Evaluative Testing of the Bent Canyon Stage Station on the Piñon Canyon Maneuver Site, Las Animas County, Colorado

Fort Carson Cultural Resources Management Series Contribution Number 13

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National Park Service
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The University of Colorado-Colorado Springs conducted historical archaeology studies at the Bent Canyon Stage Station site (5LA3179) in 2000. The site was determined eligible for the National Register of Historic Places under criteria a, b, and d at the local level. The site contained important information on stage operations and the early settlement of the Purgatoire Valley during the nineteenth century. The evaluative work at the site contributes to our understanding of the archaeology and the historic settlement and development of the Pinon Canyon Maneuver Site, as well as the southeastern portion of Colorado in general.

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Enclosed is the a report completed for the Directorate of Environmental Compliance and Management, Fort Carson, Colorado, and administered through the Midwest Archeological Center, National Park Service. It is entitled *Evaluative Testing of the Bent Canyon Stage Station on the Pinon Canyon Maneuver Site, Las Animas County, Colorado*, by Minette C. Church and Pamela Cowen of the University of Colorado-Colorado Springs. I would like to submit this report to the Defense Technical Information Service for distribution.

The Report Documentation Page and the DTIC Accession Notice (DTIC Form 50) are enclosed with the report. I am looking forward to receiving confirmation of the submittal with the return of the enclosed DTIC Accession Notice (DTIC Form 50) postcard.

Sincerely,

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Enclosures

FOREWORD

The archeological investigations reported in this manuscript are 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 and environmental resources. The current study is part of an integrated plan that takes a long-term systematic approach to meeting identification, evaluation, and resource protection requirements mandated by the National Historic Preservation Act. While meeting legislated requirements, this project also provides a valuable contribution to our knowledge of the history and resources of Las Animas County, Colorado. Through an Interagency Agreement, the National Park Service, Midwest Archeological Center (MWAC), assists Fort Carson in accomplishing its cultural resources goals and meeting its legal obligations. The University of Colorado-Colorado Springs through a contract with New Mexico State University completed the reported project under a cooperative agreement with the MWAC.

Fort Carson began cultural resource studies on the Pinon Canyon Maneuver Site in 1983, immediately following the purchase of these lands. The Cultural Resource Program takes 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 National Register of Historic Places eligible sites and districts. The cultural resources of Fort Carson and the Pinon Canyon Maneuver Site represent all major prehistoric and historic cultural periods recognized in the Great Plains and Rocky Mountains. Sites of the Paleoindian, Archaic, and Ceramic stages are present as are sites from the Fur Trade era, 19th century Hispanic and Euroamerican settlements, early 20th century homesteading and ranching, and World War II and Cold War era military sites. The project reported here completes the evaluative testing of the Bent Canyon Stage Station (5LA3179) to determine the extent of tracked vehicle damage to the site during mechanized maneuvers.

The Cultural Resources Management Program is in the Directorate of Environmental Compliance and Management (DECAM). The directorate is tasked with maintaining Fort Carson's compliance with federal, state, and local environmental laws and mandates. The DECAM holistic management philosophy holds 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 Army lands and resources for future training, research, and recreation. Mission requirements, training resources, wildlife, range, soil, hydrology, air, and recreation influence cultural resources management decisions. Integrating compliance and resource protection concerns 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 the Pinon Canyon Maneuver Site and Fort Carson. Theft and vandalism are federal crimes. Protective measures ensure that Army activity does not inadvertently impact significant cultural and paleontological sites. Fort Carson does not give out site location information nor are sites 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 resource investigations available to the public and scientific communities. Technical reports on cultural resources are on file at the Fort Carson Curation Facility (Building 2420) and the Colorado State Historic Preservation Office. They are also 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. Non-technical reports on the prehistory, history, and rock art of southeastern Colorado have been distributed to schools and libraries within the state. Fort Carson continues to demonstrate that military training and resource protection are mutually compatible goals.

Thomas L. Warren
Director
Directorate of Environmental Compliance and Management
Fort Carson, Colorado
November 2003

ABSTRACT AND MANAGEMENT SUMMARY

The University of Colorado at Colorado Springs (CU-The Springs) conducted historical archaeology studies at the site of the Bent Canyon Stage Station (5LA3179) located in Las Animas County, Colorado. The United States Army owns and manages the site as part of its Fort Carson-Pinon Canyon Maneuver Site (PCMS) in southeastern Colorado. The project was conducted under contract with New Mexico State University (NMSU). NMSU conducted the project through a cooperative agreement with the National Park Service (Cooperative Agreement Number 1443-CA-6000-98-016), with funds made available to the National Park Service through the U.S. Army.

The PCMS has been inhabited for approximately 10,000 years, but with the coming of the Europeans, the lifestyles and settlement patterns of prehistoric inhabitants changed drastically. During the historic period, Hispanic, African American, and Anglo-European settlers farmed and ranched in the area. In 1983, the U.S. Army acquired the land, which is now used primarily as a tracked-vehicle training area. In the summer of 2000, CU-The Springs, through an archaeological field school, test excavated the Bent Canyon Stage Station on the PCMS. The site dates from the mid-1860s, and the project assisted the U.S. Army in fulfilling its obligation to protect significant cultural resources under the National Historic Preservation Act, as amended.

The Colorado State Historic Preservation Officer (SHPO) has determined that the Bent Canyon Stage Station (5LA3179) is eligible for inclusion in the National Register of Historic Places under National Register Criteria a, b, and d at the local level (36 CFR 60.4). Under Criterion a, the site is associated with important historical events and patterns, specifically

the operation of stage coach services along the route of the Santa Fe Trail by the Barlow and Sanderson Company in the late 1860s, early 1870s. The site's significance under Criterion b comes from its associations with the ranching careers of many important local individuals, and under Criterion d, the site contains information important to our understanding of Stage Coach operations and early settlement, cultural, and social patterns of the Purgatoire Valley during the nineteenth century. The evaluative work at this site contributes to our understanding of the archaeology and historical settlement/development of the PCMS, as well as of southeastern Colorado in general.

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Introduction

Introduction to the Study

In June and July of 2000, the University of Colorado at Colorado Springs (CU-The Springs) conducted an historical archeology field school at 5LA3179, located in Las Animas County, Colorado. The Stage Station site is located on a narrow bench near the start of Bent Canyon, and is situated on the west bank of an intermittent arroyo immediately above the confluence with another arroyo which forms Bent Canyon. The site consists of a complex of five sandstone structures and several stone corrals oriented in a linear fashion. One of the structures is located on a terrace above the others, and there are also stone walls along the canyon rims.

Previous Work

The Colorado State Historic Preservation Officer (SHPO) has determined 5LA3179 to be eligible for inclusion in the National Register of Historic Places under National Register Criteria a, b, and d at the local level (36 CFR 60.4). Considered to be significant under Criterion a, the site is associated with important historical events and patterns, specifically the operation of stage coach services along the route of the Santa Fe Trail by the Barlow and Sanderson Company, a leading Colorado transportation provider during the Civil War and Reconstruction periods (1860-1876). The site's significance under Criterion b comes from its associations with the ranching careers of many important local individuals, including the Jones Brothers of the JJ Ranch, Isaac Van Bremer, S.T. Brown, E.S. Bell, Frank Bloom, and the Cross and Hill families. Additionally, the site served as a hub for an extended community from the Red Rocks Canyon, with the presence of the general store and post office.

Finally, under Criterion d the site contains information important to our understanding of stage coach operations and early, undocumented and under-documented settlement, cultural and social patterns of the Purgatoire Valley during the nineteenth century.

Prior to the Department of the Army's purchase of the PCMS area in 1983, little historical archeology had been done either on stage stations or in southeastern Colorado. The work undertaken at the PCMS during the 1983, 1984 and 1987 field seasons focused attention on the importance of historic sites in defining the history and ethnohistory of the region (Carrillo et al. 1989; Carrillo 1990) and played a pivotal role in establishing a context for future historic archaeology.

As of 2002, approximately 113,028 acres, or forty-eight percent, of the PCMS had been surveyed for archaeological sites. Although local archaeologists had identified sites in the PCMS area prior to 1980, large-scale archaeological investigations of the region did not occur until the early 1980s in preparation for the opening of the area. Since that time, intensive efforts to identify archaeological sites on the PCMS have continued. Unfortunately, relatively few historic excavations on the PCMS itself have been conducted to date.

Other chapters in this report provide detailed information as to both historical and archaeological work that has been performed in the PCMS region. Therefore, this chapter is limited to historic archaeological investigations only, and only those that were conducted under the guidance of Fort Carson's Cultural Resources Management Program. The information herein is intended as a base from which to frame a context for the research that has been performed on the PCMS, as well as to be a source to direct future research questions.

Nancilee Albin, a CU-The Springs student involved in the 2000 field school, compiled a comprehensive list of published sources dealing with the Piñon Canyon Maneuver Site as a Purchase Order (P-6115-01-0046) with the National Park Service, and the following list of citations comes in part from her research (Andrefsky 1990a; Carrillo, et al. 1996; Carrillo 1994; Chambellan and Lennon 1996; Charles, et al. 1996; Church 2000, 2002; Friedman 1983, 1985, 1988; Hardesty, et al. 1995; Harper 1996; Haynes and Bastian 1986; Hunt 1998; Lintz and Anderson 1984,1989; Loendorf and Clise 1997; Loendorf and Loendorf 1999). In addition, Bonnie J. Clark has completed field work at another historic site on the property

and has written it up as her Ph.D. dissertation at the University of California, Berkeley (Clark 2003).

Additionally, CU-The Springs contracted with New Mexico State University to conduct historic archaeological investigations of three historic sites (5LA2316, 5LA2359, 5LA2366) on the PCMS during the 2001-2002 project season. New Mexico State University conducted the project through a Cooperative Agreement with the National Park Service (Cooperative Agreement Number 1443-CA-6000-98-016), with funding from the U.S. Army. These sites were originally recorded in 1984 by Richard Carrillo, Earl Mead, and Charles Turner, and were determined at that time to need further study due to the potential for association with persons, events, or patterns significant to the Hispano/Anglo history of the settlement and development of the area. Phase II testing was conducted at 5LA2316, which is a historic ranching complex that most likely dates to between 1910 and 1930. The site contains one standing structure (a corral) and several extant foundations, representing both domestic and livestock uses. Sites 5LA2359 and 5LA2366 were re-evaluated to determine the necessity and/or extent of further testing. Both are extensive, multi-component ranch complexes that contain brush corrals and dugout features, but no standing structures. The work was directed by Dr. Minette Church, Principal Investigator, Pamela Cowen, Project Director, and Richard Carrillo, Project Consultant. A final report is forthcoming.

Current Threats

The United States Army owns and manages the site as part of its Fort Carson-Piñon Canyon Maneuver Site (PCMS) in southeastern Colorado. Current threats to the site continue to be the impacts of Army mechanized training maneuvers. While the site was fenced, the fencing was not sufficient to protect the site from damage from tracked vehicles during the training season prior to the summer of 2000. The fencing only blocks access from up the canyon, in the direction of the Main Supply Route (MSR) gravel roads maintained by the Army. Tracked vehicles performing maneuvers away from the MSRs can, and have, accessed the site from down the canyon, which resulted in the damage that CU-The Springs was hired to assess. Until the site is completely fenced, it continues to be vulnerable to tracked vehicle incursions.

