

corridor into the uplands of Booth Mountain from the lowlands; the potential for buried deposits; and the potential to yield significant information on Late Archaic settlement and subsistence patterns in the Plains/Mountain Transition of the Fort Carson area. The above criteria are directly applicable to the research themes identified by Zier et al. (1987:2-19-35; 2-149) for Fort Carson.

5PE1803 Site 5PE1803, a large flaked- and ground-stone scatter, is located on the eastern end of a broad and gently sloping ridge (3°) that is bounded by steep canyons on the north and east. It is adjacent to a smaller canyon to the south (Stone City, United States Geological Survey, 7.5' quadrangle). On-site elevation is 6220 ft (1896 m) asl, with an aspect to the east and southeast. The site is located in a pinon and juniper woodland with small grassy areas and a larger meadow located along the western edge of the site. Bedrock is exposed along the rim above the drainage, but in the meadow sediment depth is estimated at 20 cm. Sediments consist of a gravelly sand loam, which are derived from residual weathering of the bedrock. There are also small accumulations of eolian silt. The site is in relatively good condition with some minor impacts from erosion. Military activities have also had a small impact on site integrity such as mechanized vehicular traffic. The on-site vegetation includes pinon, juniper, short grasses, and cacti. The closest water source is an unnamed, ephemeral drainage located 10 m south of the site. This drainage quickly downcuts to form a steep-walled canyon that eventually merges with Turkey Creek 2.5 km to the east.

This site consists of a dense scatter of flaked- and ground-stone with a single visible sandstone feature (Figure 6.24). It is estimated that over 400 artifacts are exposed at the site in an area measuring 110 m x 105 m. These artifacts consist of a small number of tools (one complete metate, one possible metate fragment, and one uniface) and numerous chalcedony, quartzite, and chert flakes. A transect sample of flaked artifacts was analyzed in a 1 m x 25 m through a portion of the site (Table 6.10). An overwhelming number of the artifacts from the transect are manufactured from white or red chalcedony. The dominance of this material could indicate a possible source area in the vicinity. The nontool assemblage displays a very high number of debris and flake fragments (76 percent total). The high number of debris is explained through intensive core reduction to the point of thoroughly exhausting or reducing the core; a pattern more suitable for long-term occupation rather than short-term, limited activities. The lack of formal tools at the site is curious given the large numbers of flakes. The presence of a complete metate, however, suggests that activities other than tool manufacture or core reduction were practiced at this location.

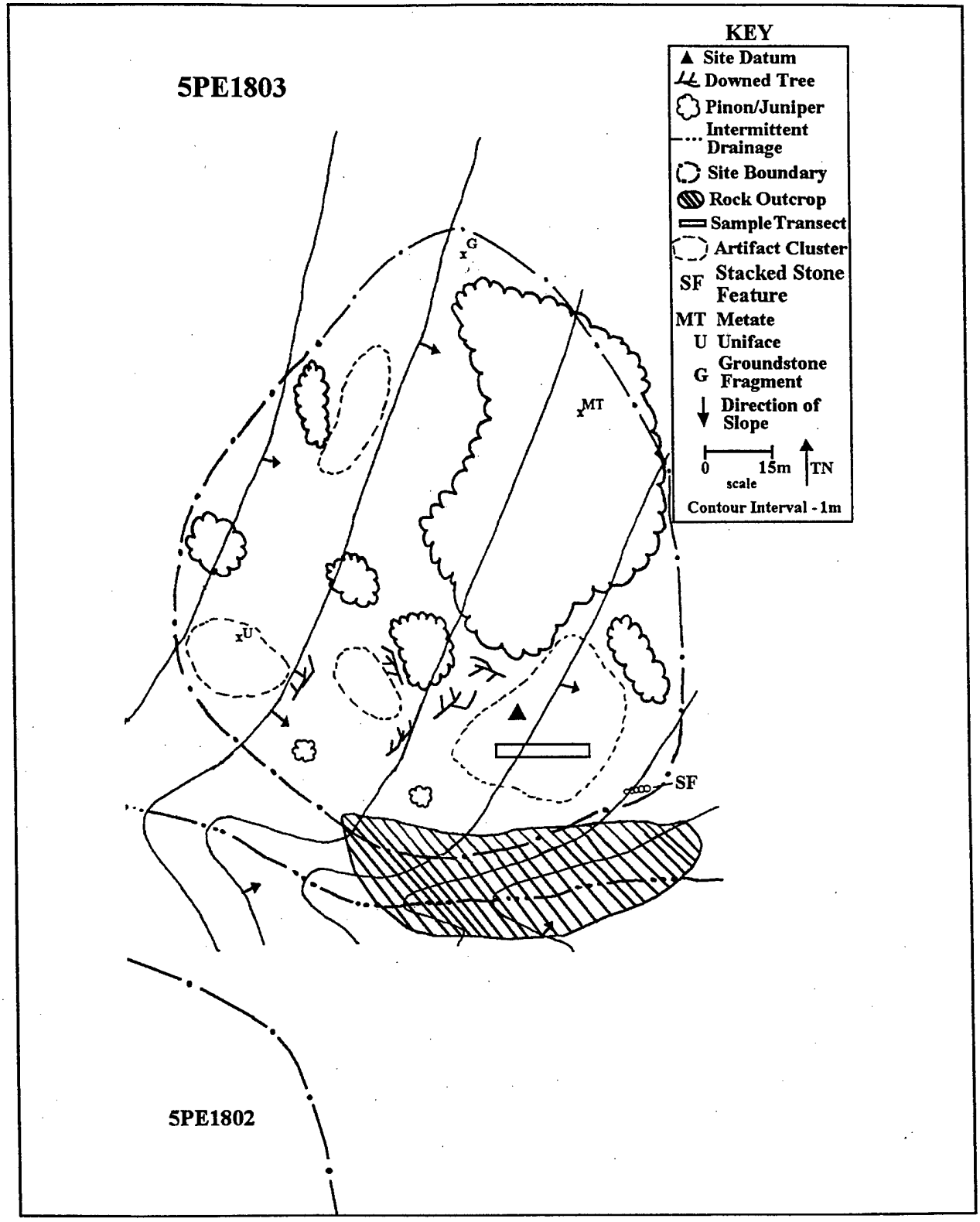


Figure 6.24 Site map, 5PE1803

Table 6.10 Nontool debitage from a sample transect, 5PE1803.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
	6		Complete	6 (14)
	4		Broken	4 (10)
	15		Fragment	15 (36)
7	9	1	Debris	17 (40)
7 (17)	34 (81)	1 (2)	Total (%)	42 (100)

A stacked-sandstone feature is located along the edge of the site and adjacent to the large drainage. This feature forms an arc that measures 4 m x 9 m and 40 cm high. It rests on exposed sandstone. A similar stone feature is present across the drainage on site 5PE1802. It is not known whether these features are associated with the prehistoric activities or whether they are of recent military construction. The feature on site 5PE1803 is interpreted to be of prehistoric origin; however, a military origin cannot be entirely dismissed although no military refuse was found near either feature.

The site is eligible for nomination to the NRHP. This recommendation is supported by four criteria: the perceived association between site 5PE1802 and 5PE1803, which makes this a large, multi-activity loci of prehistoric behavior; the topographic position of this site at the headwaters of a large tributary canyon of Turkey Creek, which implies a natural transportation corridor into the uplands of Booth Mountain from the lowlands; the potential for buried deposits; and the potential to yield significant information on Late Archaic settlement and subsistence patterns in the Plains/Mountain Transition of the Fort Carson area. The above criteria area directly applicable to the research themes identified by Zier et al. (1987:2-19-35; 2-149-149) for Fort Carson.

5PE1804 Site 5PE1804, a small flaked- and ground-stone scatter, is on a narrow bench along the north slope of Booth Mountain (Timber Mountain, United States Geological Survey, 7.5' quadrangle), and it is at an elevation of 5940 ft (1811 m) asl. Aspect at the site is to the north. The slope at the site ranges from 1° to 3° and becomes steeper downslope. Most of the site matrix consists of sand and silt to a depth of 10 cm. The sediments accumulate at the site through slope wash of the weathered bedrock. Eolian accumulations most likely form a small portion of the total matrix as well. Pinon, juniper, various grasses, narrow-leaf yucca, and cacti grow on the site and in the general site vicinity. The closest water source is an unnamed ephemeral drainage about 5 m from the site. A larger drainage is located about 60 m west of the site. This drainage is deeply dissected and may have been

present at the site during prehistoric occupation. Water in the drainage is seasonal and is collected through stormflow and interflow.

The site is characterized by a scatter of flaked- and ground-stone artifacts. The site measures 24 m x 7 m (Figure 6.25). Twelve flakes and flaking debris, three core fragments, one scraper, and one groundstone fragment were mapped and analyzed from the surface (Table 6.11). Lithic raw material types include chert, chalcedony, and quartzite. The artifact assemblage is limited; therefore, interpretations based on the assemblage are general. It is speculated that the high number of debris reflects intensive core reduction as the primary activity at the site. This generalization is strengthened by the presence of two quartzite core fragments and one chert core fragment. Most of the artifacts are located in a small, circular area upslope from exposed bedrock. Temporally diagnostic artifacts were not observed at the site. It is likely that the site represents a locus of prehistoric food processing and core reduction. The groundstone indicates activities other than intensive core reduction. The depth of the sediments at the site suggests the possibility for buried archaeological deposits.

Table 6.11 Total surface nontool debitage, 5PE1804.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
		1	Complete	1 (8.3)
	1		Broken	1 (8.3)
1	2		Fragment	3 (25)
3	2	2	Debris	7 (58)
4 (33.3)	5 (41.6)	3 (25)	Total (%)	12 (100)

It is recommended that the site is eligible for nomination to the NRHP. This evaluation is based on the potential for the site to yield buried deposits (Zier et al. 1987:3-3-5), and the potential for the site to address the research themes of settlement and economics for prehistoric sites in Fort Carson as outlined by Zier et al. (1987:2-19-35) in the Fort Carson Historic Preservation Plan.

5PE1805 Site 5PE1805, a small flaked-artifact scatter, is located along a narrow bench on the north slope of Booth Mountain (Timber Mountain, United States Geological Survey, 7.5' quadrangle) at an elevation of 6080 ft (1853 m) asl. Aspect from the site is to the north. The slope at the site ranges between 1° and 2°. Most of the site matrix consists of sand and conglomerate pebbles eroded from the exposed sandstone bedrock. The sediments accumulate at the site through slope-wash processes. Some residual weathering and eolian

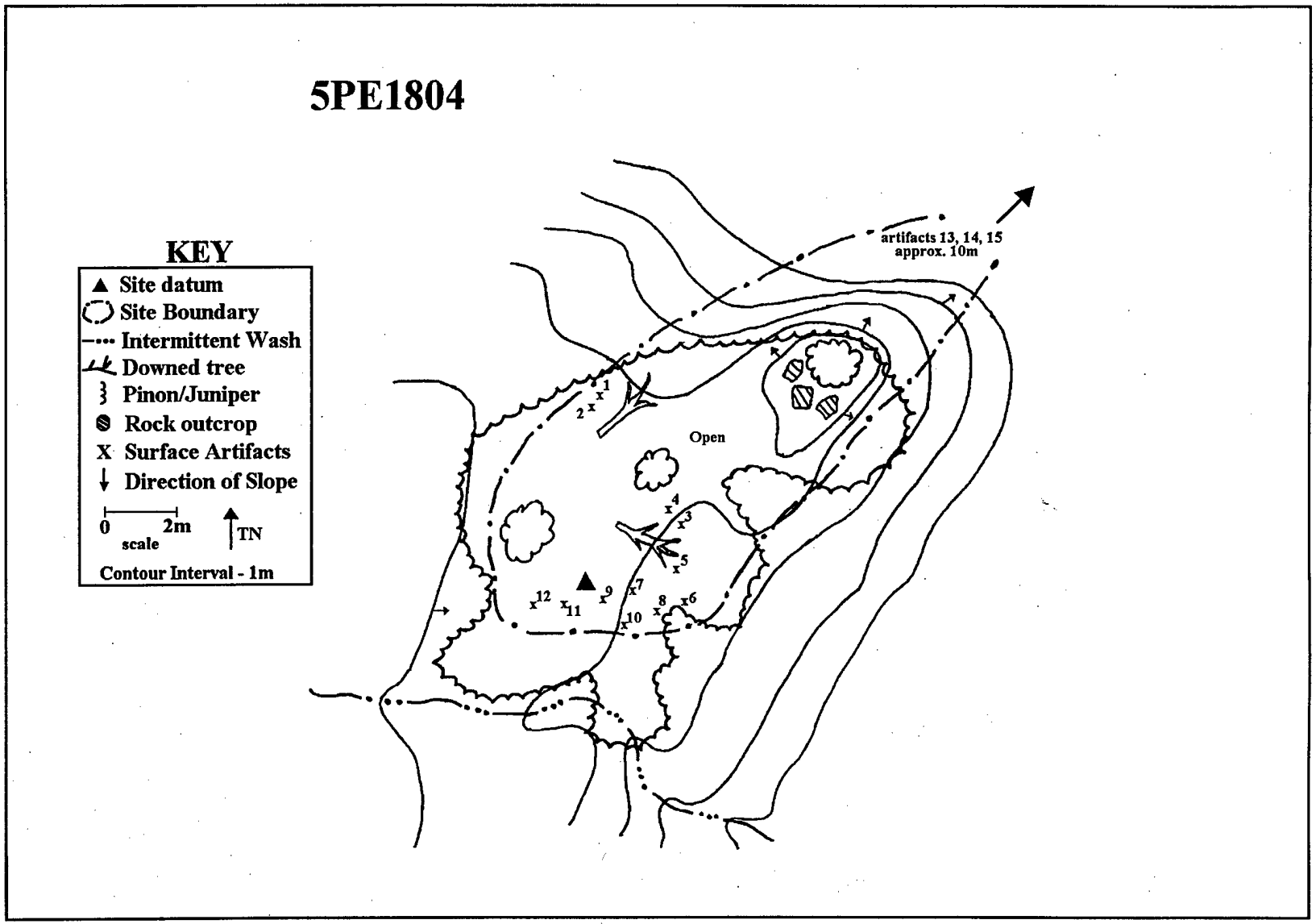


Figure 6.25 Site map, 5PE1804

accumulations most likely form a small portion of the total matrix. Sediments at the site may be as much as 30 cm deep. Pinon, juniper, various grasses, narrow-leaf yucca, and cacti grow on the site as well as in the general site area. The closest water sources are the small, ephemeral drainages that dissect the site from southwest to northeast. These gullies are currently eroding sediments from the site. It is unknown whether the current drainage pattern was present at the time the site was occupied, but it is more likely that this pattern is recent.

The site is a scatter of lithic debitage and cores located in a slightly open area within a pinon and juniper woodland (Figure 6.26). The site measures 39 m x 22 m. Over 150 chalcedony and quartzite artifacts were observed at the site. A sample of these was analyzed in a 1 m x 20 m transect through a portion of the site (Table 6.12). Interpretations about site function are based on a sample of 10 artifacts that do not comprise a representative sample of the total artifact assemblage. The lack of debris in the sample, combined with equal numbers of complete, broken, and flake fragments, and the presence of several cores suggest that tool manufacture with some unintensive core reduction were activities conducted at this location. The temporal affiliation of this site is unknown prehistoric; temporally diagnostic artifacts were not observed at the site. The depth of the sediments at the site suggests the possibility for buried archaeological deposits.

Table 6.12 Nontool debitage from a sample transect, 5PE1805.

		Flake Type	Total (%)
Chalcedony	Quartzite		
	3	Complete	3 (30)
1	2	Broken	3 (30)
2	2	Fragment	4 (40)
		Debris	0 (0)
3 (30)	7 (70)	Total (%)	10 (100)

It is recommended that the site is eligible for nomination to the NRHP. This evaluation is based on the potential for the site to yield buried deposits (Zier et al. 1987:3-3-5), and the potential for the site to address the research themes of settlement and economics for prehistoric sites in Fort Carson as outlined by Zier et al. (1987:2-19-35) in the Fort Carson Historic Preservation Plan.

5PE1806 Site 5PE1806 is an alcove site found along the north slope of an interior ridge on Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). The site

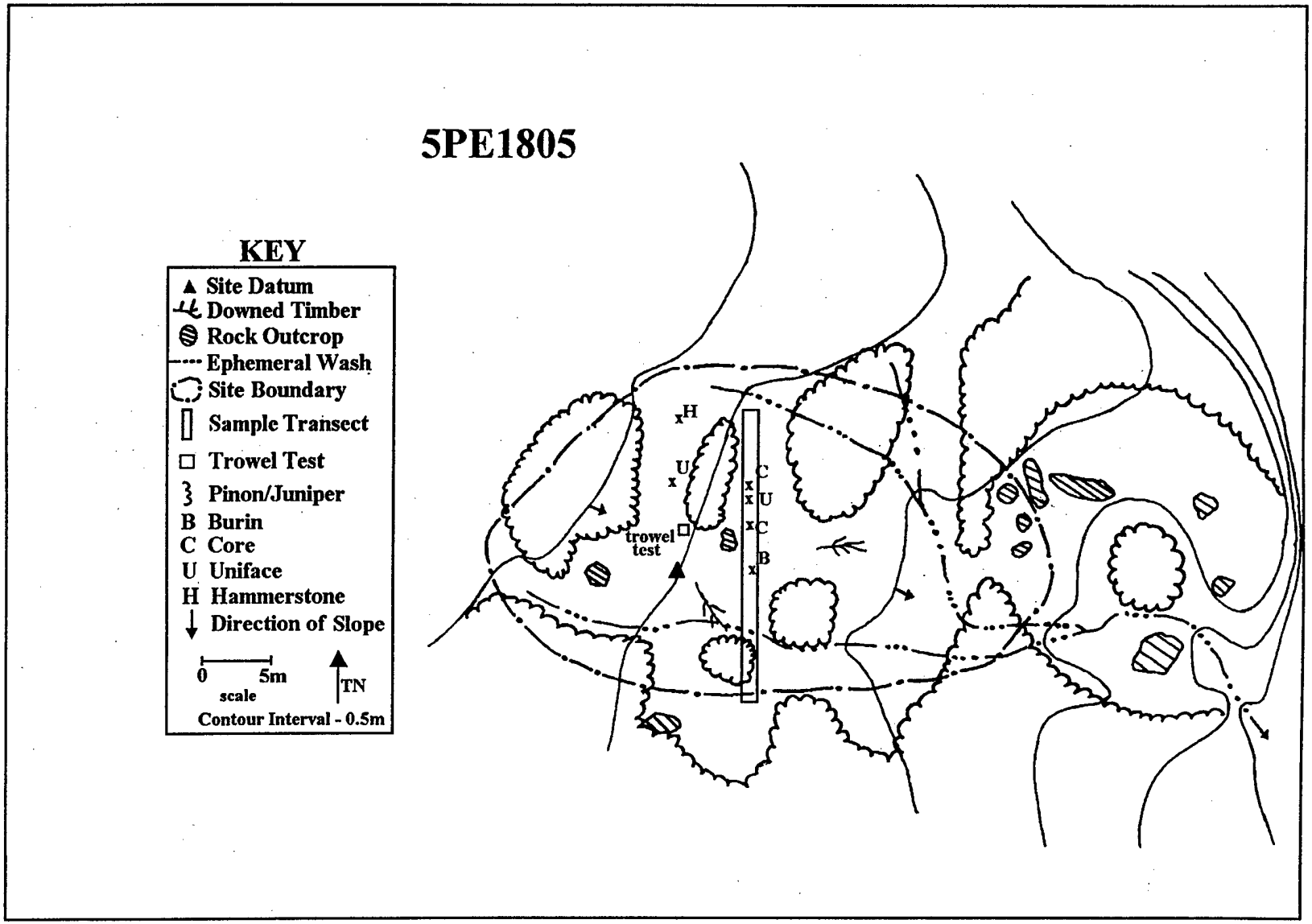


Figure 6.26 Site map, 5PE1805

is above a large meadow on the north end of Booth Mountain. This meadow forms the present drainage basin for a large tributary of the Turkey Creek Canyon. Elevation of the alcove is 6290 ft (1917 m) asl. Aspect from the site is to the north. Slope within the rockshelter is about 2°. Sediments within the alcove consist mostly of sands and gravel from the mechanical weathering of the sandstone. Some eolian silts are likely to be contained in the alcove as well. Depth of the sediments is estimated at 30 cm. Vegetation in and around the alcove consists of grasses, gooseberry, mountain mahogany, and cacti. The rockshelter is surrounded by a pinon and juniper woodland. The nearest water source is an unnamed ephemeral drainage 100 m from the site.