Sponsoring Organizations

In the spring of 2000, CU-The Springs was contacted about performing historic archaeological work at 5LA3179, on the PCMS, in conjunction with prehistoric investigations by New Mexico State University (NMSU), under the direction of Larry Loendorf, through a cooperative agreement with the National Park Service, Midwest Archaeological Center (MWAC). The studies to be performed under the terms of the agreement with NMSU were: 1) a historical overview; 2) testing and excavation; 3) analysis; 4) assessment of tracked vehicle damage to the site; and 5) a final report.

The team members utilized, in part, the research design that had previously been established for historical archaeology on the PCMS (Carrillo 1985), and used information from archives and oral narratives to complement and enhance the excavated data and associated artifacts recovered. As well as previous archaeological investigations in the project area, we consulted appropriate primary, secondary, and legal historical sources. In addition, a separate report is in progress that will add to the knowledge base of the area by specifically detailing archaeological and historical information about events and processes that contributed to the settlement and the decline of the population in the PCMS region specifically, and southeastern Colorado generally.

Project Personnel

The site testing and damage assessment undertaken by CU-The Springs on this site took place under a subcontract with New Mexico State University (NMSU), with Dr. Dr. Minette Church as Principal Investigator. Dr. Larry Loendorf was the Principal Investigator for NMSU, under the cooperative agreement mentioned above, and used the guidelines established by the Fort Carson Cultural Resources Management Program. The National Park Service (NPS) and the Midwest Archaeological Center (MWAC) oversaw the project, and assisted the U.S. Army in fulfilling its obligation to protect significant cultural resources under the National Historic Preservation Act, as amended.

The CU-The Springs archeological field work took place in June and July of 2000, in the context of an archaeological field school course. University staff and students had two main objectives in the project. The first was to inventory the site surrounding the structural ruins, in order to augment mapping that Department of Environmental Compliance and Management (DECAM) personnel had already accomplished, and to update the original 1983 site form for the site. The second goal was to test the areas of the site that had been most heavily impacted by tracked vehicles, as well as areas that had not, in order to assess the damage done. Mr. Steven DeVore of MWAC collected, analyzed and made available magnetic susceptibility data from the site as well (see Chapter 11).

CU-The Springs key personnel identified in the proposal are: Dr. Minette Church, Principal Investigator; and Mr. Richard F. Carrillo, Consulting Historical Archaeologist. The field crew was comprised of the following students: Sherry Thrash, acting as head crew chief; Amie Gray, Creighton Smith, Chris Ecker, and Amber Pitts, as crew chiefs; Michelle Gay as director of the Field Lab, and Kerry Bennett, Jeffrey Fladung, Paul Guinther, John Gust, Amy Guthrie, Kimberly Henderson, Marissa Mc Elwee, Marrisia Tise, Cheryl Wagner, and Kenneth West as crew members. The post-field laboratory analyses of the artifacts occurred at the University of Colorado, Colorado Springs. Pamela Cowen and Sherry Thrash acted as laboratory directors, with Ms. Cowen undertaking the database construction and artifact analysis phases. Students who contributed to lab work included Joan Henderson and Creighton Smith.

Minette Church and Pamela Cowen wrote the final report, with contributions by Erica Hill, faunal analyst; Steven DeVore, geophysical survey specialist; Richard Carrillo, Consulting Historical Archaeologist; Ken West, student and antique guns and ammunition aficionado. Other student participants, including Amie Grey, Creighton Smith, Chris Ecker and Sherry Thrash, contributed significantly to the feature descriptions herein. Kimberly Henderson, graduate student at University of Denver, contributed significantly to the database by adding artifacts from a 1998 excavation of an abandoned well on the site which is in danger of eroding into the adjacent arroyo.

Chapter 2

The Natural Environment

Introduction

The Piñon Canyon Maneuver Site is located on the plains of southeastern Colorado, just north of the boundary between the Great Plains and the Sonoran zone of the Desert Southwest. It covers about 380 square miles (243,000 acres) of terrain along the Purgatoire River in Las Animas County, Colorado, lying between an anticline on the south, known as the Hogback, and the Black Hills monocline to the north. The Bent Canyon 5LA3179 is located within the PCMS in Section 7, Township 27 South, Range 67 West of the Sixth Principal Meridian. The purpose of this chapter is to describe the natural environment of the maneuver area to enhance our understanding of both the prehistoric and historic human adaptations to the area.

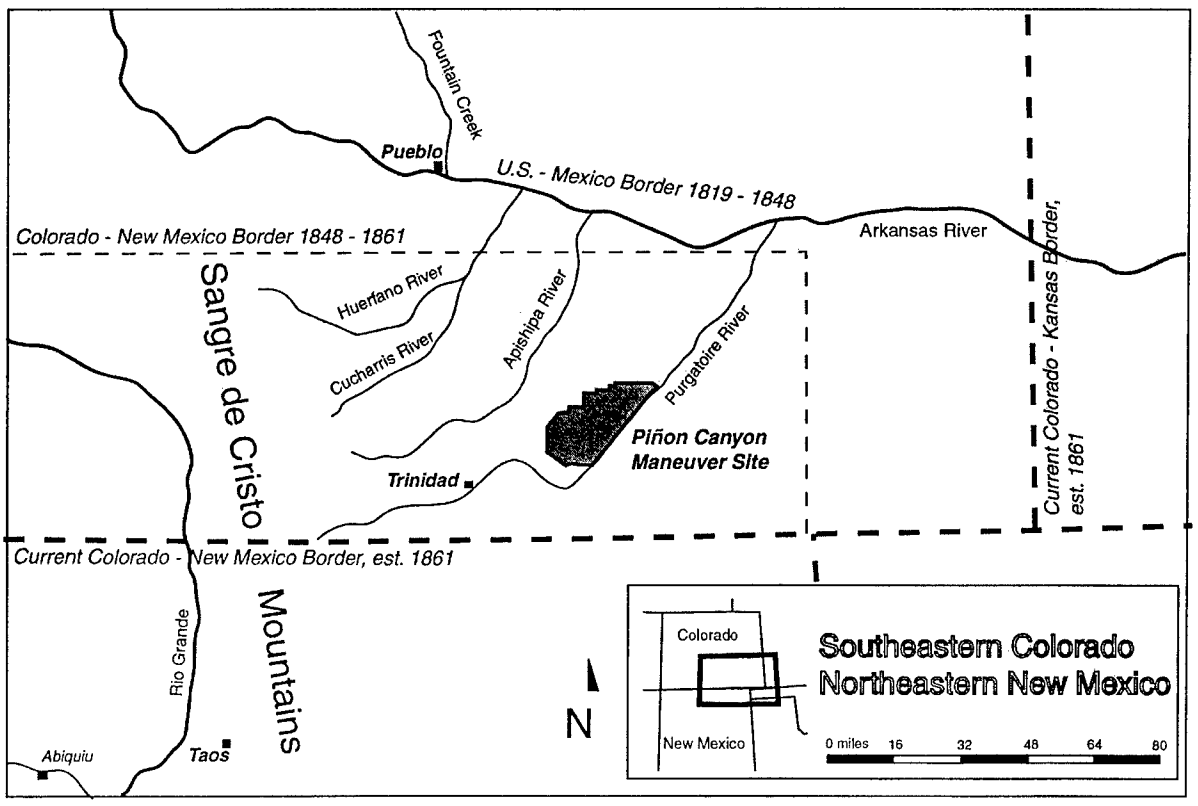


Figure 1: Location of the Piñon Canyon Maneuver Site (PCMS) in southeastern Colorado

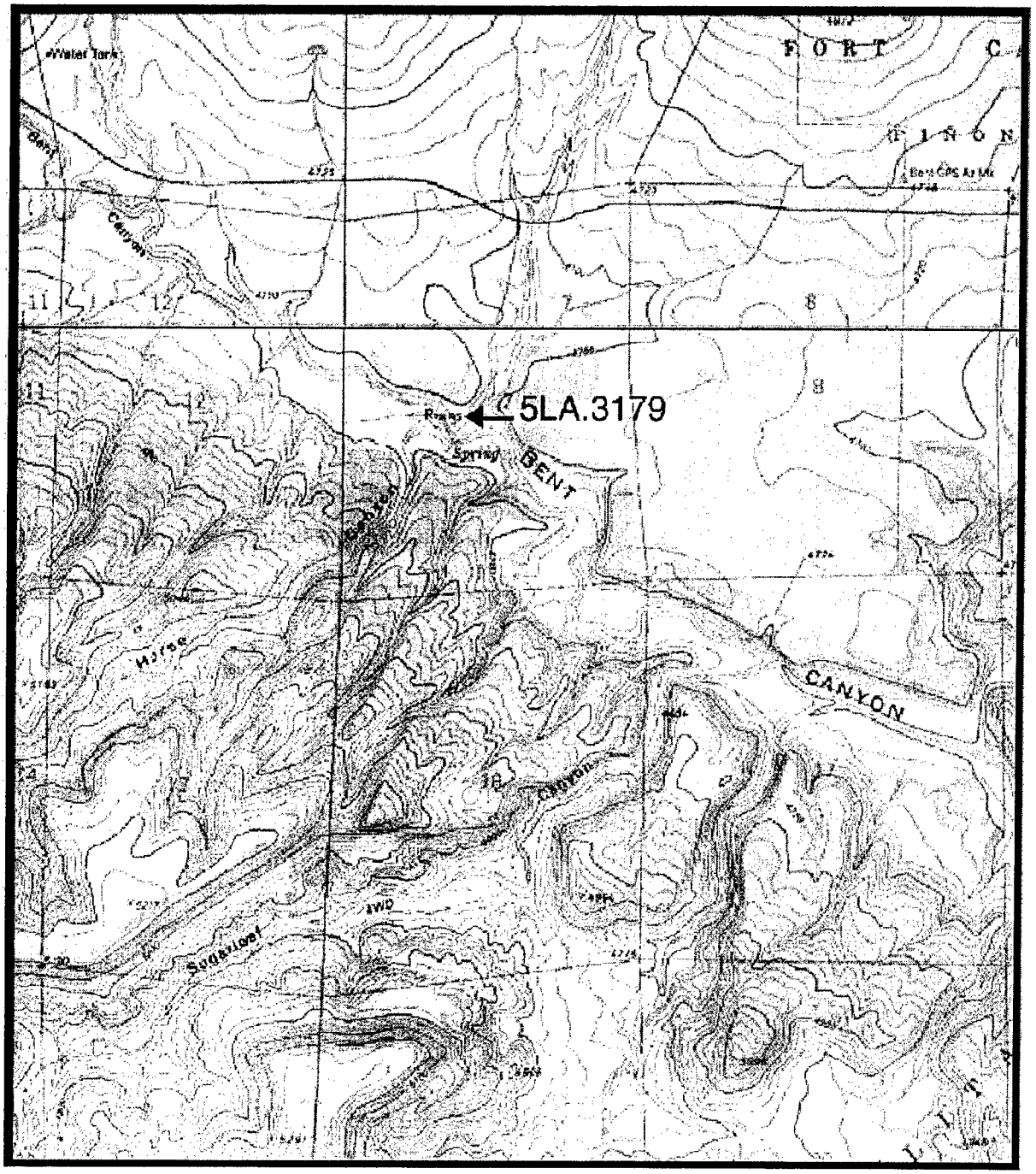


Figure 2: Location of Site on U.S.G.S. Topographic Map

Physiography

The PCMS is in the north central part of the Raton section of the Great Plains physiographic province, known as the Chaquaqua Plateau, and is comprised of a degradational plain whose surface development is dependent on resistant stratum. Located at the edge of the plains grasslands, the area borders two other major physiographic regions: the Rocky Mountains

(defined by the Sangre de Cristo Range to the west and the Raton Mesa uplift to the south), and the American Desert Southwest (Weber 1980).