The alcove is formed under an extensive overhanging sandstone slab just below the top of the escarpment. The rockshelter measures 8 m x 21 m. The shelter opens to the north and northwest. (Figure 6.27). A small pile of juniper and pinon branches is present behind a large boulder within the alcove. The branches are within an area that may have once been enclosed by a small stone wall that has since collapsed (sandstone debris is evident here). One complete quartzite flake was the only artifact observed at the site. The temporal affiliation of the occupation of the alcove is unknown, because no diagnostic artifacts were found.

The site is located along the boundary between the Fort Lewis inventory and a previous inventory conducted by Centennial Archaeology in 1993 (Zier et al. 1996). A site files search at DECAM revealed the location of site 5PE1607; however, at the time of our field work the site form was not available to us. Since that time, the site form was acquired from the State Historical Society, and it has been deduced that site 5PE1806 and 5PE1607 are different sites although they may be separated by as little as 25 meters.

The site represents a temporary or seasonal use of the natural shelter. There are many similar site types along the sandstone escarpments on Booth Mountain. The site is not eligible for nomination to the NRHP, because the potential for significant buried deposits at this location is believed to be low. The site was recorded, mapped and photographed, and the artifact was analyzed.

5PE1807 Site 5PE1807, a small flaked-lithic artifact scatter and alcove, is located on a narrow bench next to a vertical rockface (Stone City, United States Geological Survey, 7.5' quadrangle). Elevation at the alcove is 6350 ft (1935 m) asl. The site is on a level bench along the north side of a north- and east-sloping ridge in the interior of Booth Mountain. A 6 m - 8 m high sandstone escarpment forms the southern edge of the site. The surrounding slope is about 10°. The alcove faces north with an aspect of 0° - 25°. Sediment accumulations at the site are residual, colluvial, and eolian in origin. The depth of these deposits is estimated at 20 cm. Vegetation at the site consists of pinon, juniper, mountain mahogany, cacti, and scrub oak. The site is situated within a pinon-and juniper-woodland. The closest water source is an unnamed ephemeral drainage 150 m downslope (north) of the

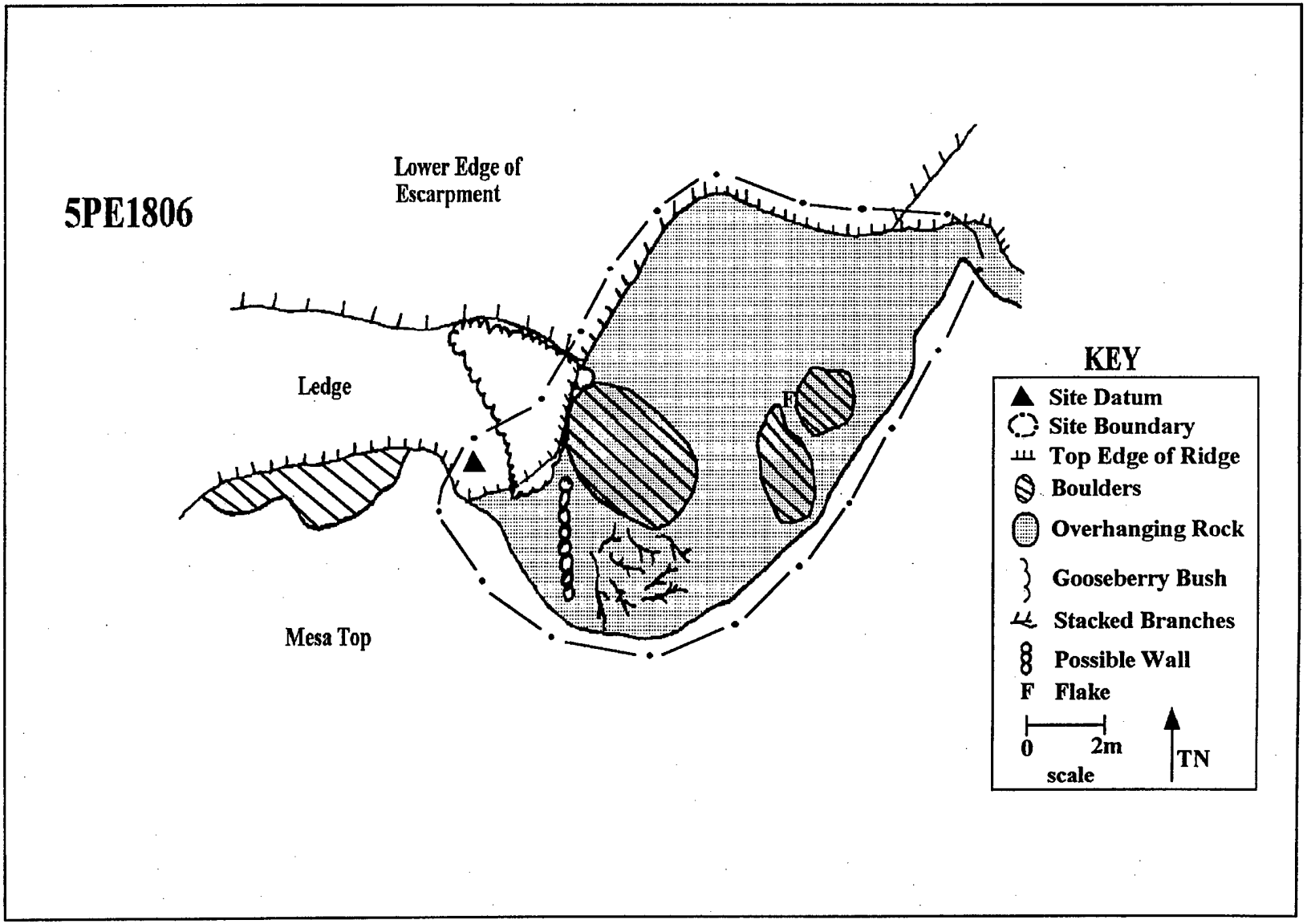


Figure 6.27 Site map, 5PE1806

site; however, two small, natural, water-catchment basins were observed on the escarpment above the site.

The site is a small scatter of flakes and flake tools within a small, low alcove (Figure 6.28). The site area, including the alcove, measures 24 m x 26 m. The alcove measures 5 m x 3 m. It is 1.25 m high at the front and slopes inward to a height of 0.75 m at the back. Pieces of two partially buried juniper branches are propped up against the inside of the alcove. Eleven flakes and flaking debris (Table 6.13), one orthoquartzite chopper, and one chalcedony core fragment were mapped along the bench in front of the alcove. A small concentration (1 m x 1 m) of sandstone is present in a clearing on the bench. This sandstone may indicate the presence of a deflated hearth; however, a trowel probe within the concentration failed to recover charcoal or cultural debris.

Table 6.13 Total surface nontool debitage, 5PE1807.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
	3	2	Complete	5 (46)
	1	1	Broken	2 (18)
			Fragment	0 (0)
1	2	1	Debris	4 (36)
1 (9)	6 (55)	4 (36)	Total (%)	11 (100)

The site is interpreted to be a temporary shelter and locus of intensive core reduction (based on the high number of debris and complete flakes). Temporal affiliation is unknown prehistoric, although it is possible that the site was occupied during the protohistoric or early historic period, based on the association with the undecayed branches.

The potential for buried deposits at the site is good due to the accumulation of residual, colluvial, and eolian sediments. It is recommended that the site is eligible for nomination to the NRHP. This evaluation is based on the potential for this site to yield information important to the research domains outlined by Eighmy (1984) for the Colorado Plains, and the research themes of settlement patterns, economics and geomorphology discussed by Zier et al. (1987:2-19-35) in the Fort Carson Historic Preservation Plan.

5PE1808 Site 5PE1808 is a historic road. The road begins at the bottom of a tributary canyon of Booth Gulch on the west side of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle). The road is approximately 800 m (2625 ft) long and

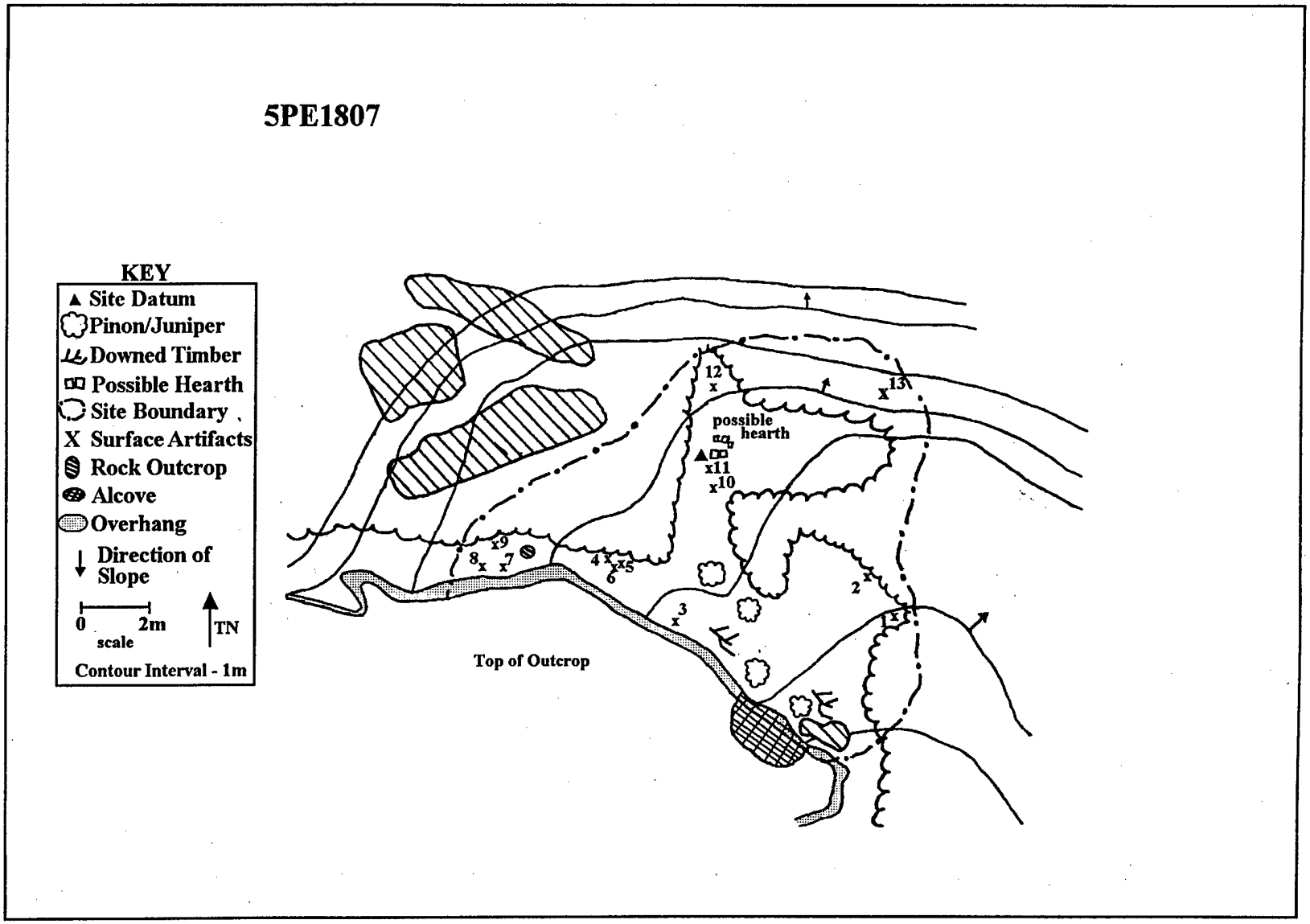


Figure 6.28 Site map, 5PE1807

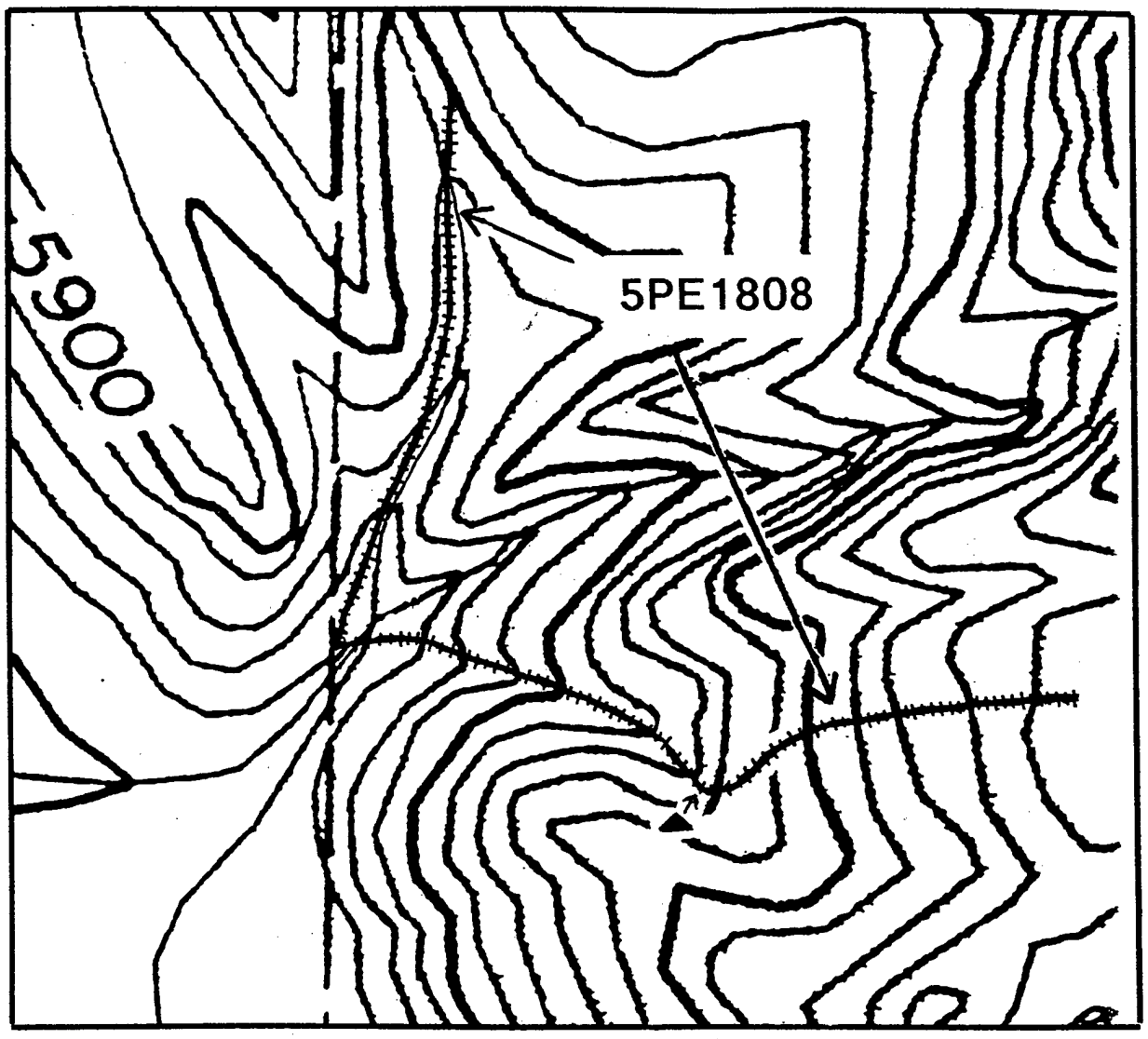
averages about 2 m (6.5 ft) wide. Elevation ranges from 5820 ft (1768 m) asl in the canyon bottom to 6090 ft (1856 m) asl at its highest position on the slope. The road traverses slopes between 5° and 15°. The road is in fairly good condition. Evidence of slope-wash erosion is apparent, especially along the steeper sections of the road. Vegetation along the road includes grasses, cacti, fringe sage, vetch, mountain mahogany, pinon, juniper, and scrub oak. There are a few riparian varieties in the canyon bottom.

In the canyon bottom, the road splits; one section runs east and west and the other north and south (Figure 6.29). The east and west section ascends a relatively steep slope and dissipates near the top of a slope. The initial part of this section is bounded to the north by a side drainage. The road then crosses the drainage and continues upslope. The other road section follows in a northerly direction for 300 m (980 ft) along the east side of an ephemeral drainage. This section continues only a short distance after leaving the bottom of a north and south side canyon. The road is fairly easy to follow except in some places where it has been washed out or in open areas where vegetation has grown over the road. Ruts are visible in only a few places. It could not be determined whether the road was used for wagon or motor-vehicle traffic.

The road was constructed with fairly substantial efforts; large boulders were moved to the side, and trees were cut or their branches removed. An occasional historic artifact appears located within the vicinity of the road. The eastern half of the southernmost road section has a fairly substantial scatter of historic artifacts. The artifacts include bottle glass fragments (dark olive green, solarized, clear, aqua) window glass, white utility ware fragments, canning jar fragments, fragments of terra cotta, canning jar lids, a white ceramic fence insulator, and miscellaneous metal pieces. A general age frame for the road is the first quarter of the 20th century. This estimate assumes that the artifact scatter is contemporary with the construction and utilization of the road.

The site is interpreted to be the remains of an historic road that is related to settlement activities in the Booth Gulch area. There is no indication of a habitation site along the road, and the historic trails map (Scott 1975) did not reveal a historic road or trail in the vicinity. A light historic-artifact scatter implies dumping of domestic trash along the road. In the bottom of the canyon and along the northern road is a stacked-stone feature. This feature includes an arc of dry-laid sandstone several courses high that incorporates a juniper tree in its construction. This feature is probably of historic origin, and because the feature appears to predate military activities in Fort Carson (based upon the silting-in of sediments and the lack of military debitage), it was recorded separately (5PE1841). It is possible that the feature and the road are contemporary.

The road represents a route of vehicular access into the west slope of Booth Mountain. The road does not appear to be connected with a habitation site in the interior; therefore, the purpose of this road is presumed to be related either to animal husbandry or for access to resources in the interior such as timber. It was not determined whether the road



KEY:

historic road

site datum

contour interval 20 ft

0 600

scale (feet)

TN

Figure 6.29 Site map, 5PE1808

was used for wagon traffic or motor vehicle traffic, although a light artifact scatter indicates that the road may have been in use during the first quarter third of the 20th century. The road has been recorded, mapped and photographed, and the artifacts were analyzed in the field. The road is not eligible for nomination to the NRHP.

5PE1809 Site 5PE1809, a flaked- and ground-stone scatter, is located along a mesa top in the interior of Booth Mountain (Stone City, United States Geological Survey, 7.5' quadrangle). The elevation of the site is 6320 ft (1926 m) asl. The site is within a fairly level, open area in a woodland setting. The slope on the site is about 2°. Aspect from the site is to the northeast. Vegetation includes pinon, juniper, mountain mahogany, cholla, cacti, and grasses. Sediments on the site are comprised of silty sands derived from residual weathering of the bedrock with some minor eolian silts. Sediment depth is estimated to be about 10 cm. The sediments are transported to the site through slope wash. Disturbance from these slope-wash processes has lightly compromised the context of the artifacts, in that artifacts have accumulated in the small gullies on the site.

The site is a limited activity site with possible activities including core reduction, tool manufacture, and plant processing. The site is relatively small with a total area of 1429 m^2 (Figure 6.30). The artifacts, which include core fragments (3), groundstone tool fragments (2), flakes and flaking debris (15), and a single broken biface (1), are primarily found associated with small braided gullies between stabilized areas of standing-and downed-vegetation. Because artifacts are eroding into the gullies, other artifacts may be buried beneath the alluvium. The dominant material type is chalcedony, followed by quartzite and chert (Table 6.14). The nontool assemblage shows a high number of complete flakes. The high number of complete flakes and the presence of cores and core fragements suggest that unintensive core reduction was taking place at this location. The presence of groundstone indicates plant or animal processing; an activity that could produce associated features that may also be buried. Diagnostic artifacts were not present within the surface artifact assemblage, but the variety of nondiagnostic artifacts implies that diagnostic artifacts may be present within the site matrix.

Table 6.14 Total surface nontool debitage, 5PE1809.

Material Type			Flake Type	Total (%)
Chert	Chalcedony	Quartzite		
1	3	6	Complete	10 (66.7)
	1		Broken	1 (7)
	2		Fragment	2 (13.5)
	2		Debris	2 (13.5)
1 (7)	8 (53)	6 (40)	Total (%)	15 (100)

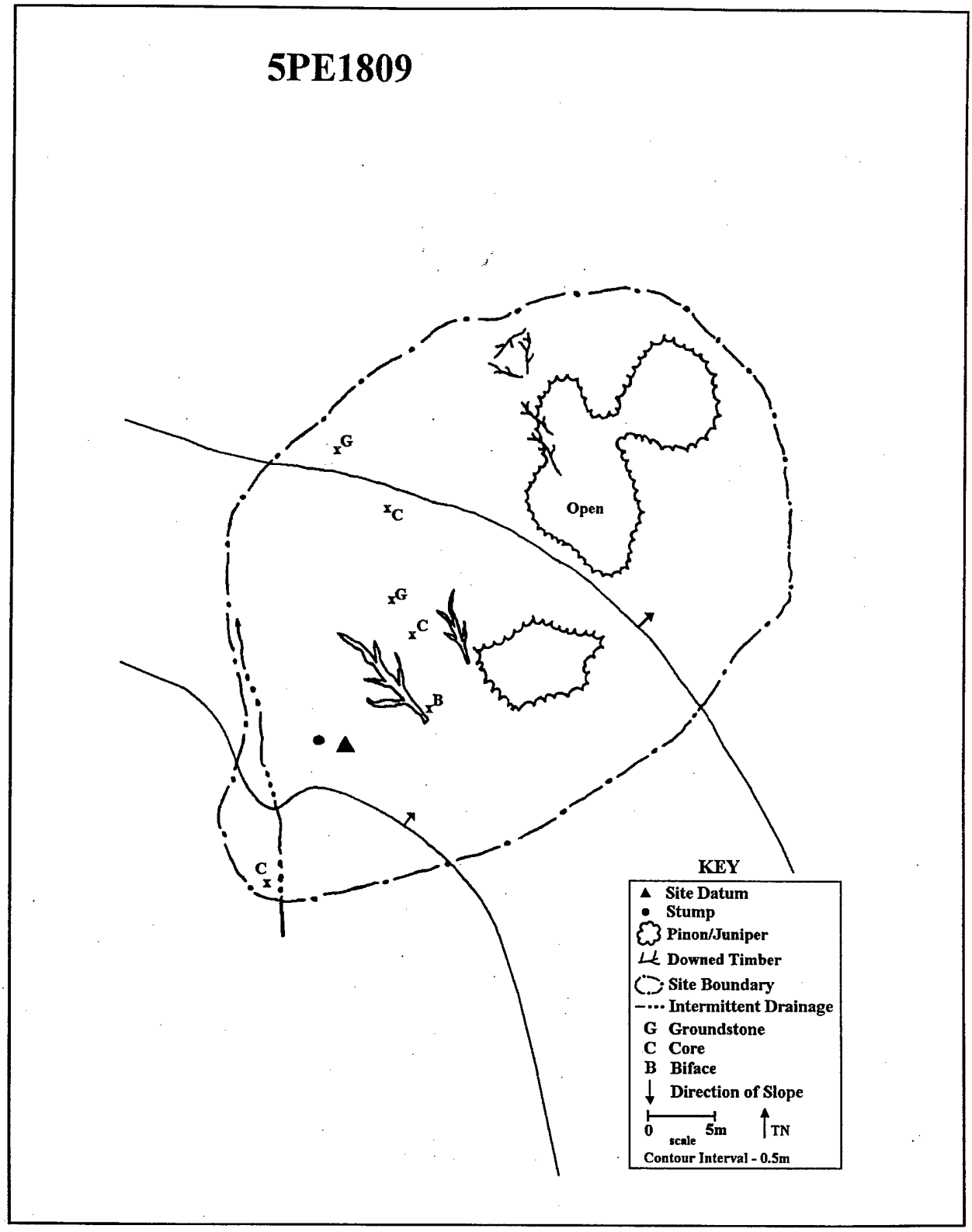


Figure 6.30 Site map, 5PE1809

It is, therefore, recommended that the site is eligible for nomination to the NRHP. This evaluation is based on the potential for this site to yield information important to the research themes of the Fort Carson Military Reservation (settlement patterns, economics), in general (Zier et al. 1987:2-19-35), and to the research domains outlined by Eighmy (1984) for the Colorado Plains. Specifically, the site could contribute to an understanding of resource exploitation and procurement within the Plains/Mountain Transition.

5PE1810 Site 5PE1810, a very small flaked artifact scatter with a possible sandstone feature, is located in the interior of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle). The site is in a fairly level area along a gently sloping ridge, which is bounded on the north by a deep tributary drainage of Booth Gulch. The on-site elevation is 6130 ft (1868 m) asl. The site is in the midst of a fairly thick pinon and juniper woodland. Aspect at the site is to the west. Sediments consist of a sandy loam derived from weathered sandstone. Sediments accumulate at the site through slope-wash processes. The depth of sediments is less than 10 cm. Bedrock was exposed in several places across the site. The closest water source is the large, steep drainage about 50 m to the northwest. Vegetation on the site consists of pinon, juniper, mountain mahogany, and cacti.

The site consists of a small (177 m^2) scatter of flaked lithic artifacts (Figure 6.31). The artifacts include one broken chert drill, two bifaces, three utilized flakes (one complete chalcedony, one broken chert, one broken chalcedony), and two pieces of chert-flaking debris. These artifacts were concentrated within a small area. One biface is manufactured from a clear glassy material such as quartz (Figure 6.32a), which is unusual for sites on Booth Mountain. This biface is crudely manufactured, and it is temporally undiagnostic. The broken drill is manufactured from a yellow jasper with a red exterior (Figure 6.32b). This red exterior may be the result of thermal alteration. The sides of the drill exhibit crushing scars, and the edges are worn smooth. An amorphous sandstone concentration was found within the site boundary. This anomalous rock concentration consists of five large, tabular pieces of sandstone in an area 2 m x 1.5 m. The purpose of this sandstone concentration is not known.

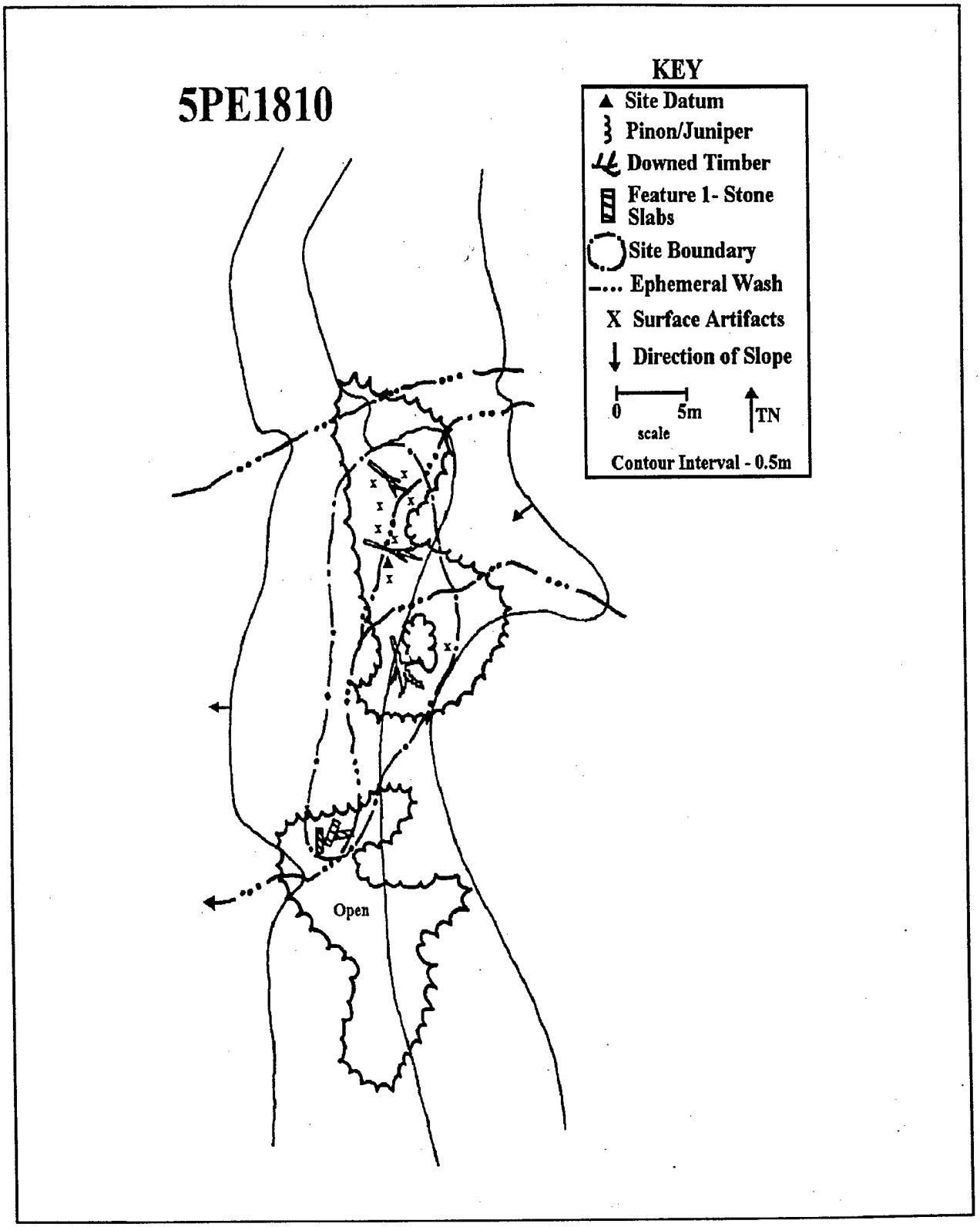


Figure 6.31 Site map, 5PE1810

This site consists of a small concentration of flaked lithic artifacts and a possible sandstone feature. The site is situated primarily on bedrock; therefore, the probability that the site can produce buried artifacts and features is low. The site is not believed to possess the potential to yield additional significant information. The site was mapped, recorded, and photographed, and the surface artifacts were analyzed in the field. The quartz biface and the red chert drill were collected for further analysis and curation. The site is not recommended as eligible for nomination to the NRHP.

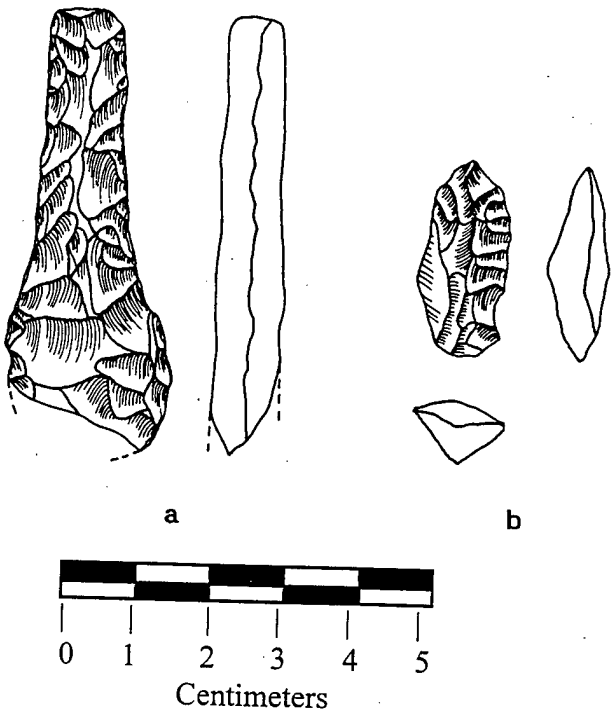


Figure 6.32 Flaked lithic artifacts collected from 5PE1810: a) chert drill; b) quartz biface.

5PE1811 Site 5PE1811, a small lithic scatter, is located on a southerly facing ridge (Pierce Gulch, United States Geological Survey, 7.5' quadrangle). The elevation at the site is 6180 ft (1884 m) Asl. The degree of slope on the site is about 5°, and the aspect is to the west. The site matrix is very shallow, with sandstone bedrock exposed in several places across the site. The gravelly sandy loam is estimated at less than 5 cm in depth. The sediments are derived from the residual weathering of the bedrock and were deposited at the site through slope-wash processes as well as *in situ* weathering. The site appears to be eroded to a large degree. The site is situated in the midst of a pinon and juniper woodland. Other flora include mountain mahogany and cacti. The closest water source is an unnamed ephemeral drainage 60 m south of the site.

The site is described as a small (1178 m^2) lithic scatter that is located on a southerly facing ridge with steep drainages bordering the site (Figure 6.33). The site is dissected by small gullies that have displaced the artifacts. The sediments are shallow, and bedrock is exposed particularly on the northern half of the site. Artifacts include two core fragments, one core/hammerstone, one hammerstone, one biface, one uniface, and fifteen pieces of lithic

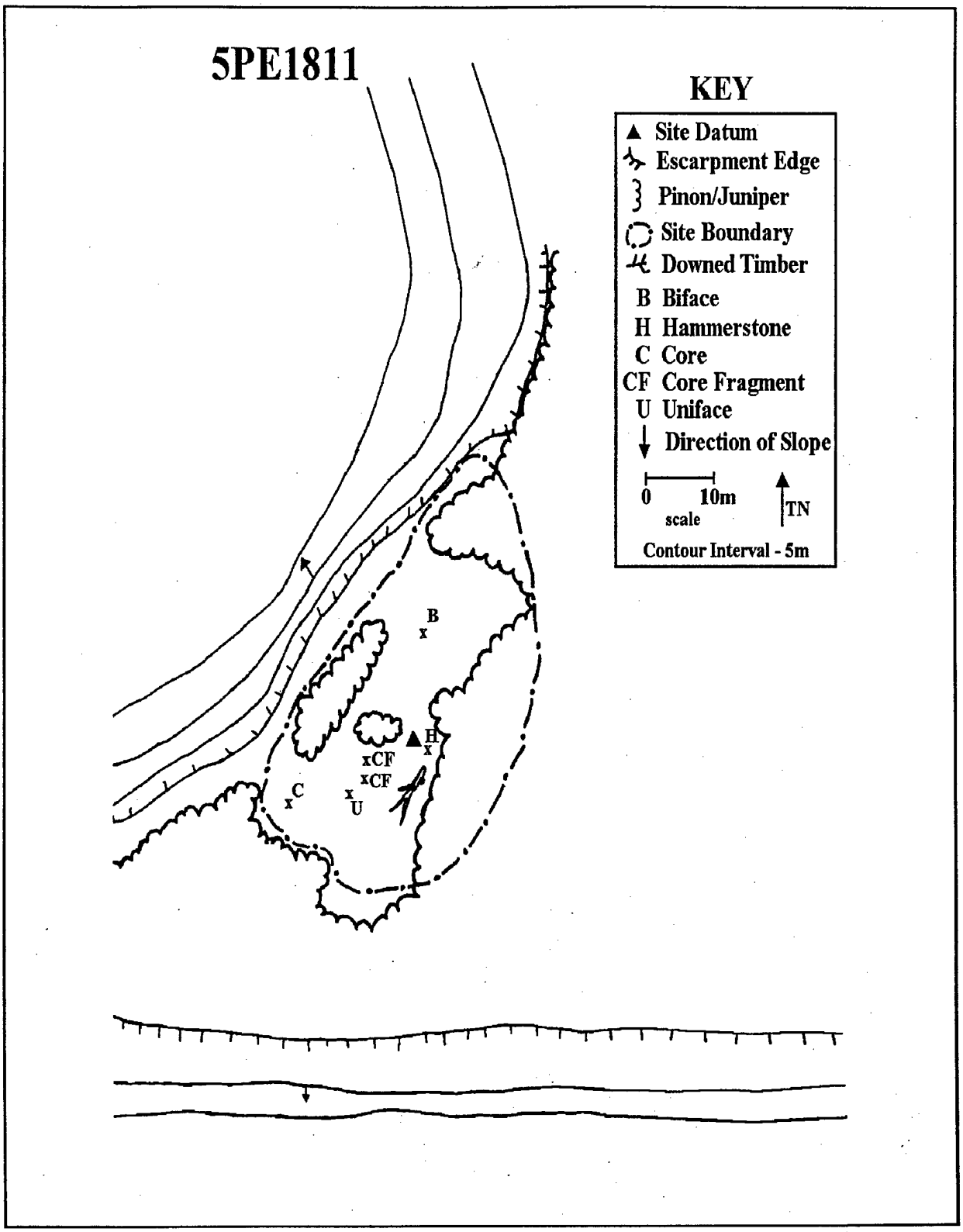


Figure 6.33 Site map, 5PE1811

debitage. The artifacts are manufactured primarily from quartzite and chert. A few artifacts are manufactured from chalcedony. There were no diagnostic artifacts observed on the surface; therefore, the temporal or cultural affiliation of the inhabitants is unknown.

The site represents a locus of limited activity, possibly seasonal. It is interpreted that activities at the site included core reduction and limited tool manufacture. The site is situated in an area of very shallow sediments with erosion compromising the site context. The site has limited potential to yield information about the prehistory of the area. The site was recorded, mapped and photographed, and the surface artifacts were analyzed in the field. It is recommended that the site is not eligible for nomination to the NRHP.

5PE1812 Site 5PE1812, a small sandstone alcove, is located along a conglomeritic sandstone escarpment in the interior of Booth Mountain (Pierce Gulch, United State Geological Survey, 7.5' quadrangle). The site faces west to northwest and overlooks a steep-sided drainage. Elevation of the alcove is 6080 ft (1853 m) asl. The slope on which the alcove is situated is between 10° and 30°. Sediments within the alcove are a sandy loam derived primarily from mechanical weathering of the sandstone bedrock. Some eolian sediments comprise a minor portion of the sediment matrix. Sediment depth is estimated to be around 20 cm. Vegetation surrounding the alcove consists of pinon, juniper, cacti, sage, some grasses, and serviceberry. The closest water source is an unnamed, ephemeral drainage 30 m northwest of the site. Wall and roof spalling of granular to larger angular sandstone is apparent within the alcove, along with a fairly extensive packrat midden. The site does not appear to have been disturbed by humans, but bioturbation has affected the site.