Geology and Geomorphology

The oldest formations identified in the PCMS date to the Permian, Triassic, and Jurassic Ages, and can only be found in the canyon areas and along the Purgatoire River Valley. Sandstones from the Entrada Formation, and limestones, claystone, and shales from the Ralston Creek and Morrison Formations are present. The Entrada Formation is the remains of an ancient sand dune, and the Morrison Formation is the result of clastic sediment deposition on the floodplain from the mountains to the west. Higher elevations, including most of the canyon caprock and the tablelands surrounding the canyon, represent the Cretaceous-age Dakota Sandstone and Purgatoire Formations, units dominated by sandstone and shale. Quaternary alluvium occurs in the Purgatorie Canyon bottom (Andrefsky 1990).

Several alluvial-colluvial terraces and dune deposits also have geoarcheological significance: 1) a late Pleistocene-early Holocene alluvial and colluvial terrace sequence along the Purgatoire River and its tributaries within PCMS; and 2) a late Pleistocene-Holocene dune sequence mantling segments of the stratum plain. The Purgatoire deposits are primarily made up of loamy soils, with occasional lenses of sandstone gravels. The alluvial soils can exceed a depth of three meters in places, and alluvial cobbles and gravels dating to the Pleistocene have been located in some of the canyon areas. McFaul and Reider (1990) have documented occurrences of Pleistocene alluvial deposits along the Purgatoire River in the PCMS area, and contend that these deposits may have served as a source for argillite, quartzite, and chert. Chert also occurs in the Morrison Formation and orthoquartzite is found in the Purgatoire Formation and in the Dakota Sandstone (McFaul and Reider 1990).

In addition, two east-west running dikes on the PCMS represent the most recent lithology in the area. Located at the extreme southeastern boundary is the Hogback, the larger of the two dikes. A somewhat smaller dike can be found just west of the Hogback, and both are dense, basaltic formations (Andrefsky 1990; Scott 1963; Trimble 1990[1980]).

Schuldenrein identified four major landscape units on the PCMS: 1) the Hills Unit - upland mesas with steep slopes along their margins; 2) the Steppe Unit - broad "steppes" below the mesas; 3) the Hogback Unit; and 4) the Arroyo/Canyon Unit - incised arroyo valleys and canyons. The Hills landscape unit contains upland mesas with steep slopes along their margins and includes the Black Hills, the Big Arroyo Hills, and the Bear Spring Hills. The geology within this unit varies more than that of the other three, with more steep slopes, pediments, and extremely dissected areas. The Steppe landscape unit covers most of the PCMS with its fairly level grasslands and mixed pinon/juniper forest. The basaltic Hogback has been shaped by erosional activity and is bounded by the Van Bremer Arroyo and its tributaries. The major drainages in the PCMS make up the Arroyo/Canyon landscape unit (Andrefsky 1990; Schuldenrein 1985).

Soils

There are only two major soil orders present on the PCMS: 1) loessic Entisols along the western edge; and 2) Aridisols, which cover most of the rest of the area. Both orders exhibit weak "A" horizons and rich, clay "B" horizons. Penrose-Manzanola-Midway soils are found at the northern end of the PCMS on shale bedrock, and Travessilla-Wiley-Villagreen soils occur over sandstone bedrock, and cover most of the PCMS area. According to McFaul and Reider (1990), the PCMS experienced periods of eolian deposition in the late Pleistocene and Altithermal, and at least four periods of alluvial deposition, one pre-9080 B.C. and three after (McFaul and Reider 1990).

Hydrology

The PCMS is drained principally by the Purgatoire River which flows along the eastern edge of the maneuver area from its headwaters in the Sangre de Cristo mountains to its confluence with the Arkansas River near Las Animas, Colorado. Five main arroyo systems and numerous smaller systems are present in the PCMS. The five major systems from south to north are Van Bremer, Taylor, Lockwood, Red Rocks, and Bent Canyons, with Iron, Minnie, and Withers Canyons representing smaller tributary drainages. Rourke, Beaty, South, Clark, Miller, and Anderson Canyons drain from the eastern side of the Purgatoire River. The local

drainage pattern is tied to the underlying bedrock structure, with two major lineaments trending north to northwest. Significant for the area's archaeology, the fracture joints are possible sources of groundwater for springs and rock shelters. As the only dependable watercourse in the PCMS area, the Purgatoire River plays a critical role in the local environment. In such a generally arid environment, the more lush bottomlands of the Purgatoire provide a localized micro-environment for a variety of diverse plant and animal species (Charles, et al. 1996; Reed and Horn 1995; Weber 1980).

Climate

The climate of the PCMS is classified as a cold middle latitude steppe climate, with winter temperatures ameliorated by sporadic chinooks that descend from the Rocky Mountains into the Purgatoire River Valley. The area receives relatively little precipitation and has moderate to high wind movement. January is the coldest month with temperatures averaging 7 degrees celsius at Rocky Ford and 5 degrees celsius at Trinidad. Precipitation averages 29.18 centimeters at Rocky Ford and 38.18 centimeters at Trinidad, with May and July being the wettest months. In summer, high temperatures in the area reach to well over 37.78 degrees celsius. The growing season in southeastern Colorado averages 160 days, approximately 40 days more than is needed to cultivate corn (Loendorf and Kuehn 1991; McFaul and Reider 1990; Trewartha 1957). Relying on averages when characterizing Plains climate can be misleading, however. The patterns of temperature, precipitation, and growing season through time are extremely dynamic, so the high and low ends of the ranges of these variables are, in terms of understanding the Plains ecosystem, more important than the averages (Church 2001).

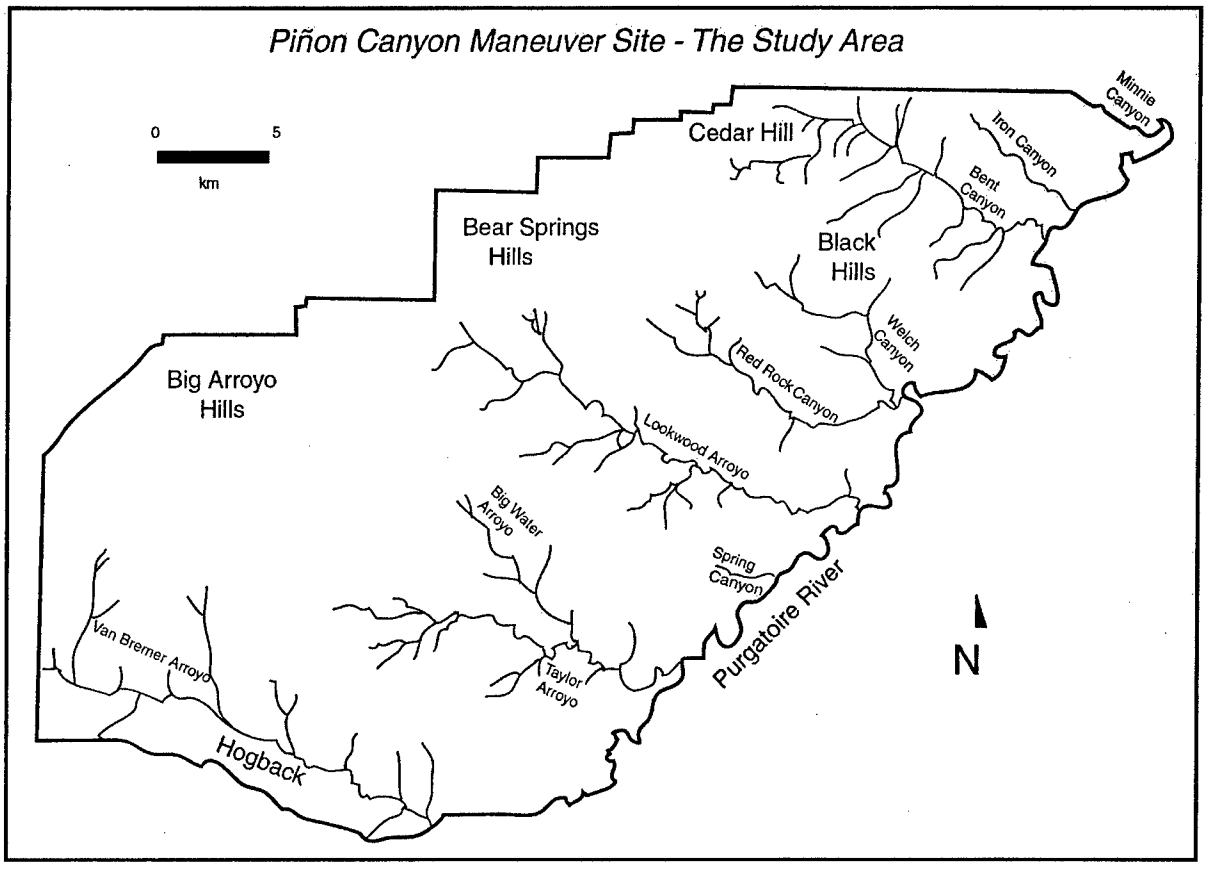


Figure 3: Major drainages and topographical features on the Piñon Canyon Maneuver Site

Plant and Animal Communities

Flora

A total of 350 plant species have been identified on the PCMS. Providing a wide range of resources for consumption, as well as other uses, the plant community has been classified into four grassland communities, sixteen shrubland communities, and six woodland communities. Van Ness and Kalasz (1990) provide a detailed study of the floral resources in the area. Unless otherwise indicated, the following information has been taken from their analysis.

Grasslands: The most predominate on the PCMS are the four grassland communities, or the areas designated as the "steppes" or "plains," which contain short, perennial grasses with occasional forbs, cacti, and small shrubs. Conditioned to thrive in a harsh, arid environment,

these grasses develop thick, shallow roots to hold surface water, and some deeper roots which retain moisture for dryer periods. Such grasses generally have thin leaves to promote cooling and possess the ability to go dormant during times of drought (Andrefsky 1990; Smith 1980).

Woodlands: Three of six woodland communities are dominated by one-seed juniper, most commonly found in the Big Arroyo Hills, the Black Hills, along canyon rims, and on scattered, isolated limestone outcrops. The other three communities consist of individual areas dominated by ponderosa pine, cottonwood, and quaking aspen, respectively, with the aspen and cottonwood areas associated with permanent water sources. The association between juniper and piñon pine occurs only sporadically on the PCMS, and herbaceous undergrowth in juniper woodlands consists mostly of areas of bunch grasses with assorted forbs and shrubs.

Shrublands: The sixteen shrubland communities on the PCMS include a variety of shrubs, with certain areas dominated by various types of cactus. Sagebrush, skunkbrush, cholla and yucca represent the most common types in the area. Four-wing saltbush, wolfberry, rubber rabbitbrush, mountain mahogany, and common hoptree are also present. These communities are found in a wide range of geographical locations, but tend to be associated with canyons or otherwise unsettled topography.