The alcove overlooks an east/west trending, ephemeral drainage. The head of the drainage is just east of the alcove. The alcove measures 9 m x 6 m and is approximately 3 m high (Figure 6.34). A chert biface at the opening to the alcove was the only surface artifact aside from a bedrock metate. Two juniper limbs are wedged into a hole in the back wall of the alcove. These limbs are interpreted to be the remains of some type of roof support. Other juniper branches were scattered around the alcove opening. A large piece of sandstone that has broken away from the floor of the alcove was used as a bedrock metate. Charcoal is present in the talus cone at the front of the alcove. It is, therefore, highly probable that this alcove has the potential for buried deposits. It is rather unusual to find bedrock metates associated with these small alcoves within Booth Mountain.

This site is interpreted to be a small, seasonal or temporary shelter. Among other potential activities at this location, grinding of plant or animal resources was conducted here as indicated by the bedrock metate. The presence of charcoal in the talus cone at the front of the alcove suggests the possibility for buried features within the shelter. Roof and wall spall may be covering *in situ* site matrix, although disturbance from packrats is rather extensive over parts of the alcove. Because the alcove may contain buried artifacts and possibly buried features, it is recommended that the site be considered potentially eligible for nomination to the NRHP. Preservation in alcoves and rockshelters is often superior to

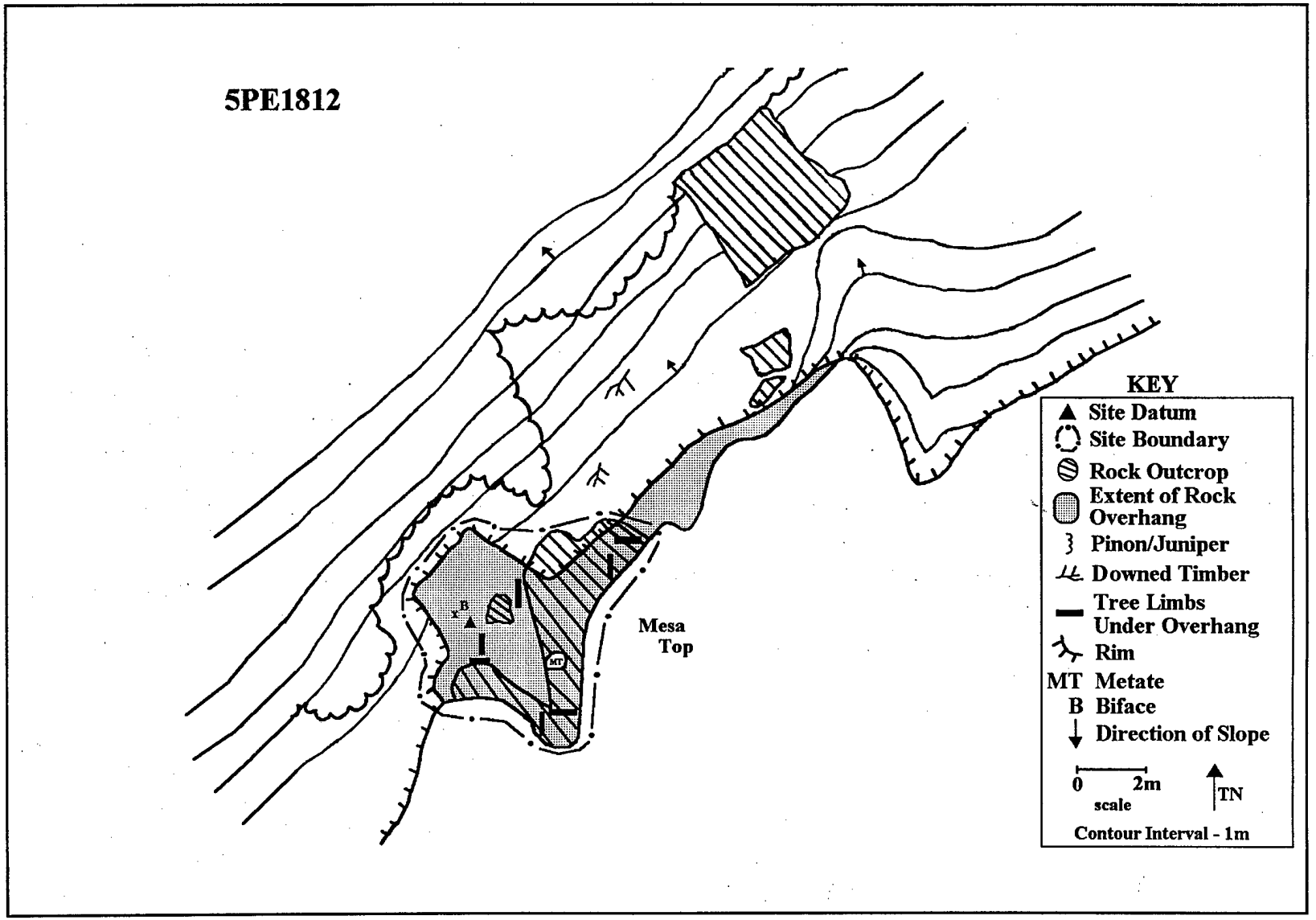


Figure 6.34 Site map, 5PE1812

that of open sites. This site has an excellent potential to yield important information regarding settlement patterns, resource exploitation, and procurement practices of the prehistoric occupants of the Fort Carson Military Reservation in particular (Zier et al. 1987: 2-19-35), and those of the Plains/Mountain Transition in general (Eighmy 1984).

5PE1813 Site 5PE1813, a flaked lithic- and ground-stone scatter, is located in the interior of Booth Mountain (Pierce Gulch, United States Geological Survey, 7.5' quadrangle map). The site is located in an open area along the gentle slopes (2°) of a northeast to southwest trending ridge that parallels an ephemeral drainage. The site is on the west side of this drainage. Several small easterly flowing gullies dissect the site. The on-site elevation is 5960 ft (1817 m) asl. Aspect is to the southeast. Large sandstone boulders outcrop behind the site to the north and to the east. The site matrix consists of a gravelly sand loam. These sediments are derived from the residual weathering of the sandstone bedrock and are transported to the site through colluvial and alluvial processes. The depth of the sediments at the site is estimated to be a minimum of 15 cm. The site is situated in the midst of a pinon and juniper woodland. Other vegetation on the site includes cacti, mountain mahogany, and yucca. An unnamed ephemeral drainage located 30 m southeast of the site is the closest water source.

The site is a small but intense scatter of flaked- and ground-stone artifacts. The site measures 45 m x 30 m (Figure 6.35). The site area is dissected by several small gullies, lithic artifacts are found in these gullies. This suggests that erosion is compromising the site context. The surface artifact assemblage includes four cores, one core fragment, two bifaces, two choppers, one hammerstone, two scrapers, five manos, and one metate. The entire assemblage of flaked lithic artifacts was analyzed. The dominant material type for the flaked lithic artifacts is quartzite. Chalcedony, chert, and silicified wood are also represented. The manos and the metate are all manufactured from sandstone. They were all partially buried, and this demonstrates that additional artifacts are probably buried within the site matrix. The large number of tools, both flaked and ground, imply that activities other than core reduction and tool manufacture were conducted at this location.

The site is interpreted to be a locus of tool manufacture, food preparation and processing, perhaps with an emphasis on vegetal processing. The site has the potential to yield significant information on the prehistoric utilization of resources in the interior of Booth Mountain. Sites in this setting with a varied artifact assemblage are uncommon. The position of this site with few nearby plant resources other than pinon, juniper, cacti, and yucca makes this site somewhat of an anomaly. The presence of so much groundstone on the site implies the probability that features are buried in the site matrix. It is recommended that the site be considered eligible for nomination to the NRHP based on the potential for the site to yield significant information important to the prehistory of the Fort Carson Military Reservation, in general (Zier et al. 1987:2-19-35), and to the research domains outlined by Eighmy (1984) for the Colorado Plains. Specifically, the site could contribute to an

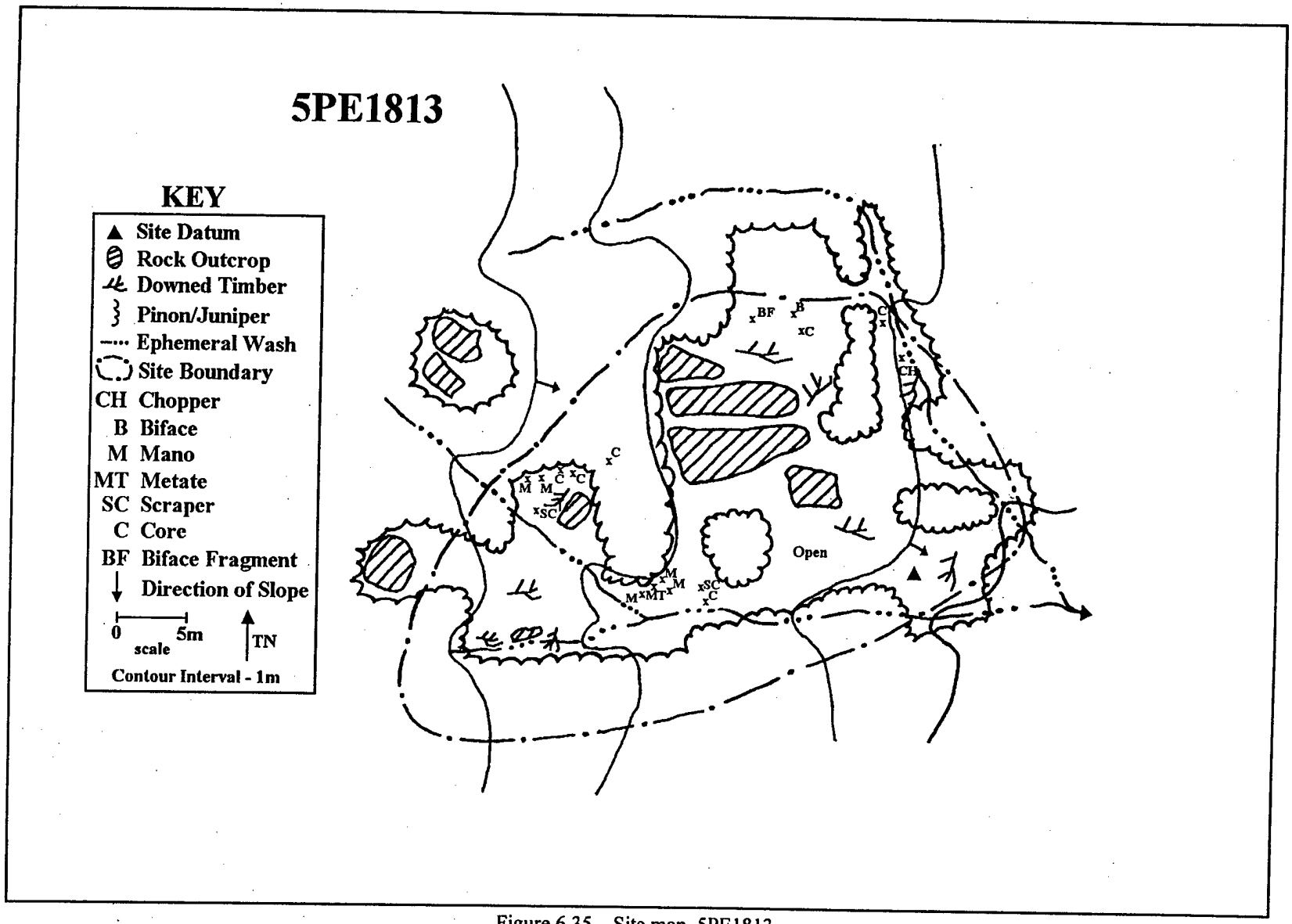


Figure 6.35 Site map, 5PE1813

understanding of resource exploitation and procurement within the Plains/Mountain Transition.

5PE1814 Site 5PE1814 is a small prehistoric lithic quarry (Stone City, United States Geological Survey, 7.5' quadrangle). The site is on a mesa top above a major tributary canyon of Turkey Creek about 30 m from the canyon rim. This drainage, although unnamed, is one of the larger drainages that flow from west to east and merge with Turkey Creek. The site is situated in a clearing in a flat area (0 - 2° slope) along the mesa top as it gently slopes to the east to Turkey Canyon. The on-site elevation is 5970 ft (1820 m) asl. Aspect at the site is to the east. The site sediments consist of about 10 cm of sandy loam that is derived from the residual weathering of the sandstone bedrock. Vegetation on the site includes various types of grasses, juniper, a few pinon, and cacti. The site is in good physical condition with little evidence of disturbance. The closest drainage is the large unnamed tributary to Turkey Creek about 100 m from the site and down a steep canyon slope.

The site consists of a small (10 m x 35 m) but dense scatter of flaked-lithic artifacts (Figure 6.36). With three exceptions, the artifacts are manufactured from a green orthoquartzite. This material locally outcrops from the Dakota Sandstone Formation, and it was reduced at this location. The material is available at this location in tabular form. It is estimated that over 75 flakes are present; however, no tools or diagnostic artifacts are present. The absence of diagnostic artifacts precludes assigning a temporal affiliation to the site. The possibility for buried deposits here is minimal.

This site represents a special activity locus, primarily the reduction of the locally available green orthoquartzite. The site was recorded, mapped and photographed, and a sample (1 m x 10 m transect) of the flaking debris was analyzed in the field. The site represents a small source area for lithic materials. This material is fairly common within the Dakota Sandstone Formation, and, therefore, it is not recommended that the site be considered as eligible for nomination to the NRHP.

5PE1827 Site 5PE1827 consists of a very small section of a road or trail. The site is in the interior of Booth Mountain, and it is located on the Stone City, United States Geological Survey, 7.5' quadrangle. The road or trail is situated at an elevation of 6080 ft (1850 m) asl. The road or trail is on the north side of an east sloping finger ridge that eventually merges with the drainage bottom 75 meters east of the site. Aspect from the site is to the east, and the degree of slope along the finger ridge is 5° to 10°. Sediments consist of residual sand overlying sandstone bedrock. The closest water source is an unnamed ephemeral drainage 40 m from the site to the south. Vegetation consists of pinon, juniper, cholla, and prickly pear cactus. Tall meadow grasses and some riparian grasses are present in the drainage below the site.

The site consists solely of a 26 m long and 2 m wide section of a road or trail (Figure 6.37). The road or trail is visible along the north side of an east-sloping sandstone finger

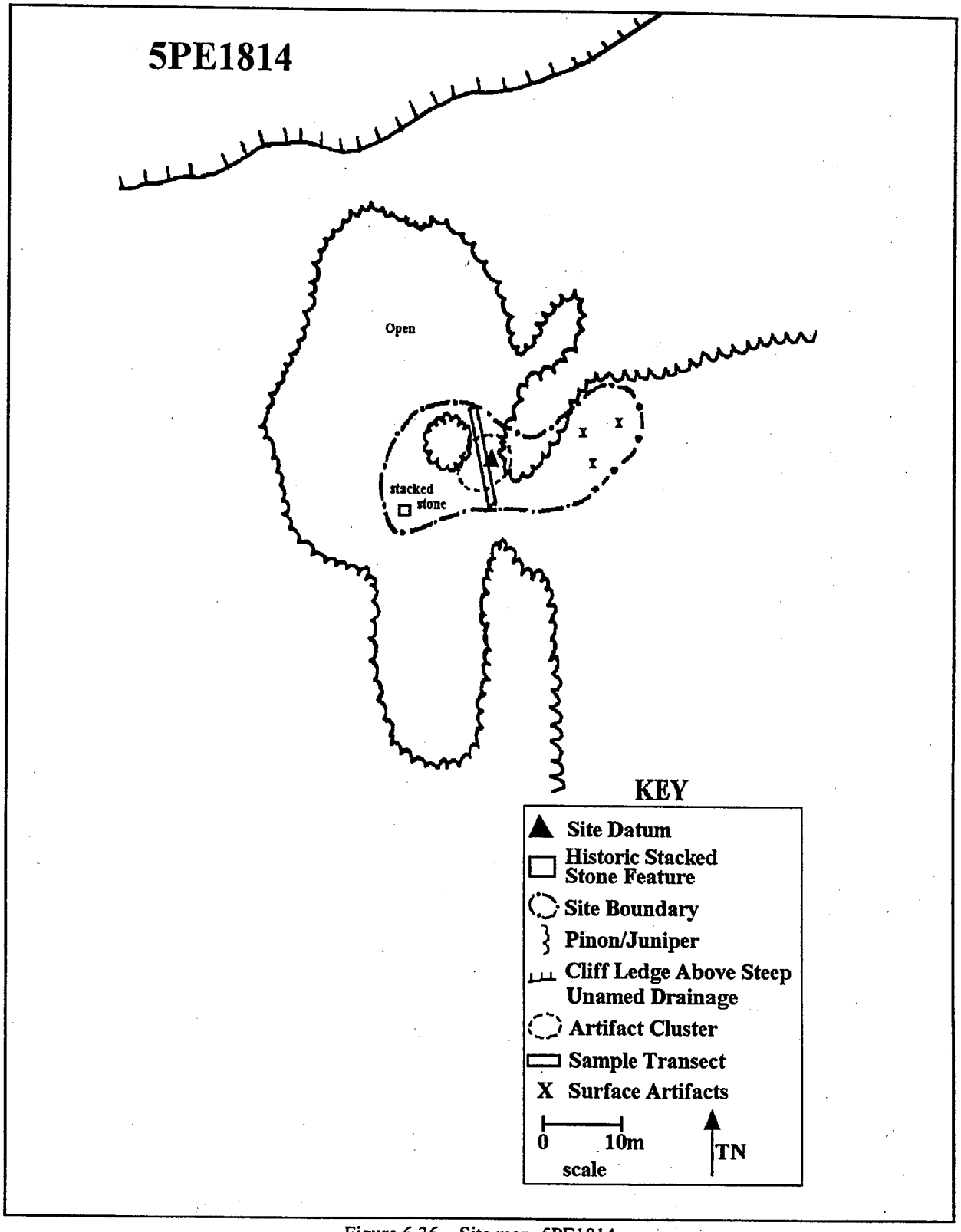


Figure 6.36 Site map, 5PE1814

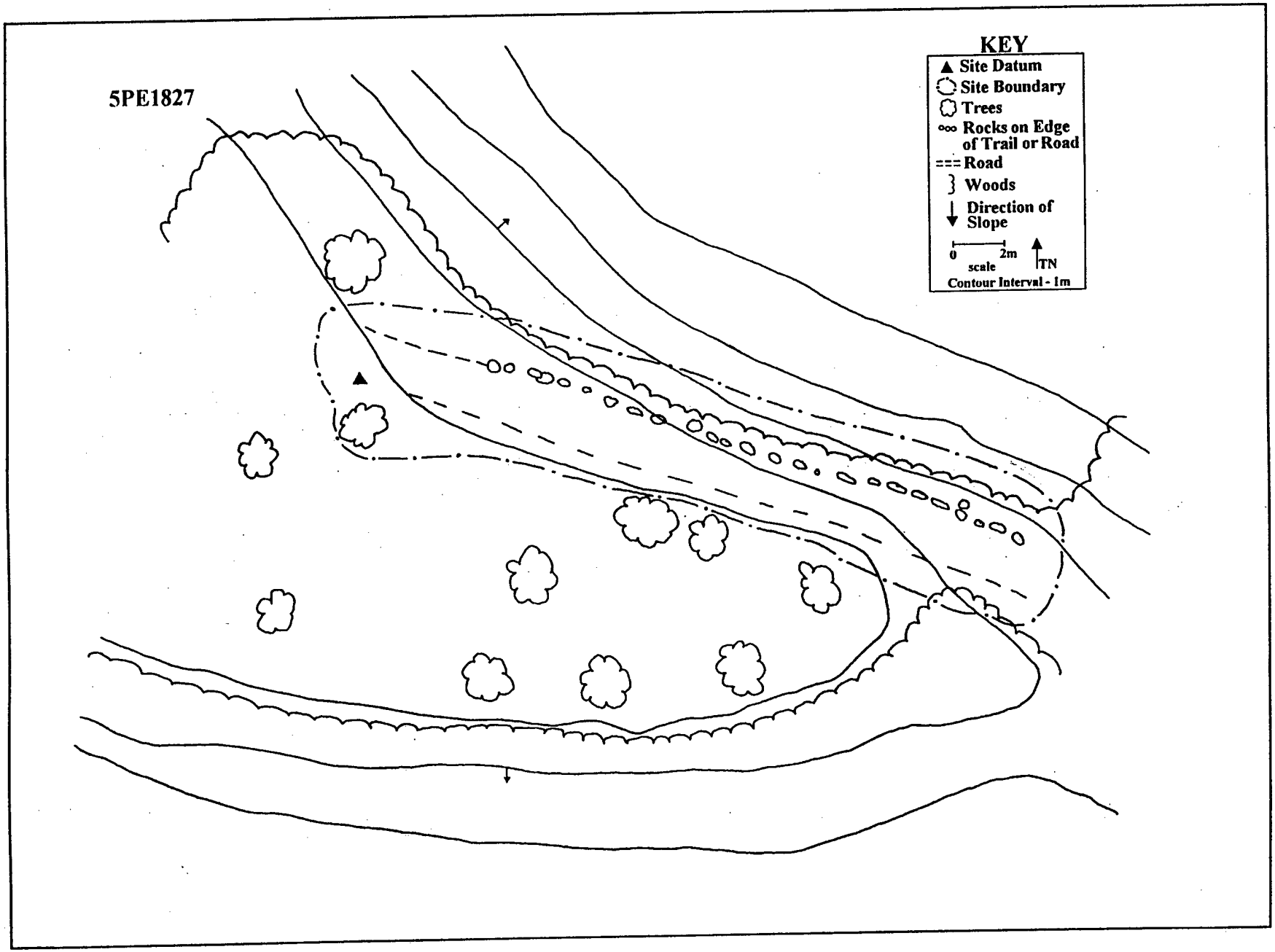


Figure 6.37 Site map, 5PE1827

ridge. Large and small rocks were moved to the sides of the road or trail to permit access. Ax-cut branches also line the perimeter of the road or trial. The road or trail could only be followed for 26 m as it ascended the sandstone ridge (Figure 6.38). No artifacts were found in the area of the road or trail, and no historic sites were identified in the vicinity. The road or trail is too short to make any positive identification especially with regards to age. There is minimal potential for the site to yield important information beyond that gleaned at the time of field recording. The site is not eligible for nomination to the NRHP.