A wide variety of plants were available to the former inhabitants of the PCMS. Poison ivy and wild grape can be found in moist areas, and although the valley bottom of the Purgatoire is generally devoid of juniper, its terraces support greasewood, saltbush, grasses, tree cholla, prickly pear, rabbitbrush, wolfberry, devilsclaw, and snakeweed. Tamarisk, bulrush, cottonwood, and sedges grow along the Purgatoire, and introduced species, such as kochia and Russian thistle are common in the riparian areas of the river valley. Solid archaeological evidence is limited for the PCMS area, but ethnographic sources indicate various methods of procurement and preparation, as well as suggest economic uses for nearly all plant species in the area (Campbell 1969; Van Ness and Kalasz 1990).

Plants on the PCMS could be harvested during most of the year, then preserved or dried and stored for later consumption. Wild onion, bulrush, and cattail roots were most likely available in the spring, along with greens such as pigweed and goosefoot. In summer, several species of grass seeds and other fruits were available, but the diet in autumn was probably dominated by piñon nuts and additional fruit types. Seeds and fruits may have been stored to supplement the diet through the colder months, but bark, roots, and prickly pear pads, among other plant parts, could be found throughout the winter. Plant parts used for utilitarian or medicinal/ceremonial purposes were often available for a greater part of the year than were the edible portions (Van Ness and Kalasz 1990).

Fauna

A wide variety of fauna have been identified on the PCMS, including large ungulates such as mule deer, pronghorn antelope, and Bighorn sheep. Many of the species currently found in the region were available to prehistoric groups, notably bison, wolves, and possibly elk. The exact size of bison herds prior to EuroAmerican occupation is disputed, and it is most likely that elk were never in abundance in southeastern Colorado. Armstrong (1972) provides a thorough listing with distribution maps of the habitats of Colorado mammals. Other references list and identify Colorado mammals, birds, reptiles, and amphibians. Ethnographic accounts of faunal exploitation by prehistoric groups for the western United States is extensive (Andrefsky 1990a).

Flora and Fauna in the Nineteenth-Century – Historical Context

To reconstruct prehistoric and historic use of the PCMS region, we must understand the symbiotic relationship between human populations and the natural environment, and the effect this relationship had on both. The availability of natural, organic resources within the variety of ecozones on the PCMS can be seen as being both stable and transitional, and must include both natural and introduced elements. As a starting point, however, the current plants and animals in the area suggest the types of resources available to past populations, although climate fluctuations and human occupation over the millennia have affected the composition and distribution of both species. Gilbert (Gilbert 1980) argues that livestock

grazing, timber removal, hunting, prairie fires, and the intentional and accidental introduction of both plant and animal species, as well as U.S. Army maneuvers, have all altered the PCMS environment. The following historical context for the flora and fauna in the PCMS region has been taken directly from Minette Church's dissertation work in the area, with only minor editorial changes (Church 2001).

In building a context for 1870s settlement, it is worthwhile to describe the material basis for that settlement, namely, the landscape and resources with which homesteaders had to work. Walter Prescott Webb, an eminent historian of the Plains, made much of the flat grassland environment and average rainfall statistics, generalizing across vast tracts of space. In making a general argument about how this environment shaped European settlement upon it, he ignored the high degree of local variation to be found in the region. His early twentieth-century work reflects the same generalizing attitude towards the Plains landscape as that of General Land Office and local tax officials, who valued all land of equivalent size equally, without regard for local conditions (General Land Office Records 1875; Las Animas County Tax Records 1878-1889; Webb 1931).

Since Webb's time we have become somewhat more nuanced in our analysis of Plains environments and micro-environments. Even so, we tend to think of the southern High Plains as it is today - dominated by short grasses, forbs, cacti and occasional stands of juniper or cottonwoods near rivers and washes. And we are all too familiar with the erosional features brought about by overgrazing. Both seem an integral part of the Plains landscape now. However, the variety and quantity of vegetation and almost certainly the quantity and depth of erosional scars that we see now are somewhat different from conditions in the early and middle years of the nineteenth century, before intensive cattle grazing took hold in the area.

Josiah Gregg, familiar with the prairie in the 1830s, described vegetation along the rivers then, as now, dominated by cottonwoods, and that in the uplands by short grasses, forbs, and cacti. From piecing together contemporary accounts, it is clear that many modern species were abundant then, but also that there was more quantity and variety in his day than there

has been since the era of large cattle operations and their attendant landscape damage, particularly in the better-watered washes and canyons. According to Gregg there were "plums, grapes, choke-cherries, gooseberries, and currants - of the latter there are three kinds, black, red, and white" (Gregg 1954; p.363, see also Sunder 1960. Greasebrush, "cedar" (local name for juniper), and piñon provided firewood for Lewis Gerrard in 1847. Piñons for firewood, as well as wild turkeys for food, were also reported by James Larkin as he camped along the Purgatoire in 1856 (Barbour 1990; Garrard 1987).

Significantly, there were considerably more trees, in both number and variety, living along the rivers in the nineteenth century than there are today. Antonio Valverde, camping along the Purgatoire in 1719, noted both poplars and elders, as well other "luxuriant foliage" (Thomas 1935). Jacob Fowler, at the confluence of the Purgatoire and the Arkansas in 1821, observed that "the timber on this fork is mostly Cotton Wood Some Box elder and Some Small Black locust - the Bottoms are fine and large...the trees on the main River are Small but Some of those on the fork are large Enof to mak a Connue..." (Coues 1965, p.46). Thus the trees were clearly bigger as well. Elfido Lopez, in the Purgatoire valley, noted thick grass and wild plums that he ate as a boy in the 1870s, and adds willows to the list of trees mentioned by the others, as well as "cottonwoods it took seven men to reach around"(Louden 1998 [1937], p. 29; West 1995).

Besides the wild turkeys, wild animals of the area included most of those known today, including pronghorn, mule-deer (what travelers often called "blacktail"), the occasional black bear, grizzly, elk, prairie dogs, mountain sheep, and mountain lions, as well as the buffalo and wolves. Others had observed antelope (pronghorn) and signs of grizzly bears on the Plains. Fowler had a more gruesome encounter with a grizzly bear in 1821, leading to the death of one in the party, and also observed "great droves of Elk and Buffelow and Sign of more of the White Bare - there are all So Wild Horses deer and Caberey [pronghorn antelope]" (Coues 1965, p.46), see also (Barbour 1990, pp.92-93; Canestorp 1999).

Domesticated animals, particularly cattle, made inroads into the area relatively early on in the Spanish period. Horses were also early arrivals on the Plains, and, like cattle, they often

formed wild herds like those Fowler observed. Many changes on the Plains clearly predate the nineteenth century, however. On the High Plains of southern Colorado the nineteenth-century drovers who brought herds of domesticated animals north began to impact the environment even more heavily. And further erosional damage came when cattlemen ran cattle year-round in the study area, beginning with the more intensive cattle operations of the 1880s.

The causes of vegetational and faunal change in this area are complex and multiple. Historian Elliott West (1995) does an admirable job of reconstructing the process of change in the region between about 1840 and 1865. Regarding impacts on the native animal population, West challenges the widely accepted wisdom that Anglo-American travelers across the plains wiped out the buffalo populations. He argues that while these people certainly contributed to the demolition of the herds, there was simultaneously significant new pressure on the buffalo population by Native hunters. Before the onset of the 1840 peace between the Cheyenne, Arapaho and Lakota in the north, and the Comanche, Kiowa and Plains Apache in the south, a buffer zone had existed between territories controlled by these rival groups. This zone formed a *de facto* refuge area for the buffalo herds. This neutral ground lay primarily between the Platte and the Arkansas rivers, and with the 1840 peace, as well as increased hunting for hides to trade (which meant killing far beyond consumption needs), the death toll for buffalo ramped up in the region. By the 1870s, buffalo were a rare sight on the Plains.

West also has an explanation for the disappearance of timber and native grasses. He credits two major immigrations onto the Plains for over-taxing these resources between the Platte and the Arkansas: Native American groups originating in the northern Midwest, particularly the Cheyenne, who came to live in the region, and American travelers across it. Grasses constituted forage for both the native fauna like the buffalo, and for introduced animals such as horses, mules, and cows. In the High Plains, the best forage is found along streams, and therefore streams were a focal point of Cheyenne winter-camps. In the warmer months, the riparian zones were frequented by American migrants and American and Mexican traders on the Santa Fe Trail. This unprecedented year-round pressure on the native buffalo, grama, and

bluestem growing along the few permanent drainages did not allow these grasses the time to recover, and year after year travelers noted in their journals that forage was becoming increasingly harder to come by (West 1995).

Timber met the same fate. Place names such as "Big Timbers," which made sense in the beginning years of the century, became less appropriate during the middle and later years. Trees in the area originally included poplars, elders, elms, ashes and hardwoods along some tributaries. West notes that "along the Arkansas, the Big Timbers early in the nineteenth-century seem to have stretched from close to the Purgatoire River...nearly to the Kansas border, a total of nearly sixty miles" (West 1995 p.27). Matt Field describes this extensive grove in 1840 as "the little garden bower of the West" (Sunder 1960). Gerrard followed Kearney's army of the West in the same decade, and comments in his memoir that "the teamsters and soldiers on the Fort Leavenworth and Santa Fé trail are so improvident that not many years will pass ere the timber now standing will disappear" (Garrard 1987, p.127). This turned out to be an accurate prediction. West argues that overgrazing by drovers' and traders' livestock along the rivers in the spring and summer, followed each year by Native Americans camping in the same places with their horse herds in the winter, laid waste to much of the forage--both grass and timber. Much of the flora we associate with the High Plains in this region today is actually secondary growth that follows more than a century of damage by European travelers, traders, and livestock, and by Native Americans and their horses (Thomas 1935; West 1995).

Compounding the effects of overgrazing by the mid-nineteenth-century were the notoriously dramatic cyclical changes in rainfall and weather patterns on the Plains. Walter Prescott Webb dealt in rainfall averages (1931), but the real key to life on the Plains was (and still is) a recognition of the cyclical and localized nature of precipitation. People living on the Plains, now and in the past, recognize and have a healthy respect for the extreme weather conditions that can develop in southeastern Colorado; these are people who are prepared to run to the basement during the annual tornado season, who are snowed-in by blizzards on an almost yearly basis, and there are some who remember the Dust Bowl of the 1930s. Clearly, weather, specifically the unpredictability and treachery of it, continues to be at the forefront

of peoples' minds when describing life on the plains. Survival in the face of nature is an ongoing part of Plains identities.

According to Merlin Lawson's analysis, the years 1825 to 1849 bracketed a particularly wet span of years, and this would have partially mitigated the damage occurring during the period. Then rainfall tapered off, and between 1859 and 1861, drought reigned, exacerbating the damage. The trends of high and low rainfall on the High Plains at different times shows that damage to vegetation and fauna was rampant in the region of the various immigrant and livestock trails in the dry period that occurred mid-century (Lawson 1974; West 1995).

It is also true, however, that the Purgatoire River in the PCMS was not a popular travel route for Europeans. Travelers noted an Indian trail through the area in the Spanish, Mexican, and American periods, but canyon walls up to 100 feet high, uninterrupted for miles, made travel with livestock and wagons difficult, to say the least. In 1843 Rufus Sage traveled through the area and describes the Purgatoire canyon walls as "often perpendicular" (Hafen 1956, p.216), cited in (Friedman 1988). Members of the Long Expedition ended up in the Red Rocks area of the Purgatoire in 1820, and, attempting to ascend a tributary, described it as "so narrow and obstructed by fallen masses of rock, and almost impenetrable thickets of alders and willows, as to render our progress extremely tedious and painful" (Thwaites 1905, pp.67-68), cited in Friedman 1988).