5PE1840 Site 5PE1840 consists of a circular stacked-stone feature. The feature is located on the Pierce Gulch, United States Geological Survey, 7.5' quadrangle. The feature is at the edge of a precipice and above a tributary drainage of Booth Gulch. The tributary drainage, which is the closest water source, is 40 m to the south. Aspect from the site is to the southwest. On-site elevation is 5900 ft (1811 m) asl. The site is on fairly level bedrock with a gentle 2-5° slope to the southwest. Sediments surrounding the site consist of residual sand. The vegetation around the site includes pinon, juniper, cholla, prickly pear cactus, and a few short grasses.

The site is limited to a single, circular stacked-stone feature (Figure 6.39; 6.40). This feature is situated on bedrock with evidence for slight silting in around the rocks resting on bedrock. The circular feature measures 3.5 m east and west and 3 m north and south. Lichen is growing on the exposed surface of some of the stones. It is estimated that between 50 and 75 sandstone rocks are used in the construction of this dry-laid feature. In places, the stones are up to three courses high, but most of the circle is constructed of 1 to 2 courses of stone. No artifacts were found in association with the feature, which is located on bedrock. Its position along the precipice and above a major tributary to the alluvial bottoms below, suggest that the feature may have been as an observation point. There is minimal potential for the site to yield important information beyond that gleaned at the time of field recording. The site is not eligible for nomination to the NRHP.

5PE1841 Site 5PE1841 is a semi-circular stone- and juniper-branch feature, which resembles a wall. The site is on the Pierce Gulch, United States Geological Survey 7.5' quadrangle. It is situated in a drainage bottom and near the junction of three small drainage that merge into a single major tributary drainage to Booth Gulch. The closed drainage is the unnamed ephemeral drainage 15 m west of the site. On-site elevation is 5880 ft (1805 m) asl. The slope is 5° to the west. Sediment depth is estimated at 10 cm because bedrock was noted in the vicinity. Sediments consist of a brown sandy loam derived from alluvial and colluvial processes. Vegetation in the immediate vicinity includes pinon, juniper, mountain mahogany, prickly pear cactus, sage, and meadow grasses.

The site consists solely of an arching stone- and juniper-branch wall, which incorporates a live juniper tree (Figure 6.41; 6.42). The wall faces south-southwest (200° TN). It is approximated that 40 sandstone rocks are used in the construction of the wall. A standing, live juniper tree is present in the center of the wall. The wall arcs to the southwest

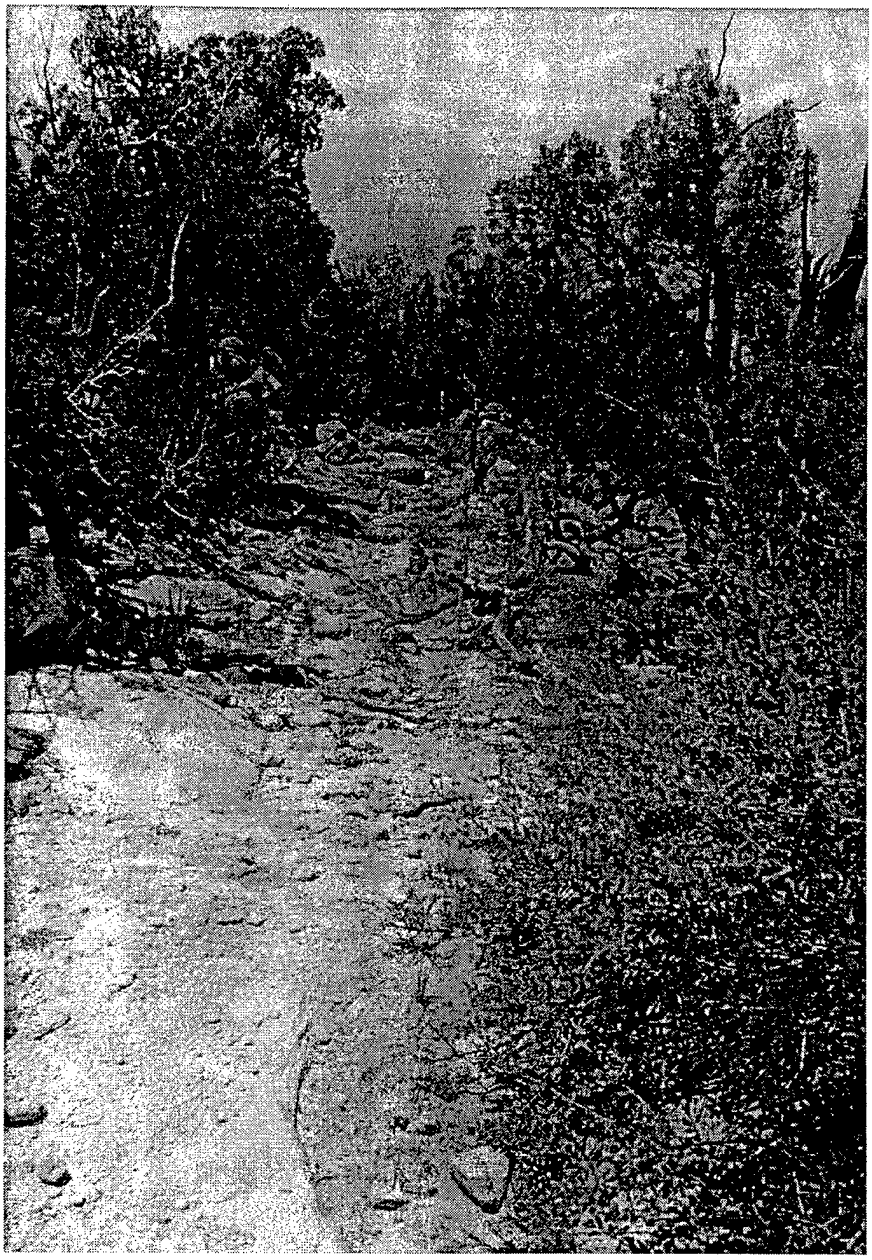


Figure 6.38 Section of a road or trail, 5PE1827. View is to the northwest.

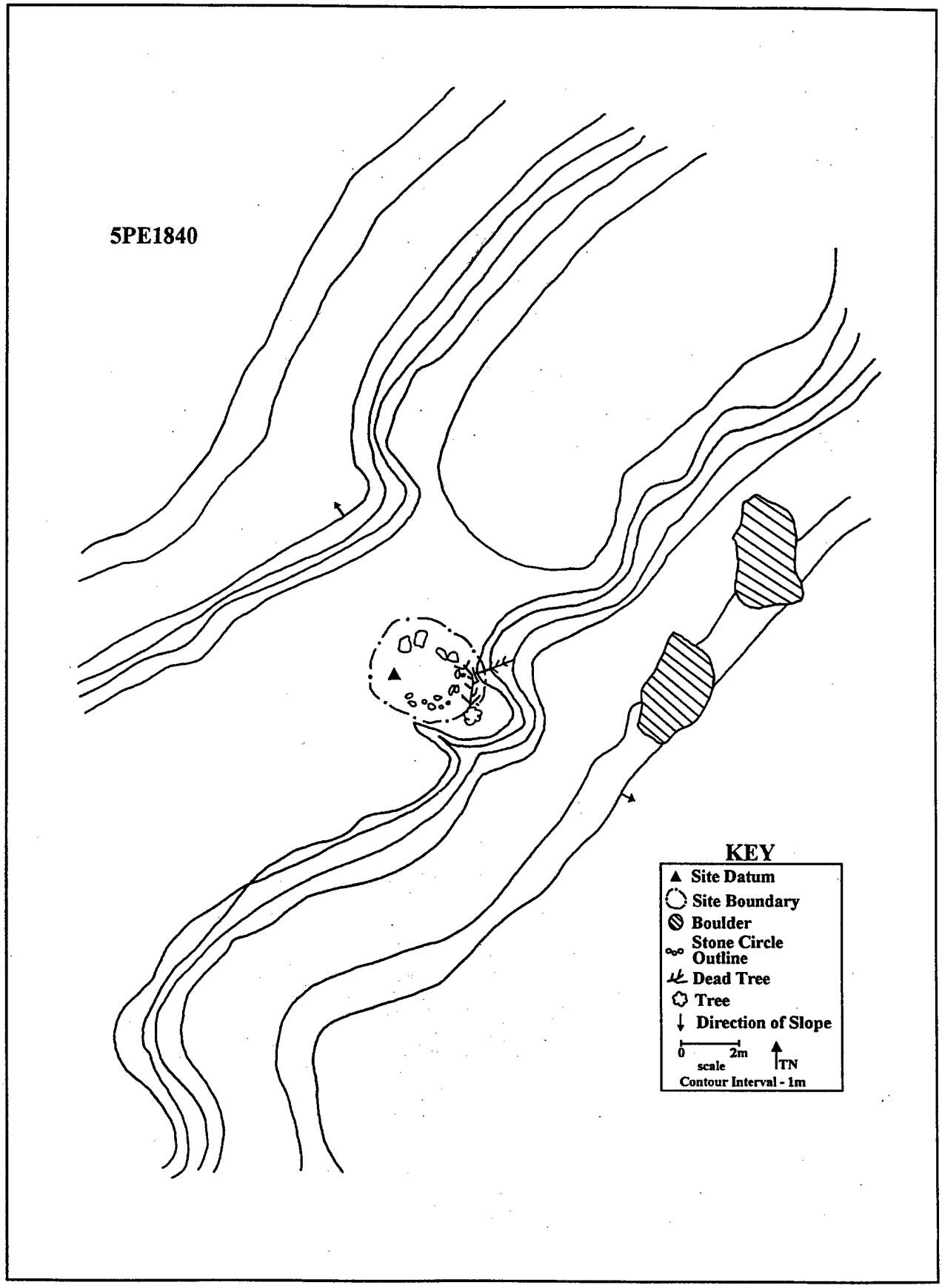


Figure 6.39 Site map, 5PE1840

Figure 6.40 Circular stacked-stone feature, 5PE1840. View is to the southwest.

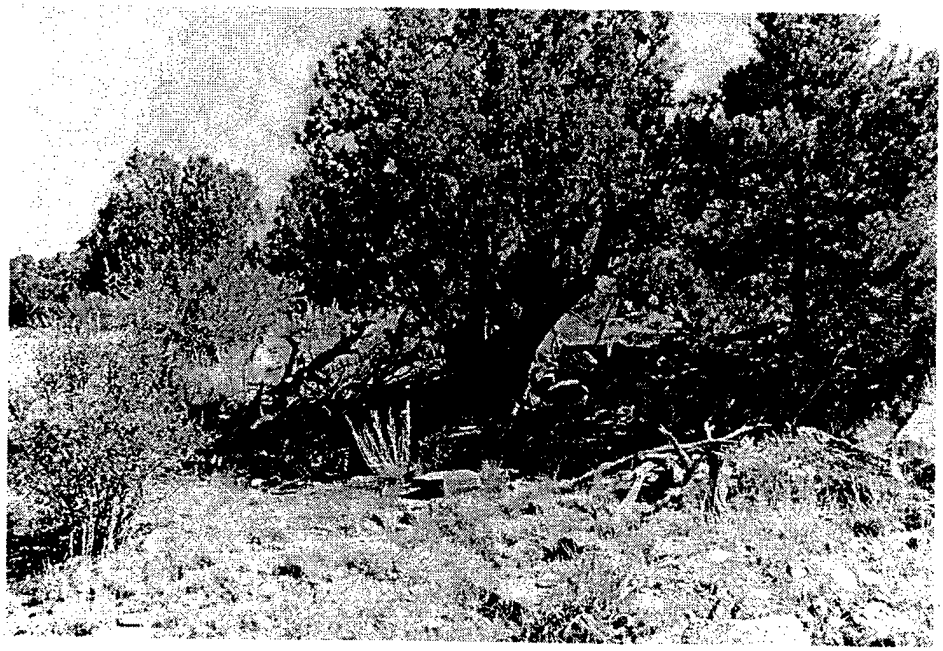


Figure 6.41 Semi-circular stone- and juniper- branch feature, 5PE1841. View is to the northeast.

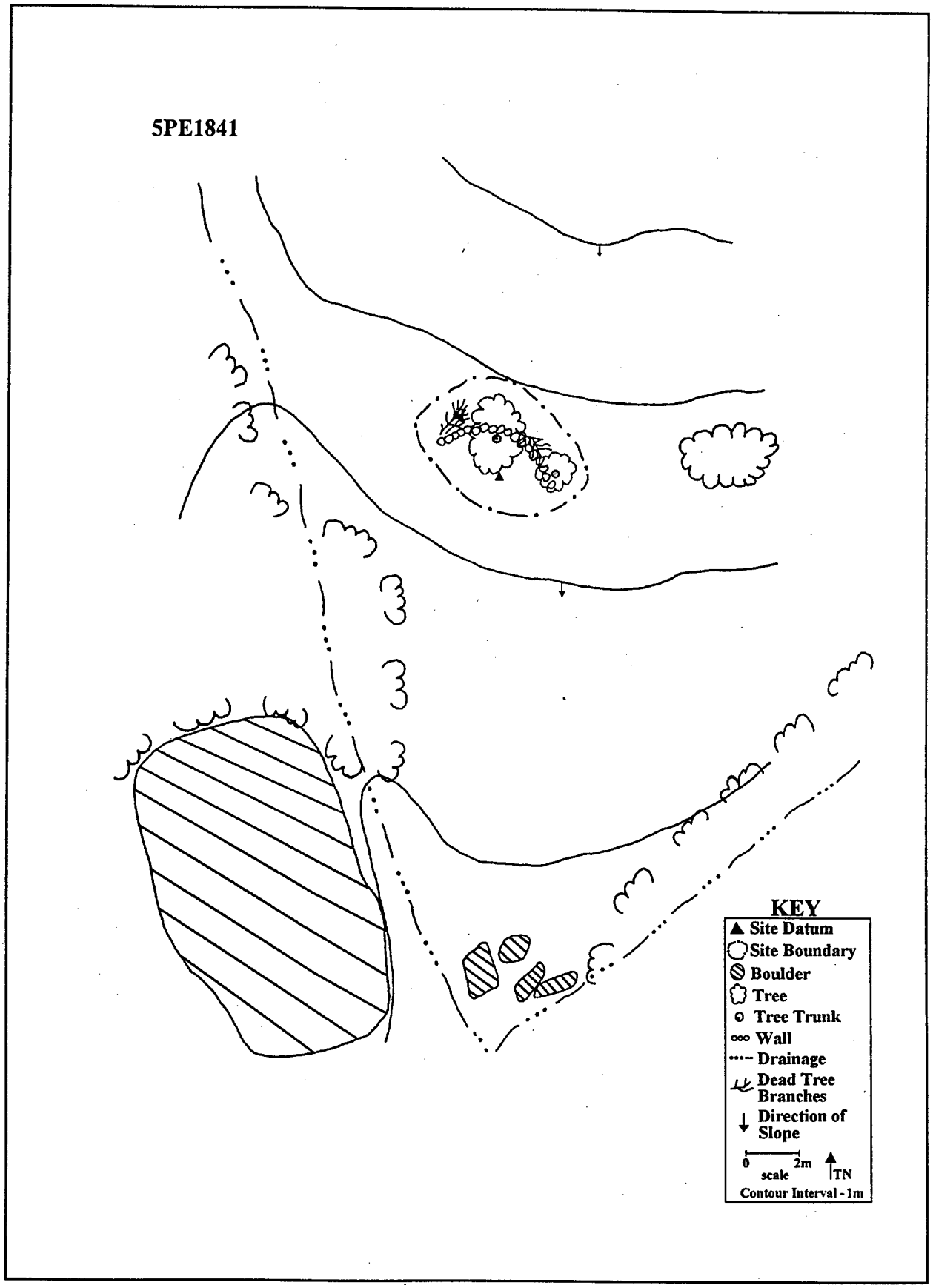


Figure 6.42 Site map, 5PE1841

on either side of the tree. The wall is directly above and to the east of a small drainage. No artifacts were associated with the feature, and the age of the feature is unknown. A historic road (5PE1808) is recorded in the drainage just west of the feature, although it is not assumed that the two are contemporary based solely on proximity. The lower stones are slightly silted in, suggesting that the feature may be old. It is not possible to make a definite statement about the origin or function of the stone wall. Its position above the drainage suggests it may have been used as an observation point. There is minimal potential for the site to yield important information beyond that gleaned at the time of field recording. The site is not eligible for nomination to the NRHP.

5PE1852 Site 5PE1852 is a small, open flaked-lithic artifact scatter. The site is located at an elevation of 5960 ft (1817 m) asl on the Pierce Gulch, United States Geological Survey, 7.5' quadrangle. It is on a small bench with an aspect to the north. Slope on the site is 3°, and the surrounding slope is 8°. The shallow, gravelly, sandy-loam sediments are derived from the weathered bedrock. The closest water is an unnamed ephemeral drainage 300 m to the north. On-site vegetation consists of pinon, juniper, prickly pear and cholla cacti, mountain mahogany, and short grasses.

The site is interpreted to be a locus of short term core reduction, perhaps with some expedient tool manufacturing. Six flaked lithic artifacts were recorded in a 62 m^2 area (Figure 6.43). These 6 artifacts include 1 specimen each of complete, broken, and flake fragments manufactured from both chalcedony and quartzite. The potential of the site to yield additional information beyond what has been recorded is minimal. The site is not eligible for nomination to the NRHP.

ISOLATED FINDS

The seventy-eight isolated finds include mostly prehistoric flaked-lithic artifacts. This number is followed by rock alcoves that may have been utilized during prehistoric or historic periods but did not contain artifacts. The decision to record these alcoves as isolated finds was made in conversation with Steve Chomko at DECAM. The remaining isolated finds consists of historic artifacts and a isolated wooden post of unknown origin (5PE1862). Prehistoric isolated finds numbered 55, historic isolated finds numbered 10, and alcoves numbered 13 (Table 6.2).

There are two isolated finds that deserve special mention: 5PE1820 and 5PE1850. 5PE1820 is a complete, pottery ink bottle (Figure 6.44). This ink bottle is cone-shaped with a light brown glaze. It measures 2¾" high with a base diameter of 2¼". The orifice diameter is ⅝" wide. The cork remains inside the bottle. The date for this item ranges from the late 1800s to the early 1900s (Munsey 1970:138).

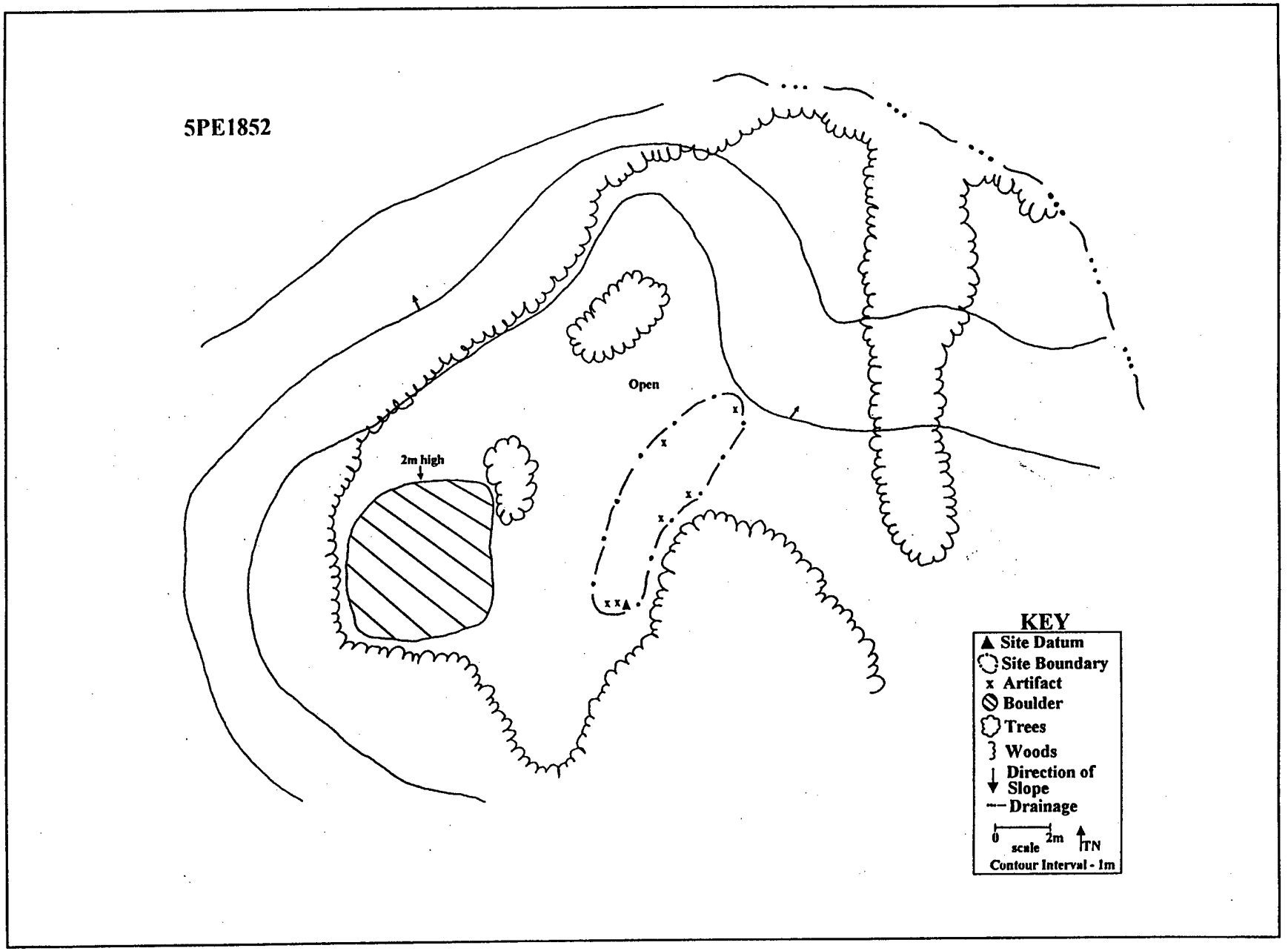


Figure 6.43 Site map, 5PE1852

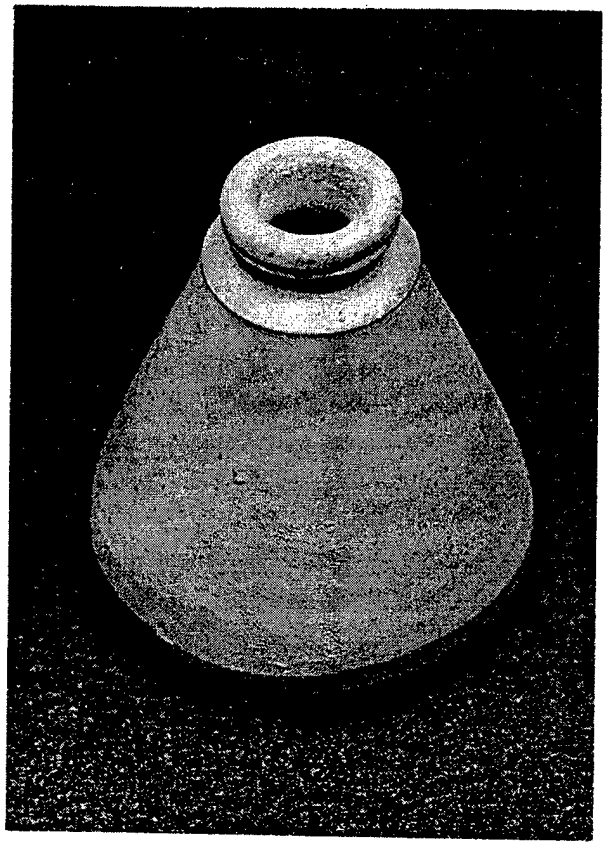


Figure 6.44 Isolated find collected as 5PE1820: pottery ink well.

Isolated Find 5PE1850 is the base of a red chert projectile point, a stemmed or perhaps an unstemmed late Paleo Indian to Early Archaic point type such as Eden, Hell Gap, or Scottsbluff (Figure 6.45). The sides expand slightly to the base. The base is fairly thick and plano-convex in profile. The base and edges are thinned and ground. Flaking is parallel to slightly parallel oblique. The point is similar to Category P2 from Lintz and Anderson (1989:117). There are no dates associated with this point from either Fort Carson or Pinon Canyon; however, dates from Mummy Cave and Vail Pass Camp provide an average date of 6331 B.C. for similar point bases.

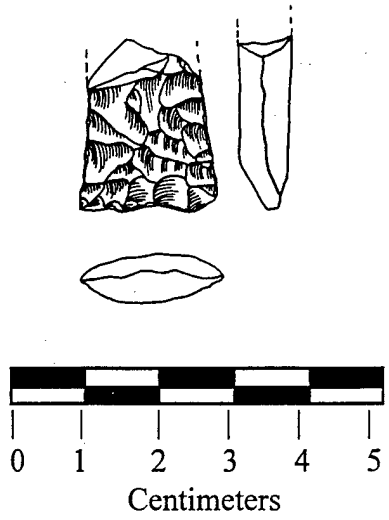


Figure 6.45 Isolated find collected as 5PE1850: projectile point base.

REEVALUATED SITES

Over the course of the 1995 field season, three archaeological sites were reevaluated: 5PE750, 5PE749, and 5PE1598. These three sites are located along the margins of the present survey area. In each case reevaluation forms were completed on these sites, and they are provided in Appendix II.

5PE749 and 5PE750 Sites 5PE749 and 5PE750 were identified at the edge of the FLC transect boundary. While defining the boundary of a large, diffuse lithic scatter, the datums from 5PE749 and 5PE750 were discovered. The flaked lithic artifacts are generally light in density but there does not appear to be a distinct separation between the two sites. It was decided to complete a reevaluation form on the two sites and to suggest that they may be one continuous site. In addition to discovering more artifacts than were originally recorded, two rock-art panels were discovered. One rock art panel consists of two circular designs with lines through them (Figure 6.46). The other consists of a series of branching lines. In addition to the stacked-stone features originally recorded as 5PE750, four to six structures are present in the immediate vicinity of the site. Therefore, the site boundary was enlarged to include the northernmost rock art panel and all of site 5PE749. The site consists of a large but diffuse scatter of flakes, one core fragment, and one biface, in addition to two rock-art panels, and at least seven stacked-stone features.

Figure 6.46 Close-up of rock art panel, 5PE749/5PE750.

The site setting here is somewhat different from that of parts of Booth Mountain surveyed by FLC. At this particular location small catchment basins are formed in the sandstone. Water collects in these basins and in a larger low area between outcropping sandstone. It is not known why these catchment basins are present at this location and not at other locations along the sandstone. Perhaps the sandstone here contains more calcium carbonate than other portions of the formation. A greater amount of calcium carbonate would enhance the natural aggressivity of the rainwater and more rapidly break down the sandstone matrix. Once erosion begins to dissolve the bedrock, it would be fairly easy for the sites' occupants to capitalize on the natural features and even enhance their depth and width. The presence of stacked-stone structures is another uncommon occurrence during the present survey of Booth Mountain (Zier et al. 1987 for the presence of additional structures on Booth Mountain proper). The water catchment basins and the panoramic view may have influenced the site type and the selection of this area for occupation. Because the sites have stacked-stone features, rock art, and catchment basins and a light lithic scatter, it is recommended that sites 5PE749 and 5PE750 be considered as a single site and that this site is eligible for nomination to the NRHP. Eligibility recommendations are based on potential of this site to yield significant information about the settlement patterns , economics, and geomorphology of sites on Booth Mountain specifically (Zier et al. 1987:2-19-35) and the Plains/Mountain Transition in general (Eighmy 1984).

5PE1598 (CA-531). Site 5PE1598 is a large stone quarry that is located along the mesa rim and just below the rim along the east-facing slope. The site was recorded by a crew from Centennial Archaeology during an archeological inventory in 1993. The site was mapped and described as an open, sandstone quarry. A light scatter of artifacts were observed in two areas below the mesa rim. These artifacts included solarized bottle glass fragments (lip, shoulder, neck), wire-drawn nails, 22 cartridge casings, a 10" deep metal pail and bailing and barbed wire. Based on the diagnostic glass artifacts, a pre-1914 date was applied to the site. The research potential of the site was deemed to be low.

The quarry is located along the edge of the 1996 FLC survey boundary. During the course of the FLC survey, the remains of a one-room log structure and a light historic-artifact scatter was observed on the mesa top above the quarry. Although the site form for 5PE1598 was not available at the time of this survey, it was decided to record the log structure on a State of Colorado Historic Architectural Building/Structure Form and to complete a Colorado Reevaluation Form. When the site form became available to Fort Lewis, it was noted that neither the structure nor the artifact scatter were included in the original site recording.

The structure consists of the remains of a collapsed, one-room log cabin (Figure 6.47). The cabin is constructed of axe-cut pinon and juniper logs. The structure is

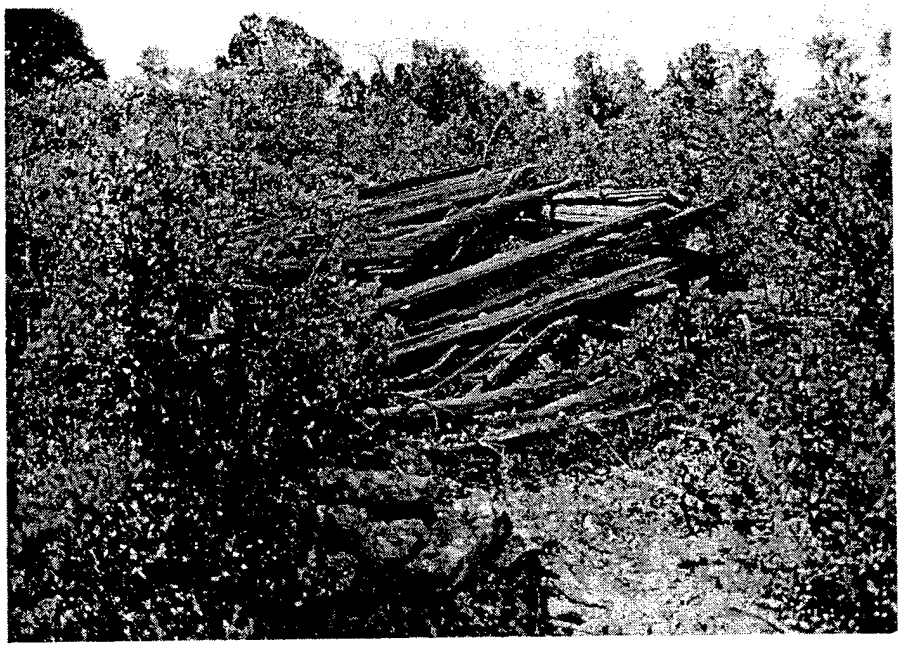


Figure 6.47 Log structure at 5PE1598. View to the southeast.

rectangular and measures 7.5 ft x 9.2 ft and 4 ft high. The upper logs have deteriorated. Evidence for a roof, door, or window were not observed. The structure is located in the scrub oak and bushes about 20 to 25 m west of the actual quarry. A light scatter of artifacts was recorded along the mesa rim overlooking the quarry. These artifacts include crockery, solarized glass, green glass, a hole-in-top can, and a sanitary can. A quartzite flake and a piece of chert debris were also noted in the area.

It is believed that the structure and the artifact scatter along the rim should be included within site 5PE1598. The historic artifact types are consistent with those previously identified at the site. The cabin is in a deteriorated state with little potential to yield important buried artifacts, primarily because it is constructed on bedrock. The addition of the structure and the artifact scatter does not change the initial eligibility status of the site.

CHAPTER 7

MANAGEMENT INFORMATION AND SUMMARY DISCUSSION

Introduction

At the date of this report, no archaeological site from Booth Mountain proper (excluding Turkey Creek Drainage) has received archaeological work beyond inventory mapping, recording, and artifact analysis. Therefore, it is presumptuous to predict the range of information these sites might ultimately yield. The geomorphic context can be extracted to some degree from surface indications, and this information is used to indicate whether the geomorphic situation is likely to contain undisturbed subsurface deposits. However, until subsurface explorations (which include auguring, testing, and excavations) have been conducted at various sites on Booth Mountain, the archaeological and geoarchaeological importance of the sites remains largely hypothetical.

Management Summary

In the summer of 1995, 1460 acres of Booth Mountain in the Fort Carson Military Reservation were inventoried, and the archaeological resources located were evaluated for potential nomination to the National Register of Historic Places. A total of 35 cultural resources and 78 isolated finds were identified (Table 6.1 and Table 6.2). Based on their potential to contribute significantly to our understanding of the prehistoric and historic past of the Fort Carson Military Reservation, 12 of these sites are evaluated as meeting the eligibility criteria of the National Register of Historic Places. These 12 resources are summarized below. Detailed site descriptions which include the HPP criteria used to evaluate site specific eligibility, are available in Chapter 6. The 12 eligible sites are all prehistoric and all in geomorphic settings that may contain buried deposits. Recognizable surface features, however, are not present in the majority of these sites.

5PE1785 is a prehistoric flaked- and ground-stone scatter. The site is interpreted as a temporary, perhaps seasonally occupied, site. The site exhibits no evidence of structural remains; however, the presence of groundstone and possible fire-cracked rock suggests the possibility of buried features. Sediment depth is such that artifacts and features could be buried under several centimeters of sediments. Disturbance to the site context is slight and mainly the result of eolian processes. Surface artifacts include lithic flaking debris manufactured from quartzite, chert, and chalcedony. The site is deemed eligible for nomination to the NRHP because it possess an excellent potential for producing significant

information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1791 is a rock shelter with architecture and a midden. The site is interpreted as a prehistoric habitation site. A general age for site occupation ranges from 8500 BC to AD 1450. This age range is based on four distinct projectile point types found at the site (Late Paleo Indian through Late Prehistoric (see Chapter 6 for descriptions of these point types). Sediment depth within the shelter is estimated to be at least 50 cm. The site is in relatively pristine condition except for slope-wash erosion and graviturbation, both of which are affecting the midden. These transformational processes, however, have presumably been active since the original prehistoric occupation of the site and have not significantly compromised site context. The site is deemed eligible for nomination to the NRHP because it possess an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1798 consists of three alcoves with associated artifacts that include one argillite biface and 19 cord-marked ceramics. The site is interpreted to have been at least minimally utilized for shelter and perhaps for occupation during the Middle Ceramic Period. The alcoves contain a build-up of residual and eolian sediments and debris from roof spalling. Trowel tests within two of the alcoves demonstrated that the potential sediment depth exceeds 30 cm. The potential for buried deposits is good. One of the alcoves contained cord-marked ceramics both on the surface and slightly below the surface. These ceramics are dated to the Middle Ceramic Period. The site is deemed eligible for nomination to the NRHP because the alcoves possess an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1800 is a light scatter of flaked-lithic artifacts. The potential depth of buried artifacts is at least 10 cm. A few of the artifacts are partially covered with sediments indicating a good probability for buried artifacts and perhaps a buried cultural horizon. Few archaeological sites are located in the upland areas that are not adjacent to alcoves or mesa tops. Perhaps one reason for the dearth of archaeological sites in these upland regions is the combination of limited water supplies and a seemingly inhospitable terrain. This site is located in a topographic situation that is rare for much of the uplands, in that it has access to open meadows and seasonal or ephemeral water sources. It is located at the top of a drainage that flows into Turkey Creek to the east. Although this drainage probably did not supply significant amounts of water, it forms a natural transportation corridor from Turkey Creek to the uplands of Booth Mountain. Riparian vegetation such as cottonwoods and cattails indicates a capacity for the meadow to hold water. The meadow is positioned at the contact of the permeable sandstone with the underlying, less permeable, shale, and this allows greater moisture retention. This topographic situation is posited to be a primary factor behind its location. Eligibility evaluation is based on the variety of artifacts present, the