This impression led more people with wagons to travel along Timpas Creek, a smaller, less turbid and deeply-cut waterway which parallels the Purgatoire on the northern border of the study area (more recently the route of the Atchison and Topeka Railroad). As a result, even as late as the 1870s there were still pockets of old timber and more luxuriant vegetation tucked into the many side canyons of the Purgatoire which were relatively untouched by nineteenth-century travelers. The fact that Piñon Canyon residents of the 1870s described huge cottonwoods and box-elders in the canyons, shows that more remote areas along the river escaped some of the depredations of the better-traveled routes, areas later depleted by homesteaders and ranchers. On the other hand, some plants, such as the elderberries and

currants growing around the structures at 5LA3179, were utilized for making wines or preserves, and may even have been planted there by the occupants.

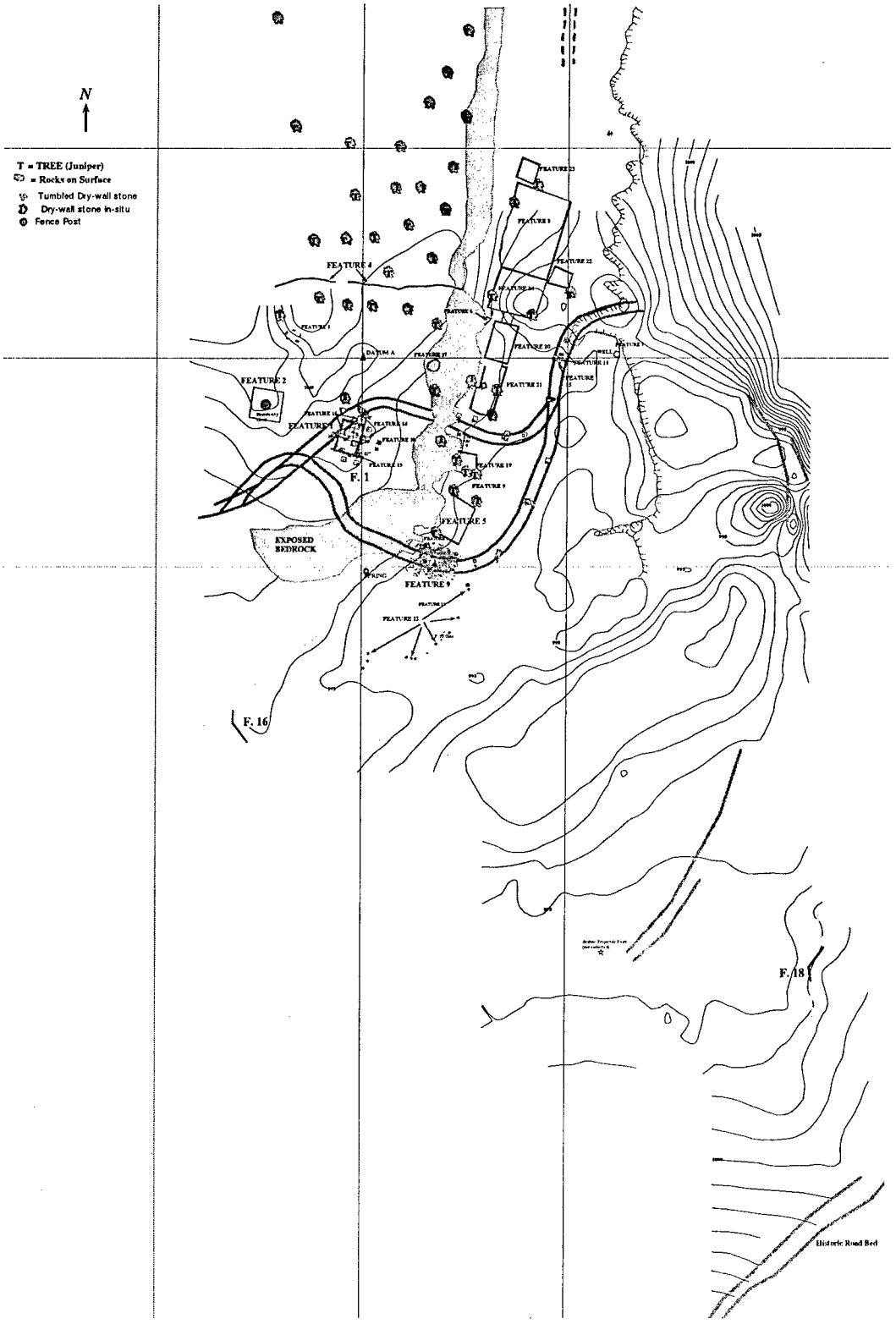


Figure 4: 5LA3179 site map showing all features

Site Environment at 5LA3179

The site is located on a narrow bench near the head of Bent Canyon and is situated on the west bank of an intermittent arroyo immediately above the confluence with another arroyo. The site is surrounded by heavy stands of juniper, cactus and grasses, as well as currant and elderberry, some of which may have been intentionally planted by site inhabitants. The present-day abundance of cholla cactus may or may not have been extant in the 1870s, as abundant cholla is a sign of overgrazing. The arroyo, as well as the nearby spring, harbor riparian growth such as cattails and other tall grasses.

The majority of structures are arranged along the lower bench above the arroyo, which contains soils from two terrace formations (T1 and T2). The arroyo cut adjacent to the lower bench contains exposed soils that probably extend into the late Pleistocene (Kuehn, personal communications 2000). On the upper bench, much shallower soils overlie sandstone bedrock, which outcrops at the edge of the bench itself, and is exposed over large areas to the south and west. Feature 1 lies on this upper bench, along with what may be a privy feature, and the land slopes up from there to the northwest, to the level of the tablelands surrounding the canyon. On this slope is a low wall (Feature 4) with a break in it giving access down the slope to Feature 1. A spring lies on the lower bench, at the edge of the upper bench, at the south end of the site.

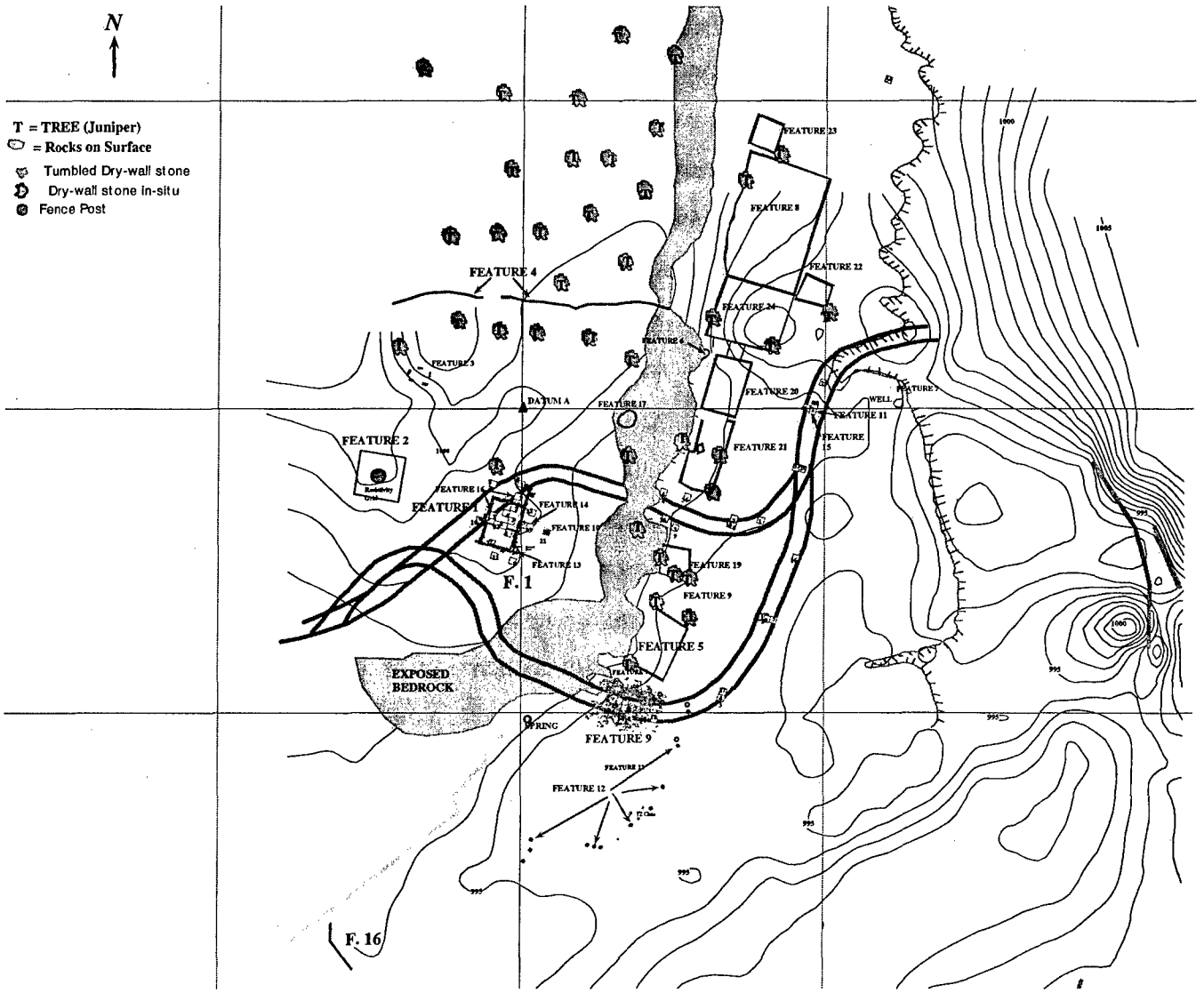


Figure 5: Site map showing majority of features on northwest side of arroyo

Chapter 3

Plains Past: Protohistoric to Contact

Introduction

The prehistoric cultural sequence of the Piñon Canyon Maneuver Site follows the general pattern for the Plains (Cassells 1997; Gunnerson 1987; Wedel 1961, 1964; Willey 1966; Zeir and Kalasz 1999). However, the Purgatoire River and the Chaquaqua Plateau represent significant geographical features of the region that reflect unique influences to the cultural sequence. We can, however, put this part of the Plains into a larger regional context, and break away from too arbitrarily narrow a "culture area" approach, especially as we approach the archaeology of more recent periods. As a region in many respects transitional between the Southwest, the Plains and the Rocky Mountains, the area that is now southeastern Colorado was an active locus of intersecting peoples in both the prehistoric and historic periods. Archaeologists Katherine Spielmann, Timothy Baugh, and others have established that patterns of trading and raiding between the Southwestern Pueblos and Plains nomadic groups were well established in both the protohistoric and prehistoric periods (Baugh 1984, 1991; McHendrie 1929; Spielmann 1989, 1990). For example, scholars John L. Kessel and Alfred A. Kidder have established that the town of Pecos was a major trading entrepot between the two regions from prehistoric periods until its abandonment in the early twentieth century (Kessell 1987, 1989; Kidder 1916, 1932). The dominant routes of trade and travel between regions used the post-contact period were thus well established in pre-contact times. By the beginning of the Protohistoric period, the Spanish began to explore the region and document the presence of Apachean peoples. The Comanches joined the Apachean peoples by the early part of the eighteenth century. The stage ends with the establishment of regular trade between aboriginal and European groups.