potential for buried deposits, and the particular topographic situation. The site is deemed eligible for nomination to the NRHP because it possesses an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1802 is a flaked-artifact scatter. The depth of the sediments is at least 10 cm. The site is in good condition with only minor disturbance caused by natural erosion and military activities. The eligibility recommendation is based on the site being in a unique topographic position at the headwaters of a large tributary canyon of Turkey Creek, and the potential for buried deposits. These criteria suggest that the site has the potential to yield significant information on the Late Archaic settlement and subsistence patterns of the Fort Carson area. The site is deemed eligible for nomination to the NRHP because it possesses an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1803 is a large flaked-lithic artifact and groundstone scatter with a single visible sandstone feature. Sediment depth is estimated to be at least 20 cm in the meadow. The site is in relatively good condition with some minor surface erosion. The eligibility recommendation is based on the unique topographic position of this site at the head of a steep-walled canyon that merges with Turkey Creek, and the potential for buried deposits. These criteria are used to infer that the site has the potential to yield significant information on the Late Archaic settlement and subsistence patterns of the Fort Carson area. The site is deemed eligible for nomination to the NRHP because it possesses an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1804 is a small lithic scatter that probably represents a locus of prehistoric food processing and limited core reduction. Most of the site matrix consists of sand and silt to a depth of at least 10 cm. The depth of the sediments at the site suggests the possibility for buried archaeological deposits. The eligibility evaluation is based on the potential for the site to yield buried deposits important to the explanation of settlement and subsistence-related activities by prehistoric populations in the Fort Carson area. The site is deemed eligible for nomination to the NRHP because it possesses an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1805 is a small lithic scatter that likely represents a limited activity site. Sediments at the site may be as much as 30 cm deep. The depth of the sediments at the site suggests the possibility for buried archaeological deposits. The site is recommended for

eligibility because it has the potential to yield buried deposits important to understanding prehistoric subsistence and settlement activities in the Fort Carson area. The site is deemed eligible for nomination to the NRHP because it possesses an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1807 is a small lithic scatter and alcove. The site is interpreted to be a temporary shelter and locus of lithic core reduction. Sediment accumulations at the site are estimated to be 20 cm. Temporal affiliation is unknown prehistoric, although it is possible that the site was occupied during the protohistoric or early historic period, based on the possible association with undecayed branches in the alcove. The potential for buried deposits at the site is good due to the accumulation of residual, colluvial, and eolian sediments. The eligibility evaluation is based on the potential for the site to yield information important to understanding regional resource exploitation in the Fort Carson area. The site is deemed eligible for nomination to the NRHP because it possesses an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1809 is a flaked- and ground- stone scatter. The site is a limited activity site with possible activities including core reduction, tool manufacture, and plant processing. Sediments on the site are described as a silty sand derived from the residual weathering of the bedrock with some minor accumulations of eolian silts. Sediment depth is estimated to be at least 10 cm. The sediments are transported to the site through slope wash. Disturbance from these slope-wash processes have lightly disturbed the context of the artifacts (artifacts have accumulated in the small gullies on the site). Because artifacts are collecting in the gullies, there is the possibility that additional artifacts and perhaps features are buried within the site matrix. The site is deemed eligible for nomination to the NRHP because it possesses an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1812 is a small sandstone alcove with prehistoric artifacts. This site is interpreted to be a seasonal or temporary shelter. Sediments within the alcove are a sandy loam derived primarily from mechanical weathering of the sandstone bedrock, and they are estimated to have a depth of around 20 cm. The site does not appear to have been disturbed by humans, but faunalturbation has affected the site. Charcoal is present in the talus cone at the front of the alcove. It is, therefore, highly probable that this alcove has the potential for buried deposits (buried artifacts and possibly buried features). Preservation in alcoves and rockshelters is often superior to that of open sites. This site has the potential to yield important information regarding settlement patterns, resource exploitation, and procurement practices of the prehistoric population of the Fort Carson area. The site is deemed eligible

for nomination to the NRHP because the alcoves possess an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

5PE1813 is a flaked- and ground- stone scatter. The site is interpreted to be a locus of tool manufacture, food and/or hide preparation, and food processing, perhaps with an emphasis on vegetal processing. The depth of sediments at the site is estimated to be a minimum of 15 cm. The site has the potential to yield significant information on the prehistoric utilization of resources in the interior of Booth Mountain. The position of this site with no apparent nearby plant resources other than pinon, juniper, cacti, and yucca makes this site somewhat of an anomaly. The presence of groundstone on the site is used to infer the possibility that features are buried within the site matrix. These groundstone items are not very portable, and activities such as food processing are often accompanied by roasting and warming features. Groundstone is not a prolific artifact recorded during this survey. The site is believed to possess the potential to yield significant information about the subsistence practices of the prehistoric population of the Fort Carson area. The site is deemed eligible for nomination to the NRHP because it possesses an excellent potential for producing significant information about the adaptation of the Middle Ceramic Period along the Plains/Mountain Transition in general and the Fort Carson Military Reservation specifically.

Summary Discussion

The survey results from the 1995 Booth Mountain survey support the conclusions of the Historic Preservation Plan for Fort Carson Military Reservation; namely, that Booth Mountain presents something of an interpretive conundrum because it does not fit the overall predictive site model for Fort Carson (Zier et al. 1987 2-81-92). A greater number of sites are present on Booth Mountain than the model hypothesized, therefore forcing a reevaluation of assumptions about settlement and subsistence on Booth Mountain. It should be noted, however, that because it was anticipated that Booth Mountain would not contain an impressive number of sites, only small, selected portions of Booth Mountain were originally surveyed (Zier et al. 1987:2-86). These selected portions included a large proportion of the mesa tops, thereby biasing the results towards a specific landform. Despite this bias, the resulting site data (Zier et al. 1987) from Booth Mountain suggest several interesting inferences: the majority of sites on Booth Mountain tend to be located along the western and southern slopes with a general or deliberate avoidance of the prehistoric occupation of the eastern slopes; sites on the eastern side generally are located on the lower slopes of the mountain overlooking Turkey Creek where they date to the Middle Ceramic Period. Those along the small drainages into Booth Gulch on the western slopes date to the Late Ceramic (Protohistoric) Period (Zier et al. 1987:2-86, 2-89).

Results of the current survey generally support the conclusions of Zier et al. (1987) cited above. The total site density of 1 site per 42 acres is *relatively* high given the

limitations of the landscape. From the total acreage surveyed in 1995, prehistoric sites average 1 site per 62 acres, while there is 1 historic site per 160 acres. A majority of sites recorded during this survey, both historic and prehistoric, are found on the southwest and west facing slopes of Booth Mountain, while the steep, north slopes of Booth Mountain and the hinterlands each produced low site densities. The current survey demonstrates perhaps even better that the southern and western slopes of Booth were indeed favored habitats. However, the current survey data indicate no difference in the ages of sites between the two sides of the mountain identified in the HPP(Zier et al.1987:2-86, 2-89). Unfortunately, temporally diagnostic artifacts are few, and inferences concerning temporal-spacial preference remain speculative.

The variety among site types recorded in the current survey demonstrates that Booth Mountain yielded a number of resources that attracted humans over a long period. In the sample from 1995 are two stemmed projectile point bases that could date as early as 8500 BC, producing some of the earlier points from the Reservation. Early to Middle Archaic points are few for Booth Mountain as they are for the Reservation in general, with a substantial increase in site numbers during the Late Archaic and the Late Prehistoric Periods. Ceramics were found within one alcove site, and this is the only definitely Ceramic Period site that we have in this sample.

Of the 35 sites recorded, the most common site type is the open, flaked-lithic artifact scatter. Twelve flaked-lithic artifact scatters were recorded. This next largest group is following by historic linear sites (road, trail, juniper fences), which comprise 8 sites. Flaked- and ground-stone sites account for 6 of the total, and prehistoric alcoves or rockshelters for 5. The remaining 4 sites include 1 historic habitation, 1 multicomponent site (historic road and quarry pits and light flaked- and ground- stone scatter), and 2 stacked-stone features of unknown age.

The historic sites from this survey consist almost exclusively of juniper fences, corrals, and roads. One historic habitation site was recorded, and this site is located at the transition between the alluvial valley of Booth Gulch and the western edge of Booth Mountain. Historically, Booth Mountain provided resources such as timber, quarry materials, and limited pasture, yet it lacked many desirable elements (such as dependable year-round water, arable land, and easy accessibility) that would have promoted long-term settlement. Booth Mountain is perhaps best known historically for its raw extractable resources such as stone and clay. However, the majority of the clay was transported raw to Pueblo or Denver for processing and refining. Mining operations in the clay at Stone City were begun in 1917 by the Turkey Creek Stone, Clay, and Gypsum Co. (Waage 1950), and kilns were built at Stone City soon after. Both raw and calcined clay were sent to Pueblo and Denver from the Stone City clay mine. This extractive process of economics did not, however, produce any major long-term settlement.

A similar exploitative resource pattern is proposed for the prehistoric population of Booth Mountain. With the exception of 5PE1791, the rockshelter and midden site, all other prehistoric sites appear to represent limited-activity or special-use locales. The largest prehistoric sites are found either along the mesa rim overlooking the valleys or near a major tributary. While it is believed that these tributaries did not contain sufficient water for year-round habitation, they did provide a fairly direct transportation route from the valley below where habitation sites did exist (e.g. Recon John, Avery Ranch, Ocean Vista) to the exploitable resources within the interior of Booth Mountain. These resources included wild plants, stone for tools, and animals and their byproducts (leather, antler, honey). Just below the mesa rim there is no lack of alcoves for temporary shelter.

Data on lithic-tool manufacturing were obtained from all flaked-lithic scatters . In-field debitage analysis was conducted on all of the surface artifacts from sites with fewer than 50 flakes. On sites with greater than 50 flaked-lithic artifacts, a 1 m wide transect was placed across the site, and all artifacts within the transect were analyzed. The resultant data show a heavy reliance on local materials for prehistoric tool manufacture. Lithic materials suitable for tool manufacture outcrop at several locations on Booth Mountain or in the vicinity. These lithic materials include chalcedony, orthoquartzite, silicified wood, siltstone, chert, and quartz. Chalcedony was noted eroding as pebbles from the Dakota Sandstone. Orthoquartzite and quartzite were observed in this formation as well. Cherts, silicified wood, and siltstone are found in the Morrison Formation. While quartz was not observed in the raw state on Booth Mountain, it is present along Table Mountain and in areas further north. Lithic procurement, core reduction, and limited tool manufacture of expedient tools were the primary lithic activities conducted on sites on Booth Mountain. Most sites do not possess a high number of tools; even retouched flakes are not common on these sites, particularly the small flaked-lithic artifact scatters. The relatively high number of complete flakes on these sites is explained by the close proximity to lithic-procurement areas whereby the raw materials were not intensively reduced. A few exceptions, such as 5PE1791 with a midden and architecture, display intensive core reduction along with more intensive tool manufacture. Metates and manos are not uncommon but they seem to occur more often on sites near the major tributaries. A few pieces of groundstone are present on sites that are not near any kind of water source. Sites with groundstone have easier access to the alluvial bottom lands where the more permanent habitation sites would be. Whatever resources they were processing, it is suggested that limited time was spent at these locations. At this time, we do not have the chronological indicators that allow us to suggest changes or continuity of resource selection and procurement through time.

It is mentioned earlier in this report that the interior drainages probably did not supply an adequate amount of water to support long-term habitation; water is scarce in the hinterlands of Booth Mountain. During our survey in July and August, we did not encounter any flowing water. Other water sources such as springs or seeps likewise were not encountered. At site 5PE750, natural water catchment basins were observed in the sandstone bedrock. Therefore, the availability of water appears to have been a primary factor in

prehistoric site selection, especially for primary habitation locations. Long-term habitation sites cluster around Turkey and Sullivan Canyons where water is more predictable. Within the inventory area, one probable habitation site was recorded, and this site is a rockshelter site located along a tributary drainage of Booth Gulch.

The presence of several steep-walled tributary drainages was noted during the inventory. Their size indicates that they were once third- or fourth-order drainages; presently they appear to be first- and second-order drainages (Strahler 1964). Today's precipitation is not great enough to account for the breadth and depth of these drainages; nor would increased precipitation at the end of the Pleistocene account for the flow necessary to incise such drainages through the Purgatoire and Dakota Sandstones and into underlying Jurassic Morrison Formation. These seemingly out-of-place drainages on Booth and Timber Mountains represent relict drainage patterns that were diverted from their courses into Sullivan Canyon through either stream capture or isolation due to the weathering of erodible Jurassic formations. Steep-walled drainages, small interior basins superimposed onto Jurassic strata, and prominent notches are the topographic expressions of an ancient hydrological system.

The steep north slopes of Booth Mountain and the west slopes of Table Mountain are eroded into the Morrison and Ralston Creek lithostratigraphic units. Three prominent notches are visible along the northern rim of Booth Mountain, while similar notches are visible along the western slopes of Table Mountain. Small interior basins that support meadow flora often appear at the downstream sides of the notches. These basins are superimposed over Jurassic claystones and limestones whose impermeable strata trap rainwater and to a lesser extent snowmelt and, through interflow, channel the water into the larger drainages. The water that is retained in the basins permits meadow ecozones to survive in an otherwise pinon, juniper, and cactus woodland. It is in these areas that some of the larger prehistoric sites are located.

The terrain of Booth Mountain is quite rugged, the vegetation tenacious, and July and August temperatures are often greater than 100 ° F. These factors perhaps restricted exploitation of the hinterlands of Booth Mountain to seasonal rounds in spring and perhaps early fall where the inhabitants capitalized on such resources as upland game, berries, pinon nuts, various roots and tubers, honey, quarry materials, and pasture for both domesticated and nondomesticated animals during the historic period. Materials suitable for tool manufacture are available in small quantities on Booth Mountain in outcrops of chalcedony, silicified wood, orthoquartzite, chert, and siltstone. During the historic occupation it was popular and productive to quarry for building stone and for clay. After clay quarrying ceased in the 1930s, animal husbandry was the chief economic activity on Booth Mountain until 1965 when the United States Army expanded the boundaries Fort Carson to include Booth Mountain.

REFERENCES CITED

Ahler, S. A.

1970 Projectile Point Form and Function at Rodgers Shelter, Missouri. *Missouri Archaeological Society Research Series* 8.

Alexander, R., J. Hartley, and T. Babcock

1982 A settlement survey of the Fort Carson Military Reservation (3 vols.). MS on file, Grand River Consultants, Grand Junction, CO.

Anderson, J. L.

1990 Prehistoric Overview. In *An Introduction to the Archaeology of Pinon Canyon, Southeastern Colorado* (vol. II). Ed. W. Andrefsky, Jr., pp. VII-1-30. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Antevs, E.

1955 Geologic-climatic dating in the West. *American Antiquity* 20:317-35.

Athearn, F. J.

1985 Land of Contrast. A History of Southeast Colorado. *Cultural Resource Series* 7, Bureau of Land Management, Denver, Colorado.

Bamforth, D. B.

1988 *Ecology and Human Organization on the Great Plains*. Plenum Press, New York.

Barnes, A.

1991 An Archival and Photographic Study of World War II Temporary Wooden Buildings, Fort Carson Military Reservation, Colorado. Centennial Archaeology, Inc., Fort Collins, Colorado.

Bass, W. B. and P. Kutsche

1963 A Human Skeleton from Pueblo County, Colorado. *Southwestern Lore* 29(2):40-43.

Baugh, T. G.

1994 Holocene adaptations in the southern High Plains. In *Plains Indians A.D. 500-1500*. Ed. K. Schlesier, pp. 264-289. University of Oklahoma Press, Norman.

Bender, S. J. and G. A. Wright
1988 High-altitude occupations, culture process, and High Plains prehistory: retrospect and prospect. *American Anthropologist* 90:619-639.

Benedict, J. B.
1973 Chronology of cirque glaciation, Colorado Front Range. *Quaternary Research* 3:584-599.

1979 Getting away from it all: a study of man, mountains, and the two-drought Altithermal. *Southwestern Lore* 45:1-12.

1992 Footprints in the snow: high-altitude cultural ecology of the Colorado Front Range. *Arctic and Alpine Research* 24: 1-16.

Benedict, J. B. and B. Olson
1978 The Mount Albion Complex. A Study of Prehistoric Man and the Altithermal. *Research Report* 1. Center for Mountain Archaeology, Ward, CO.

Black, K. D.
1991 Archaic continuity in the Colorado Rockies: the Mountain Tradition. *Plains Anthropologist* 36: 1-29.

1994 *Archaeology of the Dinosaur Ridge Area.* Friends of Dinosaur Ridge and the Colorado Historical Society, Denver, CO.

Buchner, A. P.
1979 Cultural Responses to Altithermal (Atlantic) Climate along the Eastern Margins of the North American Grasslands: 5500-3000 B.C. Ph.D. dissertation, University of Calgary.

Burns, G. R. and W. K. Killam
1983 Cultural Resource Inventory of Tank Gunnery Range Fan Number 45, Fort Carson Military Reservation, Colorado. *Cultural Resource Report* 5. Goodson and Associates Inc., Lakewood, CO.

Butler, W. B.
1986 Taxonomy in Northeastern Colorado Prehistory. Ph.D. dissertation, University of Missouri.

1990 Cultural Resource Survey of Ten Soil Conservation Structures and the Gale Irrigation Ditch, Fort Carson Military Reservation, El Paso and Pueblo

Counties, Colorado. MS. submitted to Army Environment, Energy and Natural Resources Division, Fort Carson, Colorado.

1991 Reconnaissance Survey of a Proposed Fiber-Optic Line, Fort Carson Military Reservation, El Paso and Pueblo Counties, Colorado. MS. submitted to U.S. Army 4th Infantry Division (Mech) and HQ Fort Carson, Fort Carson, Colorado.

1992 Cultural Resource Investigation of Several Small Scale Projects on the Fort Carson Military Reservation, El Paso and Pueblo Counties, Colorado. National Park Service, Interagency Archeological Services-Denver, Denver, Colorado.

Butler, W. B., S. A. Chomko, and J. M. Hoffman

1986 The Red Creek Burial, El Paso County, Colorado. *Southwestern Lore* 52(2):6-27.

Butzer, K. W.

1982 *Archaeology as Human Ecology*. Cambridge University Press, Cambridge.

Calabrese, F. A.

1972 Cross Ranch: A Study of Variability in a Stable Cultural Tradition. *Plains Anthropologist, Memoir* 9.

Campbell, R. G.

1969 Prehistoric Panhandle Culture on the Chaquaqua Plateau, Southeastern Colorado. Ph.D. Dissertation, University of Colorado.

1976 The Panhandle Aspect of the Chaquaqua Plateau. *Graduate Studies of Texas Technical University* 11, Lubbock, Texas.

Carrillo, R.

1990 Historic overview. In *An Introduction to the Archaeology of Pinon Canyon, Southeastern Colorado* (vol. III). Ed. W. Andrefsky, Jr., pp. XVIII-1-45. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Cassells, E. S.

1983 *The Archaeology of Colorado*. Johnson Books, Boulder, Colorado.

1992 A history of Colorado archaeology: I. In *The State of Colorado Archaeology*. Ed. P. Duke and G. Matlock, pp.4-34. *Colorado Archaeological Society Memoir* 5.

Chomko, S. A.
1991 Wyoming and the High Plains: the levels to the truth. Paper presented at the 49th Plains Conference, Lawrence, Kansas.

Chomko, S. A., S. DeVore, and L. Loendorf.
1990 Apishapa Phase Research at the Pinon Canyon Maneuver Site, Southeastern Colorado. Paper presented at the 48th Plains Conference, Oklahoma City.

Connor, M. and J. Schneck
1996 The Old Hospital Complex (5EP1778) Fort Carson, Colorado. National Park Service, Midwest Archeological Center, Nebraska.

Dames and Moore
1978 Fort Carson Colorado: Terrain Analysis. Prepared by Dames and Moore, Washington D.C., under direction of Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Fort Belvoir, Virginia.

Dean, J. C.
1992 Guidelines to Required Procedures for Archaeological Field and Laboratory Work at Pinon Canyon Maneuver Site Las Animas County, Colorado. MS. submitted to the U.S. Army by Department of Anthropology, University of North Dakota.