The Protohistoric Period

The Protohistoric period (A.D. 1550-1750) refers to that portion of the Ceramic period that spans the time from initial contact between the Spanish and the Plains Indians to the initiation of regular contact between the Native Americans of the Arkansas Valley and the

Spanish colonies in New Mexico, ca. 1750. Robert Schuyler has proposed the "ethnohistoric period" as an alternative to this concept, referring to the time between the period of first contact of native with non-native peoples in a particular area, and the later "Full Historic" period of more intensified contact. The "Full Historic" is characterized by more consistently available documentary data with which researchers can compliment excavated data to aid in interpretation of the past (Schuyler 1991). For the purposes of this report, "Protohistoric" is defined the same way as Schuyler's "Ethnohistoric" phase.

In 1540, the Spanish had laid claim to the Purgatoire and surrounding territory. This period was a time of upheaval and unrest. In southeastern Colorado, groups of Apache and Comanche arrived from the north, while the Ute continued to exploit local resources seasonally. Both archaeologically and ethnohistorically identified groups were present on the Plains during the Protohistoric period.

Although Protohistoric period sites have been documented in southeastern Colorado, they are much less abundant than Middle Ceramic period sites, indicating less intensive occupation of the region. Most of the recorded sites are attributed to the Dismal River Aspect. Attributes commonly used to ascribe Protohistoric period affiliation include late chronometric dates, tipi rings, micaceous pottery, and European or Euroamerican trade goods (Anderson 1990).

Within the region, a number of other archaeological sites not part of the Dismal River Aspect have been attributed to the Plains Apache. Most "Plains Apache" sites near the project area have been identified by the presence of spaced stone circles (tipi rings), earth rings, and micaceous tempered pottery (Ocate Micaceous and Cimarron Micaceous), some of which may be attributable to Taos-Picuris Puebloans rather than to Apachean peoples. The validity of assuming these traits are Apachean has not been tested (Campbell 1969; Hand 1977; Wedel 1959; Wood and Bair 1980; Zier and Kalasz 1999). There is at least a possibility that some micaceous wares may have been made historically and locally by Hispanos (Carrillo 1997).

Within southeastern Colorado, a number of purported Apachean sites have been reported. The Louden site is a roughly circular mound of fire-cracked rock containing a 3.5 m-diameter central depression filled with ash. The site, dated A.D. 1435, has been attributed to the Apache. Several tipi ring sites, a date of A.D. 1350, and the presence of micaceous and San Lazaro Glaze polychrome pottery (dated A.D. 1440-1515), suggest that eastern Apachean peoples were present in the Carrizo Creek area of southeastern Colorado by A.D. 1400. This information also suggests trade with the Puebloans as early as the late fifteenth century. Cimarron Micaceous pottery has been reported from three sites on the Apishapa Highlands and is attributed to the period dating A.D. 1550-1750, although Cimarron Micaceous ceramics have been dated elsewhere between A.D. 1750 and 1900. Two other sites on the Apishapa Highlands are tentatively assigned an Apachean affiliation based on the presence of Taos Incised pottery. Site 5LA1411 in the Trinidad Reservoir area, which contains two tipi rings and Ocate Micaceous pottery, is attributed to the Carlana phase, a putative Jicarrilla Apache manifestation dating between A.D. 1525 and 1750 in the Upper Purgatoire Valley. Campbell postulates that the Plains Apache may have been on the Chaquaqua Plateau as early as A.D. 1435 and ascribes the earth and stone rings of the fifteenth century to Dismal River Aspect (Campbell 1969; Greer 1966; Gunnerson 1987; Hand 1977; Kinsbury and Gabel 1980; Lutz and Hunt 1979; Wood and Bair 1980; Zier and Kalasz 1999).

According to ethnohistoric and linguistic evidence, the Apache migrated rapidly from west-central Canada, with the southern branch (Jicarilla, Lipan, Mescalero) arriving in the Southwest in A.D. 1525. Initially, they were a nomadic, dog travois-using, bison-hunting, non-ceramic people. No archaeological or linguistic evidence supports an Apachean entrance into the Southwest prior to A.D. 1525, and some argue that the earliest date for resident Athabascan groups in the Southwest is A.D. 1690. No pre-pottery Apachean sites have been identified on the plains, perhaps because diagnostic materials of the aceramic Apachean groups are unknown (Zier and Kalasz 1999).

Protohistoric period sites in southeastern Colorado are generally attributable to the Apache, Comanche, Ute, Arapaho, or Cheyenne, the primary groups that resided in the area. Evidence

suggests that, by the early 1500s, Apache groups dominated the Colorado Plains, having immigrated from western Canada in pursuit of bison. Pottery types such as Ocate and Cimarron Micaceous may be diagnostic of the Apache occupation. Historic records indicate that, at approximately 1750, the Apache were displaced southward by the Comanche and the Ute. According to Murray, the Comanche were able to displace the Apache as a result of obtaining firearms through contact with French traders. During the Historic stage, at apprixmately 1830-1870, the Arapaho and Cheyenne pushed the Ute back to the mountains of western Colorado and the Comanche to areas southward (Gunnerson 1987; Zier and Kalasz 1999).

It should be clear by now that the mobile nature of all these groups makes it difficult and of little use to look at their use of the Plains in isolation from other areas. Prehistoric and Protohistoric trade between the Plains and the Pueblos has been demonstrated archaeologically by many scholars. Some of the earliest evidence from the Pueblos came from work by A. V. Kidder, while Waldo Wedel was the first to look at this exchange on the Plains (Kidder 1916, 1932; Wedel 1961). At Pecos Pueblo Kidder found Plains style stone and bone tools, shell, chipped stone from quarries located on the Plains, and fragments of bison robes. Wedel notes Southwestern style ceramics on the Plains dating to the 1300s (Wedel 1961). Most of these researchers have drawn from a combination of archaeological and ethnohistoric data to look at Plains-Pueblo exchange, and most agree that this interaction intensified somewhere in the 1500s, with the migration of Athabascan peoples (Apache and Navajo) south into the Plains and Southwest (Baugh 1984, 1991; Kidder 1916, 1932; Speth 1991; Spielmann 1989, 1990; Wedel 1961; Wilcox 1991).

Katherine Spielmann has postulated reasons for the pre- and protohistoric regional trade. Based on her work at Gran Quivira, she points out the economic and nutritional benefit for both sides in such exchange: Plains hides, meat, and tallow for Pueblo corn and agricultural products. She points out that the Pueblos were farming in a fairly marginal area for dry farming. In good years they needed to grow enough to store for bad years, beyond the agricultural surplus that they would trade with Plains peoples for meat protein. She concludes that over-hunting in the region made it more "cost effective" to trade for meat than

to go out onto the Plains and get it themselves, leaving agricultural fields unprotected and untended. Scholars disagree on whether Plains or Pueblo groups were more dependent on the exchange, but clearly interdependence existed, and this mutual dependence increased through time (Baugh 1991; Speth 1991; Spielmann 1990). The nature of this exchange is further discussed in Chapter 4.

Chapter 4

Plains Past: European and Anglo-American Participation

Introduction: Exchange on the Southern High Plains

Since in discussion of this site, and in arguments for its significance, the staging phase of its existence has been emphasized, some larger context for transportation and trade in the Southwest and Plains is in order. In addition, some discussion of demographics and settlement is also provided here, as 5LA3179 was the site of a homestead and ranch for a much longer period than its life as a Stage Station.

As a region in many respects transitional between the Southwest, the Plains and the Rocky Mountains, the area that is now southeastern Colorado was an active locus of intersecting peoples in the historic as well as pre- and protohistoric periods. Archaeologists Katherine Spielmann, Timothy Baugh, and others have established that patterns of trading and raiding between the Southwestern Pueblos and Plains nomadic groups were well-established in both the protohistoric and prehistoric periods (Baugh 1984, 1991; McHendrie 1929; Spielmann 1989, 1990). For example, scholars John L. Kessel and Alfred A. Kidder have established that Pecos was a major trading entrepot between the two regions from prehistoric periods until its abandonment in the early twentieth century (Kessell 1987; Kidder 1916, 1932).

The dominant routes of trade and travel between regions were well-established in the prehistoric period. Even so, most every grade school textbook will tell the reader that William Becknell "opened" this route of trade, the Santa Fe Trail, in 1821. Even the 1994 volume, The Oxford History of the American West, edited by individuals who are mainstays of the "New Western History", produces a chronology of American Expansion wherein they list the date 1821 as the date that William Becknell "opened the Santa Fe route of trade between Missouri and New Mexico" (Milner, et al. 1994, p.153). Later in the same volume an author describes New Mexican Hispanic merchants as "entering" the trade in significant numbers, and at many levels (including the Chávez family who ended up with a seat on the New York Stock Exchange), but only *after* its "opening" by Becknell (Milner, et al. 1994,

p.227-228). A 1984 text written for undergraduate history courses says that the Santa Fe Trail "began its busy life in the early 1820s" (Hine 1984, p.156).

Becknell did not establish the Santa Fe Trail as a route of trade. What he did was initiate American participation in a trade network that predated him by hundreds of years. Anglo participation was to change the nature of the trade, but by no means did the exchange or the route originate with them. Although one would never know this from the prevailing literature on the subject, as late as 1843--22 years after the supposed Americanization of the Santa Fe trade--Spanish-speaking New Mexicans still controlled the majority of the Santa Fe exchange. And to some degree the name Santa Fe Trail is itself a misnomer, since the trade continued south into Chihuahua, with even fewer Anglo participants (Sandoval 1987).

To put the trail in a broader context: what began as an Indian trade route developed by turns into a route used by both Indians and Europeans, and briefly into the route of the Barlow and Sanderson Stage route, and ultimately that of the Atchison and Topeka Railroad. The sites along the Purgatoire River lay near what is called the Mountain Branch of the trade route, and both material provisions on homesteads and social relations in the region were affected by activities along the route through time. Thus a discussion and chronology of these activities is in order.

The Spanish on the Southern Plains (adapted and modified from Church 2001)

Many of the goods involved in prehistoric trade continued to be important into the historic period. One aspect of regional interaction that continues to be a key in the interpretation of nineteenth-century ethnicity and materials on the Plains of southern Colorado is the exchange in captives. Some discussion revolves around whether or not what has been called the slave or captive trade among Native American groups and Hispanos predated the arrival of the Spanish. Carling and A. Aline Malouf assert that slavery as an institution was unknown to precontact Ute (Malouf and Malouf 1945, p.880), although the basis of this assertion is not at all clear, and there is some early Spanish documentation that implies otherwise from as early as the Coronado expedition (Kessell 1987) .

While writers of primary documents use both "slave" and "captive" to describe the hapless individuals who were traded along with food, furs, knives and pots, captive is the more frequent term, and the one used here. Captives in the Plains-Southwest exchange were not infrequently adopted into the tribe and allowed their freedom and rights of marriage in their adult years. They were most often captured in the course of warfare and raiding wherein their acquisition was of secondary importance, or at most one of several goals of the aggression. Nor were the Spanish the only captive-takers. The French also participated and various Native groups raided each other (Hämäläinen 1998, p.490-491).