Department of the Army
1984 Facilities Engineering: Historic Preservation--Army Regulation AR 420-40. Headquarters, Department of the Army, Washington D.C.

Dick, H. W.
1963 Preliminary Report: Trinidad Reservoir, Las Animas County, Colorado. MS. on file, Midwestern Archeological Center, National Park Service, Lincoln, Nebraska.

Driver, J. C.
1978 Holocene Man and Environments in the Crowsnest Pass, Alberta. Ph.D. dissertation, University of Calgary.

Duke, P.
1978 The Crowsnest Pass: a Locational Analysis. M.A. thesis, University of Calgary.

Duke, P. and M. Charles
1995 A Proposal for a Continuation of a Cooperative Agreement between Fort Lewis College and National Park Service. Title: *A Class III Survey of*

Sections of the Fort Carson Military Reservation. Southern Colorado. Proposal submitted to National Park Service, Midwest Archeological Center.

Duke, P. and M. Wilson

1994 Cultures of the Mountains and Plains: from the Selkirk Mountains to the Bitterroot Range. In *Plains Indians A.D. 500-1500*. Ed. K. Schlesier, pp. 56-70. University of Oklahoma Press, Norman.

1995a Introduction. Postprocessualism and plains archaeology. In *Beyond Subsistence: Plains Archaeology and the Postprocessual Critique*. Ed. P. Duke and M. Wilson, pp. 1-27. University of Alabama Press, Tuscaloosa.

1995b *Beyond Subsistence: Plains Archaeology and the Postprocessual Critique*. University of Alabama Press, Tuscaloosa.

Eddy, F. W., P. Friedman, R. Oberlin, T. Farmer, D. Dahms, J. Reining, B. Leichtman.

1982 The Cultural Resource Inventory of the John Martin Dam and Reservoir. MS. on file, Corps of Engineers, Albuquerque, New Mexico.

Eddy, F. W., R. Oberlin, and T. R. Farmer

1984 Spatial Analysis of Archaeological Data at the John Martin Dam and Reservoir, Southeastern Colorado. *Plains Anthropologist 29* (103):25-40.

Eighmy, J.

1984 Colorado Plains Prehistoric Context for Management of Prehistoric Resources of the Colorado Plains, RP3 Documents. Office of Archaeology and Historic Preservation, Colorado Historical Society, Denver.

Forbes, J. D.

1960 *Apache, Navajo and Spaniard.* University of Oklahoma Press, Norman.

Forbis, R. G.

1978 Some facets of communal hunting. In *Bison Procurement and Utilization: a Symposium.* Ed. L.B. Davis and M.C. Wilson, pp. 3-8. *Plains Anthropologist Memoir* 14.

Frison, G. C.

1973 The Plains. In *The Development of North American Archaeology*. Ed. J. Fitting, pp. 151-184. Doubleday Books, Garden City, NY.

1978 *Prehistoric Hunters of the High Plains*. Academic Press, New York.

Frison, G. C., R. L. Andrews, J. M. Adovasio, R. C. Carlisle, R. Edgar
1986 A late Paleoindian animal trapping net from northern Wyoming. *American Antiquity* 51:352-361.

Fulgham, T. and J. Anderson
1984 *Proposed Chronological Framework for the Fort Carson-Pinon Canyon Area.* Contribution No. 2. Phase I of the Fort Carson-Pinon Canyon Project. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Gilbert, G. K.
1897 Description of the Pueblo Quadrangle. *Geological Survey Atlas Folio* 36. United States Geological Survey.

Grant, M. P., and C. Zier
1987 An Archaeological Inventory of Selected Sample Transeacts on the Fort Carson Military Reservation, El Paso, Fremont, and Pueblo Counties, Colorado. Centennial Archaeology, Inc., Fort Collins, Colorado.

Gunnerson, J. H.
1987 *Archaeology of the High Plains*. Bureau of Land Management, Denver, CO.

1989 Apishapa Canyon Archeology: Excavations at the Cramer, Snakes Blakeslee and Nearby Sites. *Reprints in Anthropology* 41. J&L Reprint Co, Lincoln, Nebraska.

Guthrie, M. R., P. Gadd, R. Johnson, J. J. Lischka
1984 Colorado Mountains Prehistoric Context, RP3 Documents. Office of Archaeology and Historic Preservation, Colorado Historical Society, Denver.

Hammond, G. P. and A. Rey (eds.)
1940 *Narratives of the Coronado Expedition, 1540-1542.* University of New Mexico Press, Albuquerque.

Hartley, J. D., C. A. Rolen, T. F. Babcock, and R. K. Alexander
1983 A settlement survey of the Fort Carson Military Reservation. Volume II: 1982 site investigations. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Hayden, B.
1982 Interaction parameters and the demise of Paleo-Indian craftsmanship. *Plains Anthropologist* 27:109-123.

Higgs, E. S. and M. R. Jarman
1975 Palaeoeconomy. In *Palaeoeconomy*. Ed. E.S. Higgs, pp. 1-7. Cambridge University Press, Cambridge.

Holliday, V. T.
1987 Geoarchaeology and late Quaternary geomorphology of the Middle South Platte River, northeastern Colorado. *Geoarchaeology* 2:317-329.

Hurd, C. W.
1960 *Bent's Stockade Hidden in the Hills*. Bent Couty Democrat, Las Animas, Colorado.

Hutchinson, L. A.
1990 Archaeological Investigations of High Altitude Sites near Monarch Pass, Colorado. M.A. thesis, Colorado State University.

Hyde, G.
1976 *Indians of the High Plains*. University of Oklahoma Press, Norman. (1st ed. 1959).

Ireland, S. K.
1968 Five Apishapa Focus Sites in the Arkansas Valley, Colorado. M.A. Thesis, University of Denver.

Jepson, D. A., C. J. Zier, S. M. Kalasz, and A. M. Barnes
1992 Archaeological survey of high priority parcels and other miscellaneous areas on the Fort Carson Military Reservation, El Paso, Pueblo, and Fremont Counties, Colorado. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Johnson, E. (ed.)
1988 *Lubbock Lake. Late Quaternary Studies on the Southern High Plains.* Texas A & M University Press, College Station.

Kelly, R. L. and L. Todd
1988 Coming into the country: early Paleoindian hunting and mobility. *American Antiquity* 53:231-244.

Kingsbury, L. A. and L. H. Gabel
1983 Eastern Apache campsites in southeastern Colorado: an hypothesis. In *From Micocosm to Macrocosm: Advances in Tipi Ring Investigation and Interpretation.* Ed. L.B. Davis, pp. 319-325. *Plains Anthropologist Memoir* 19.

Korgel, R.
1996 Test Excavations at Mountain Post Sports Complex Fort Carson, Colorado. Ms. on file Midwest Archeological Center, Lincoln, Nebraska.

Krieger, A. D.
1964 Early man in the New World. In *Prehistoric Man in the New World.* Ed. J. Jennings and E. Norbeck, pp.23-81. University of Chicago Press, Chicago.

Kroeber, A. L.
1939 Cultural and Natural Areas of North America. *University of California Publications in American Archaeology and Ethnology* 8.

Lehmer, D.
1971 Introduction to Middle Missouri Archeology. *National Park Service Anthropological Papers* 1.

Lehner, L.
1980 *Complete Book of American Kitchen and Dinner Wares.* Wallace-Homestead Book Company, Des Moines, Iowa.

Lewis, O.
1942 The Effects of White Contact upon Blackfoot Culture, with Special Reference to the Fur Trade. *American Ethnological Society Monograph* 6.

Lintz, C.
1978 Architecture and radiocarbon dating of the Antelope Creek Focus: a test of Campbell's model. *Plains Anthropologist* 23:319-328.

1984 Architecture and Community variability within the Antelope Creek Phase of the Texas Panhandle. Ph.D. dissertation, University of Oklahoma.

1986 The historical development of a culture complex: the basis for understanding architectural misconceptions of the Antelope Creek Focus. In *Current Trends in Southern Plains Archaeology.* Ed. T.G. Baugh, pp. 111-128. *Plains Anthropologist Memoir* 21.

Lintz, C. and J. L. Anderson (eds)
1989 Temporal Assessment of Diagnostic Materials from the Pinon Canyon Maneuver Site. *Memoirs of the Colorado Archaeological Society* 4.

Lutz, B. and W. Hunt, Jr.
1979 Models for Patterns and Change in Prehistoric Settlement-Subsistence Systems of the Purgatoire and Apishapa Highlands. MS. submitted to Interagency Archaeological Service, Denver.

Madole, R. F.
1989 Geomorphology and late Quaternary stratigraphy. In Archeological Excavation of Recon John Shelter (5PE648) on the Fort Carson Military Reservation, Pueblo County, Colorado. Ed. C.J. Zier, pp. 276-288. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

1990 Geomorphology and alluvial stratigraphy. In Archaeological Survey and Test Excavation in the Turkey Canyon Area, Fort Carson Military Reservation, Pueblo and El Paso Counties, Colorado. Ed. Van Ness, M. A., S. M. Kalasz, C. J. Zier, D. A. Jepson, M. S. Toll, R. F. Madole, and R. F. Carrillo. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Madole, R. F., C. R. Ferring, M. J. Guccione, S. A. Hall, W. C. Johnson and C. J. Sorenson
1988 Decade of North American geology. In *Geology of North America - U.S. and Mexico, Volumes K-Z.* Ed. R.B. Morrison. GSA, Boulder.

Matlock, G. and P. Duke
1992 The state of the state: a critical review. In The State of Colorado Archaeology. Ed. P. Duke and G. Matlock, pp.173-205. *Colorado Archaeological Society Memoir* 5.

McHugh, T.
1958 Social behaviour of the American buffalo. *Zoologica* 43: 1-40.

McKern, W. C.
1939 The Midwestern Taxonomic Method as an aid to archaeological study. *American Antiquity* 4:579-82.

Mehls, S. F. and C. J. Carter
1984 Colorado Southern Frontier Historic Context, RP3 Document. Office of Archaeology and Historic Preservation, Colorado Historical Society, Denver.

Mitchell, M.
1996 The Sopris Phase in regional perspective: an examination of prehistoric frontiers in southeast Colorado. Paper presented at the Annual Meeting of the

Colorado Council of Professional Archaeologists, Anasazi Heritage Center, Dolores, Colorado.

Mueller, M. A.
1995 User's Guide to the Fort Carson Site-Level Databases. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Munsey, C.
1970 *The Illustrated Guide to Collecting Bottles.* Hawthorn Books, Inc., New York.

Nickens, P. R. (ed.)
1988 Archaeology of the Eastern Ute: a Symposium. *Colorado Council of Professional Archaeologists Occasional Papers* 1.

Prothero, D.
1990 The North American stratigraphic code. North American Commission on stratigraphic nomenclature. In *Interpreting the Stratigraphic Record.* Appendix A. W.H. Freeman, New York.

Quigg, J. M.
1974 The Belly River: Prehistoric Population Dynamics in a Northwestern Plains Transition Zone. *Mercury Series* 23, Archaeological Survey of Canada.

Reeves, B. O. K.
1973 The concept of an Altithermal cultural hiatus in Northern Plains archaeology. *American Anthropologist* 75:1221-1253.

1978 Head-Smashed-In: 5000 years of bison jumping in the Alberta Plains. In Bison Procurement and Utilization: a Symposium. Ed. L.B. Davis and M.C. Wilson, pp. 151-174. *Plains Anthropologist Memoir* 14.

1981 The Rocky Mountain eastern slopes: problems and considerations. In *Alberta Archaeology: Prospect and Retrospect.* Ed. T.A. Moore, pp. 31-38. Archaeological Society of Alberta, Lethbridge, Alberta.

Renaud, E. B.
1931 Archaeological survey of eastern Colorado. *Department of Anthropology, University of Denver Report* 1.

Rockafellow, B. F.
1881 *History of Fremont County, History of the Arkansas Valley - Colorado.* O.L. Baskin, Chicago.

Roe, F.
1951 *The North American Buffalo: a Critical Study of the Species in its Wild State.* University of Toronto Press, Toronto.

1955 *The Indian and the Horse*. University of Oklahoma Press, Norman.

Ronaghan, B. (ed.)
1986 Eastern Slopes Prehistory: Selected Papers. *Archaeological Survey of Alberta Occasional Paper* 30.

Schlesier, K. H.
1972 Rethinking the Dismal River Aspect and the Plains Athapaskans, A.D. 1692-1768. *Plains Anthropologist* 17:101-133.

Schroeder, A. H.
1974 A study of the Apache Indians. In *American Indian Ethnohistory: Indians of the Southwest.* Ed. D.A. Horr. Garland Books, New York.

Schweigert, K. P.
1987 Selected Standing Structures Survey of the Fort Carson Military Reservation, Colorado. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Scott, G. R.
1975 Historic trail map of the Pueblo 1^0 X 2^0 Quadrangle, Colorado. *United States Geological Survey Miscellaneous Investigations Series* Map I-930. United States Geological Survey.

Scott, G. R., R. B. Taylor, R. C. Epis, R. A. Wobos
1978 Geologic map of the Pueblo 1^0 X 2^0 Quadrangle, south-central Colorado. *Miscellaneous Map Series* Map I-1022. United States Geological survey.

Spath, C.
1993 City of Colorado Springs, Department of Wastewater, Proposed Test Wells on Fort Carson Military Reservation, Township 16 South, Range 66 W, Section 36, El Paso County: Class III Cultural Resource Inventory. Metcalf Archaeological Consultants, Inc., Eagle, Colorado.

Spielmann, K. (ed.)
1991 *Farmers, Hunters, and Colonists.* University of Arizona Press.

Strahler, A. N.
1964 Quantitative geomorphology of drainage basins and channel networks. In V.T. Chow (ed.) *Handbook of Applied Hydrology*. McGraw-Hill, New York.

Strong, W. D.
1935 An Introduction to Nebraska Archaeology. *Smithsonian Miscellaneous Collections 100*:353-94.

Sullivan, A. P. III, and K. C. Rozen
1985 Debitage analysis and archaeological interpretation. *American Antiquity* 50: 755-779.

Tweto, O.
1979 *Geologic Map of Colorado*. United States Geological Survey.

Turner, C. G., II
1980 Appendix I: Suggestive dental evidence for Athabascan affiliation in a Colorado skeletal series. In *Trinidad Lake Cultural Resource Study, Part II: the Prehistoric Occupation of the Upper Purgatoire River Valley*. Ed. C.E. Wood and G.A. Bair. Ms. on file, Interagency Archaeological Services, Denver, CO.

Van Ness, M. A., S. M. Kalasz, C. J. Zier, D. A. Jepson, M. S. Toll, R. F. Madole, and R. F. Carrillo
1990 Archaeological Survey and Test Excavation in the Turkey Canyon Area, Fort Carson Military Reservation, Pueblo and El Paso Counties, Colorado. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Vickers, J. R.
1994 Cultures of the Northwestern Plains: from the Boreal Forest edge to Milk River. In *Plains Indians A.D. 500-1500*. Ed. K. Schlesier, pp. 3-33. University of Oklahoma Press, Norman.

Waage, Karl M.
1953 Refractory Clay Deposits of South-Central Colorado. *Geological Survey Bulletin 993* United States Department of the Interior.

Wallace, E. and A. Hoebel
1952 *The Comanches*. University of Oklahoma Press, Norman.

Watts, H. K.
1971 The Archaeology of the Avery Ranch Site on Turkey Creek, southeastern Colorado. M.A. thesis, University of Denver.

1975 The Avery Ranch site. *Southwestern Lore* 41:15-27.

Weber, K. R.
1990 Ethnohistory of the Pinon Canyon Maneuver Site. In *An Introduction to the Archaeology of Pinon Canyon, Southeastern Colorado* (vol. III). Ed. W. Andrefsky, Jr., pp. XVII-1-28. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Wedel, W.
1936 An Introduction to Pawnee Archaeology. *Bureau of American Ethnology Bulletin* 112.

1983 Changing perspectives in Plains Archaeology. *Plains Anthropologist* 28: 89-97.

Weimer, M.
1995 Predictive modeling and cultural resource management: an alternative view from the Plains periphery. In *Beyond Subsistence: Plains Archaeology and the Postprocessual Critique*. Ed. P. Duke and M. Wilson, pp. 90-109. University of Alabama Press, Tuscaloosa.

Wendland, W. M.
1978 Holocene man in North America: the ecological setting and climatic background. *Plains Anthropologist* 23: 273-287.

Wendland, W. M. and R. Bryson.
1974 Dating climatic episodes of the Holocene. *Quaternary Research* 4:9-24.

Wheat, J. B.
1972 The Olsen-Chubbuck Site: A Paleo-Indian Bison Kill. *Society for American Archaeology Memoir* 26.

Willey, G. R. and P. Phillips
1958 *Method and Theory in American Archaeology*. University of Chicago Press, Chicago.

Wilson, M. C.
1988 Bison dentitions from the Henry Smith site, Montana: evidence for seasonality and paleoenvironments at an Avonlea bison kill. In *Avonlea*

Yesterday and Today: Archaeology and Prehistory. Ed. L. Davis, pp. 203-225. Saskatchewan Archaeological Society.

Withers, A. M.

1954 Reports of Archaeological Fieldwork in Colorado, Wyoming, New Mexico, Arizona, and Utah in 1952 and 1953 -- University of Denver Archaeological Fieldwork. *Southwestern Lore* 19:1-3.

1964 An archaeological survey of northwestern Pueblo county, Colorado. Ms. on file, Department of Anthropology, University of Denver.

Wood, C. E. and G. A. Bair

1980 Trinidad Lake Cultural Resources Study, Part II: The Prehistoric Occupation of the Upper Purgatoire River Valley, Southeastern Colorado. Ms. on file, Interagency Archaeological Services, Denver, CO.

Wood-Simpson, C.

1976 Trinchera Cave: A Rock Shelter in Southeastern Colorado. M.A. Thesis, University of Wyoming.

Zier, C. J.

1984 An Archaeological Inventory of the Red Creek Parcel on the Fort Carson Military Reservation, Colorado. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Zier, C. J. (editor)

1989 Archeological Excavation of Recon John Shelter (5PE648) on the Fort Carson Military Reservation, Pueblo County, Colorado. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Zier, C. J. and S. M. Kalasz

1985 Archaeological Survey and Test Excavations in the Multi-Purpose Range Complex Area, Fort Carson Military Reservation, Colorado. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

1991 Recon John Shelter and the Archaic-Woodland transition in southeastern Colorado. *Plains Anthropologist* 135:111-138.

Zier, C. J., S. M. Kalasz, D. A. Jepson, S. A. Brown, M. W. Painter, and K. Puseman

1996 Archaeological Survey, Site Documentation, and Test Excavattions Conducted During the 1991 and 1993 Field Seasons on the Fort Carson Military Reservation, El Paso, Pueblo, and Fremont Counties, CO. MS.

submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Zier, C. J., J. H. Altschul, M.K. Kelly, M. R. Rose, K. P. Schweigert, and K. R. Weber
1987 Historic Preservation Plan for Fort Carson Military Reservation, Colorado. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Zier, C. J., S. M. Kalasz, A. H. Peebles, M. A. Van Ness, and E. Anderson
1988 Archaeological excavation of the Avery Ranch Site (5PE56) on the Fort Carson Military Reservation, Pueblo County, Colorado. MS. submitted to the National Park Service, Rocky Mountain Regional Office, Denver.

Zier, C. J., S. M. Kalasz, M. A. Van Ness, A. H. Peebles, and E. Anderson
1990 The Avery Ranch site revisited. *Plains Anthropologist* 128:147-173.