The taking of captives was always as much a matter of trade as of raiding among Native Americans and Hispanos. What is clear is that there was intermarriage, captive taking, captive trading, and other types of social exchange between native groups that began before and continued after the arrival of the Spanish (who were by no means themselves a homogeneous group (Deagan and MacMahon 1995). The fact that we see evidence of Native American technologies and architecture on historic-period Hispano sites in southern Colorado is not surprising, given this context.

These kinds of material culture, as well as the facts of Native American and European experiences during the era of Spanish exploration, trade, and settlement, illustrate the importance of integrating the Native American past with that of groups of European origin, rather than strictly dividing historic from prehistoric or protohistoric. In central and northern New Spain, the Iberian settlers continued to mix with Maya, Aztec, and other Mexican natives. Many of those from Mexico who continued to migrate north from Sonora and Chihuahua traded, raided, and intermarried with Native groups such as the Tarahumara. Furthermore, intermarriage and an active trade in captives among Indian groups, and between Indian groups and Hispanic settlers, were also evident later into the United States historical period. This interaction affected language as well as artifacts.

This interaction occurred at the most elite as well as at the commoner levels of society. Juan de Oñate, the founder of the first New Mexico colony, had a Basque father. His wife, born of a high status family in the region of the Zacatecas silver mines in Northern Mexico, was a

mestiza related to both Cortez and Montezuma (Nostrand 1992). A number of people classified as *mulatto* also came north with the earliest non-native settlers (Nostrand 1992). A black man from Angola, named Sebastián Rodríguez, came to New Mexico in 1692 as a drummer accompanying Don Diego de Vargas during the *Reconquista* of New Mexico, after the 1680 Pueblo Revolt (Gutiérrez 1991). Researchers have traditionally approached such interaction in terms of heritage, but seldom in terms of the spread of ideas and technology that would logically result from this kind of cultural diversity.

Certainly this process of *mestizaje*, begun in the Old World, continued in the New World, and not just among lower status people, as researchers have often assumed. Furthermore, the so-called Spanish settlers who came with Oñate were not all Spanish. In the Santa Fe of the 1600s there were "several hundred" Tlexcalan Indians, official allies of Spain who helped conquer the Aztecs (Nostrand 1992, p.54 n.8; Spicer 1962, p.300). These veterans of the conquest settled in a barrio of the new *pueblo,* in an area which is still designated by a historic marker today (Quintana 1991 [1974]; Spicer 1962). However, as Frances Leon Quintana notes, this barrio disappears in the historic records. "These Indians constituted a distinct caste at the outset but must have experienced speedy and virtually unnoticed merger into the segment of society called *español*" (Quintana 1991 [1974], p.171).

So the social interaction as well as the exchange in goods and traditions that began on the Iberian peninsula continued in more southerly parts of New Spain, and ultimately on the southern High Plains as well. An early example of historical archaeology which sheds light on the study area is the work of Waldo Wedel, who, in 1940, set out to trace Spanish exploration through the area (Wedel 1994). Significantly, virtually all of the European goods he noted lay within 20 meters of what later came to be called the Santa Fe Trail. These goods, deposited by either the Spanish themselves or by Native Americans passing through the area on trading expeditions, constitute some of the best evidence we have that the trail predated its supposed opening by William Becknell by some hundreds of years. These goods include examples of chain mail found in undisturbed contexts at six different sites; a man named Johan August Udder made the first such discovery sometime between 1881 and 1889 (Wedel 1994). Local youths, while playing in a rock shelter along the Purgatoire River near

its confluence with the Arkansas northeast of the study area, found more Spanish period chain mail in 1981 (Richard F. Carrillo, 1993, personal communication). Sixteenth-century Spanish documents from Castañeda de Sosa on Coronado's expedition through the southwest in 1540, and from Don Juan d'Oñate's colonization in 1598, report that Plains nomads came to the Pueblos to trade bison fat and hides for corn, cotton blankets, and ceramics (Vigil 1994). Pecos Pueblo was one center of this trade at the time, but Plains groups were also observed around Picurís and San Marcos Pueblos, as well as at Gran Quivira (Spielmann 1989).

The goal of Spaniards on the Plains was most often trade and diplomacy rather than settlement, and in this they were mostly successful. While issues of Indian hostility and isolation did limit the ability as well as the desire of Spanish citizens to make their homes on the Plains, these drawbacks did not keep them from traveling and trading freely over them (Almaráz 1994). They also recognized the limitations of the land in terms of water and defensibility, and this recognition is documented in place names on the early Spanish maps of New Mexico, such as the *"Jornada del Muerto"* and the *"Llanos sin Agua"* (Miera y Pacheco 1778). Accommodations to these limitations also shaped Hispano patterns of settlement and land valuation in the study area in the late nineteenth-century, contrasting in many ways with Anglo patterns.

The participation of Spanish citizens in the Plains-Pueblo exchange system changed the dynamics of trade among Indian groups, but the exchange continued and grew in scope. Plains groups continued alternatively to raid or trade with both Pueblo and Hispano settlements throughout the rest of the seventeenth and following centuries, often despite Spanish legislation aimed at limiting trade (Kenner 1969; Quintana 1991 [1974]).

In the eighteenth century, the objectives of Native American participants in trading and raiding changed. The Comanche had pushed the Apache further south, the Plains peoples were now mounted, and raided for livestock as much as for food. The dominance that the Comanche came to have over the Apache in the 1700s is often considered a military dominance, but an equally strong argument can be made for dominance in trade leading to

territorial control as a result of expansion after an alliance with the Wichita in 1740 (Hämäläinen 1998). Historians, if not archaeologists, are beginning to recognize the central importance of mobile Plains traders to the geopolitics of the eighteenth- and nineteenth-century Plains, and no longer describe mobile groups as simply armed raiders or passive middlemen between settled Indian and European groups (Hämäläinen 1998, West 1995).

After the *Reconquista* and renewed European settlement in northern New Spain, settlers who were cut off from regular supplies from Mexico by Apache to the south learned to make common cause with Pueblo Indian neighbors to achieve both mutual defense from, and trade with, Plains groups like the Comanche. In this period John L. Kessell has documented that Hispanos and Pueblos "joined in ritual coparenthood (*compradrazgo*) and lived in close proximity (*vecinidad*), becoming *compadres* and *vecinos*" (Kessell 1989, p.129). And, as the trading with Plains groups often turned to raiding when their more settled trading partners were unwilling, Pueblo and Hispano *vecinos* also fought together to defend their villages (Kessell 1989). Ute, Navajo, Apache and Comanche at different times all raided both Pueblo and Hispanic villages, and raiding was often for women and children as well as for food. This tradition of captive taking, both of Hispanic and Pueblo children by Plains groups, and of Plains Indian children by the former, continued well into the nineteenth century, and had demographic effects in the study area at the time of the Bent Canyon Stage Station and ranch operation. The proportion of hostile raiding to friendly trade encounters between Southwest and Plains increased with time and increasing Hispanic settlement, as settlers and Pueblo villagers were hard-pressed to meet village subsistence needs with available resources (Spielmann 1989). Over time, this continuous relationship of trading and raiding, intermarriage, and captive taking resulted in an exchange of material culture and traditions, though groups designating themselves as Puebloan, Plains Indian, Spanish, or Mexican remained distinct (Hurt 1939).

The Apache and Comanche were trading in Taos in 1705, and the Comanche dominated the trade by the late 1700s. The trend toward raiding over trading halted with the success of an expedition by Juan Bautista de Anza in 1779, in which he defeated the Apache Chief Greenhorn and established a mutual peace between the Spanish, the Comanche, and their

traditional enemy, the Ute. Bautista de Anza regulated and expanded trade fairs after 1786. Peaceful trading increased, and the Spanish allied themselves with the Comanche against the common Apache enemy. Fray Francisco Atanasio Domínguez observed this trade in 1776: the Comanche brought buffalo hides, white elk skin, horses, mules, buffalo meat, and slaves, as well as guns, powder, balls, tobacco, hatchets and vessels. They exchanged one buffalo skin for one iron knife, one especially well-tanned skin for a bridle, meat for maize, and female captives for two horses and some other small goods. Women between the ages of twelve and twenty were especially valuable, more so than men or boys (Kessell 1987; Levine 1991).

Trade outside legally sanctioned trade fairs, at villages such as Abiquiu, characterized the eighteenth century (Quintana 1991 [1974]). The Spanish government established policies to control such exchange, but had little means to enforce it in the northern borderlands. Later in the century, trade between Pueblo, Hispano, and various Plains groups continued in state-sanctioned trade fairs or *rendezvous* established by the Spanish and Mexican governments at Taos and Pecos. Many of the goods traded were the same as those in the prehistoric exchange, including food, manufactured items, slaves, and livestock. European-manufactured goods augmented the supply. Slaves were Plains captives who were either sent south to work in the mines, or were coerced into serving in New Mexican households for a certain number of years and were then freed. John Kessel notes:

> Although in volume and worth the trade in buffalo hides and fine tanned skins far exceeded the "ransom" of non-Christian captives, no item was more important to the local Hispanos or more avidly sought after than these human *piezas*. Mostly they were children or young women, for their men died fighting, were put to death, or were too tough to "domesticate". No Hispano of New Mexico, however lowly his station, felt that he had made good until he had one or more of these children to train as servants in his home and to give his name. Men wanted to present them to their brides as wedding gifts. They were as sure a symbol of status as a fine horse (Kessell 1987, p.366).

Many of these captives became *genízaros*: Christianized Plains Indian freed slaves who established their own villages and sometimes intermarried with the New Mexicans or Puebloans (Kessell 1987; Weber 1982, 1992). A census taken in 1750 in New Mexico recorded 154 *genízaros* and 693 Indian servants in Hispano households, constituting 13.2

percent of the total population (Magnaghi 1994, p.120; Weber 1992). Thus, while perception of ethnic boundaries between Pueblo groups, Plains groups, and Hispanos remains intact through the history described, these boundaries were actually quite porous, with frequent personnel changes facilitated by trade relations between groups.

Further evidence of the blending of Hispano and Indian ideas, technologies, and lifeways, unaccompanied by blurring of perceived ethnic boundaries, is evident in populations of *comancheros* (traders) and *ciboleros* (buffalo hunters), who crisscrossed the central and southern Plains in the last quarter of the eighteenth century after the Spanish-Comanche peace negotiated by de Anza in 1779. *Comancheros* were both Hispano and Pueblo Indian traders, who, rather than waiting for the Plains groups to come in and trade at the official trade fairs, ventured out onto the Plains to trade. While discussions of this phase of New Mexican and Puebloan trade often locate these traders on the Llano Estecado (Staked Plains of eastern New Mexico and the Texas Panhandle) in the 1800s (Chase 1993; Levine 1991), this trade took its participants to the Central Plains as well. Stephen Long observed and recorded this activity in 1820, as did other Anglo-Americans who were beginning to appear along what came to be known by Anglos as the Santa Fe Trail (Kenner 1969, Levine 1991). In 1831 Josiah Gregg noted:

> These parties of *Comancheros* are usually composed of the indigent and rude classes of the frontier villages, who collect together, several times a year, and launch upon the plains with a few trinkets and trumperies of all kinds, and perhaps a bag of bread and may-be another of *pinole*, which they barter away to the savages for horses and mules. The entire stock of an individual trader very seldom exceeds the value of twenty dollars, with which he is content to wander about for several months, and glad to return home with a mule or two, as the proceeds of his traffic (Gregg 1954, p.257).

This observation, biased and judgmental as it is, not only tells us that trade still existed in the 1830s, but is also testimony to the Anglo-viewed material poverty of the Hispano frontiersmen. J. W. Abert, who was in the area of the Purgatoire River and along the Canadian River in 1845, noted *comanchero* cart roads. In 1849 Indian Agent James S. Calhoun both noted and tried to regulate the *comanchero* trade (Kenner 1969). Railroad surveyors on the Plains noted Hispano traders even as late as the 1850s, only 10 years before the initial settlement along the Purgatoire River, and 20 years before the Barlow and

Sanderson Stage activity there. The importance of the *comachero* trade to all parties involved is attested to by the observation of Frances Levine, that the "*comanchero* trade persisted for more than two centuries in the face of changing political and economic conditions" (Levine 1991, p.165).

The *ciboleros* were no less enduring. In 1853, while traveling the Cimarron cutoff of the Santa Fe Trail, W. W. H. Davis noted:

> Soon after we camped the advance of a large party of Mexican buffalo-hunters came in, and stopped just above us upon the stream. All told, they numbered a hundred and fifty men, near five hundred animals, and some fifty carts. They were upon their annual buffalo-hunt, which they make each fall, when they remain upon the Plains six weeks or two months. They dry the meat in the camp, and sell it when they return to the settlements (Davis 1982, p.44).

Most of these men hunted with spear or bow-and-arrow. There was an oft-cited ban on trading guns to the Plains Indians that historians and anthropologists generally assume to mean that there was a significant flow of guns from Hispano settlers to Native Americans on the Plains (Bamforth 1988; Chase 1993; Hall 1989). In contrast, historian Pekka Hämäläinen notes:

> Besides purchasing horses from the Eastern Comanches with manufactured goods, they [the Western Comanche] also passed on guns, powder, ammunition, and tools to New Mexicans, who suffered from a chronic shortage of manufactured items. The first reference to such trade is from 1760, and by 1776 it had become established enough to be based on a specified exchange rate, as Fray Domínguez pointed out: "If they sell a pistol, its price is a bridal." What makes these redistribution activities significant is that they contradict so strikingly the conventional view of the Southern Plains hunters as mere consumers of the manufactured goods the adjacent trade centers channeled to the interior (Hämäläinen 1998).

In reality the Apache disrupted lines of supply between northern New Spain and Mexico City, and most Hispanic settlers were chronically short of firearms and ammunition; they had no surplus firearms to trade, making government policy on such trade moot. As David Anthony notes, horses, once acquired, reproduce their own supply; ammunition does not (Anthony 1985). The supply of ammunition was just as hard to come by, if not harder, than

the guns themselves, which, when available at all, were French guns coming *from* Plains Indians (originally from Louisiana) *to* Hispanos.

Any number of primary and secondary sources note the dearth of firearms at the disposal of Hispano settlers (Davis 1965; Gregg 1954; Hurt 1939; Kenner 1969; Magnaghi 1994; Meketa 1986; Quintana 1991 [1974]; Sunder 1960). As George Hyde noted in his work on the Plains, "hostile Comanches, [were] equipped by free French traders with better guns than any Spanish soldier in New Mexico was permitted to carry" (Hyde 1959, p.92). As late as the 1830s, Josiah Gregg noted that "a great portion of the militia are obliged to use the clumsy old-fashioned *escopeta*, or firelock of the sixteenth century; while others have nothing but the bow and arrow, and sometimes the lance..." (Gregg 1954, p.155). In 1848, the year New Mexico became part of the United States, the Comanche were trading for guns, powder and lead from the Osage, who were getting them from Americans further east, and were turning around and trading these firearms to New Mexicans for three times what they had paid for them, thus continuing a trade of guns *to* New Mexicans begun a hundred years before at Taos (Kenner 1969, p.85).

Anglo-American Participation

Clearly then, Mexican independence and the arrival of William Becknell and his subsequent colleagues, with the bounteous supplies of goods from Kansas and points east, had a significant impact on access to goods in New Mexico and southern Colorado. However, the established trading families of New Mexico did not surrender control of the trade, and were still the primary traders on the route some twenty years later (Sandoval 1987). Nor were Native Americans, *comancheros* and *ciboleros* out of the picture until decades later.

Sometime around 1834, the Bent and St.Vrain Company built a fort along the Arkansas River in order to capitalize on trade with the Plains Indian groups as well as those European traders on their way to or from Santa Fe. The fort came to be known as Fort William, or Bent's Fort, after William Bent, and was in part responsible for the rising popularity of the Mountain Branch of the Santa Fe Trail. This route was 100 miles or so longer than using the Cimarron cutoff in southeastern Kansas, but had more reliable water sources, and now the added appeal of the Bent brothers' and St. Vrain's hospitality and trade.

Though researchers have in some cases emphasized ecological conditions and food exchange in the region as reasons for trading and raiding, there were also non-economic benefits of trade. Josiah Gregg, writing about nineteenth-century exchange in the same region, noted the efficacy of trade as a diplomatic tool:

> The Santa Fé caravans have generally avoided every manner of trade with the wild Indians, for fear of being treacherously dealt with during the familiar intercourse which necessarily ensues. This I am convinced is an erroneous impression; for I have always found, that savages are much less hostile to those with whom they trade, than to any other people. They are emphatically fond of traffic, and, being anxious to encourage the whites to come among them, instead of committing depredations upon those with whom they trade, they are generally ready to defend them against every enemy (Gregg 1954, p.251).

Beyond easing hostilities, as we have seen, trade was accompanied by intermarriage, alliance, and partnerships in a process that linked people on more levels than that of economics (Speth 1991). Doug Comer has emphasized the multifunctional and multivalent meanings of trade, even in more capitalist Anglo settings, in his book on trade as ritual at Bent's Fort (Comer 1985).

Trade in captives continued into the middle of the nineteenth century as well. In the Santa Fe Trail region, Josiah Gregg notes:

> An occasional Indian, and sometimes an entire village, have abandoned their wonted seclusion, and become identified with their conquerors [the Mexicans]. In the North [New Mexico and Southern Colorado], the system of Indian slavery has contributed still more to the same result. They buy the captive children of both sexes of the wild tribes [i.e. mobile groups], taken prisoners among each other, or by the Pueblos in their petty wars with the former - and indeed by the Mexicans themselves - who are generally held in bondage to the age of twenty-one years, and some, from ignorance, for their whole lives. Such [Indians] as resume their liberty, intermarry with the race of their masters, becoming Mexican citizens, often undistinguishable from many of the already dark-hued natives [Mexicans] (Gregg 1954, p.153).
>
> Out of half a dozen Mexican captives that happened to be with our new visitors [the Comanche], we only met with one who manifested the slightest inclination to abandon Indian life. This was a stupid boy about fifteen years of age, who had

probably been roughly treated on account of his laziness (Gregg 1954, p.250).

W. W. H. Davis, one of the more judgmental Anglo observers of New Mexican life, observed in the 1850s:

> The system of Indian slavery which exists in the country conduces to this state of things [the darker skin tones of the New Mexicans]. The people obtain possession of their children by purchase or otherwise, whom they rear in their families as servants, and who perform a life-time servitude to hard task masters and mistresses. When they grow up to man's and woman's estate, many of them marry with the lower class of Mexicans, and thus a new stream of dark blood is constantly added to the current. Tawny skins are seen in all ranks in society, and some of the most intelligent and wealthy of the native population exhibit the most enduring traces of their Indian origin (Davis 1982, p.216)

The Bents are a prime example of how the tendency to marry into the families of trading partners continued after the advent of Anglo-American participation in the regional trade in 1821. The Anglo newcomers married both Indian women and Hispanas (Craver 1982). William Bent had two Cheyenne wives and Charles Bent married into the Jaramillo family, an important Taos trading family, as did Kit Carson. Others associated with the fort and with the trade made similar alliances (Clark 1996; Comer 1996). These were not alliances between Anglos and the lower class of Mexicans. The Jaramillos were affluent. The children of these various unions, like all the other individuals of mixed heritage before them, were able to negotiate the social territories of both cultures, and to some degree the same was true of the wives, who clearly brought more than companionship and children to their Anglo husbands. They brought political, social, and economic alliances as well. Rather than bring raw, laissez-faire capitalism to the West, these early Anglo settlers adapted in many ways to New Mexican life. Spanish was the *lingua franca* of the Plains and Southwest, and all who settled or traded there, be they Anglo, English, French, or Native American, had at least a rudimentary understanding of the tongue.

All these groups – Comanche, Cheyenne, Apache, Kiowa, Ute, Anglo-American, French, Spanish and Mestizo – were represented on the Plains in the 1870s, when the Bent Canyon Stage came into its brief period of operation. Most of the general histories of the West leave one with the impression that all of the Plains Indians were confined on reservations, and that

the few who remained at large on the Plains were engaged in the final throws of the Indian Wars by the 1870s. However, according to local historian Morris Taylor:

> Appearance of young men of the Plains tribes from their agencies east of the Antelope Hills in Indian Territory during 1872 and 1873 may be ascribed mainly to a desire for perpetuation of the old way of life. Penetration of the upper Dry Cimarron country and the valleys of the Arkansas and the Purgatoire above Fort Lyon was a continuation of their old pattern of warring on the Ute in the foothills, or even in their mountain fastnesses, while the Ute maintained their custom of buffalo-hunting and horse-stealing on the plains (Taylor 1971, p.316).

Southern Cheyenne also traveled in the region at this time, and primary accounts referring to the 1870s and thereafter also speak of a Comanche presence in the study area {Richeson, 1934 #199; Taylor, 1971 #60). By 1900 these types of appearances by mobile bands of Native Americans on the Plains had tapered off, but during the period of years that the inhabitants of the Stage Station were ranching, collecting the mail, marketing goods, and hosting stagecoach passengers, Native Americans were still in the region.

Not only were they in the region, but they were still a force to be reckoned and negotiated with. Not all the native groups had the same relationship with all Anglo and Hispano settlers. Taylor goes on to note that in 1872, during the period of operation for the Bent Canyon stage route:

> A band of about two hundred Cheyenne led by One-eyed Bull appeared on the Purgatoire River in Colorado in the late summer. They pointedly *refrained from molesting a stagecoach* [emphasis added], and it was said that the ranchers of the area were not worried by their presence. Unpredictably, the opposite reaction was aroused by a small, mixed party of Cheyenne, Kiowa, and (Kiowa) Apache that showed up on the Nine Mile Bottom of the Purgatoire about the same time...Leaving the fertile bottom lands, the Indians rode up the Purgatoire past the ranch of a man named Felton. He followed them upstream past the ranch of a Mr. Gildey, at the mouth of Bent Canyon on the north side of the river, to a little Mexican cluster known as Red Rocks Plaza, deep in the spectacular Red Rocks Canyon of the Purgatoire [this Plaza is just down the drainage from the Roybals' homestead]. There the leading citizen, Don Juan Córdova, killed a beef for them and asked them not to molest his livestock in the canyon of the Chacuaco, a southern tributary of the Purgatoire. But once over his line, according to a settler named Whiteman (oddly enough), they raided horse herds belonging to George W. Thompson and Lonny Horn in Colorado and to Dr. Thomas E. Owen in New Mexico (Taylor 1971, p.321).

This account, which Taylor draws from a contemporary article in the Pueblo paper, the *Colorado Chieftain*, is illustrative on a few counts. Taylor characterizes the varied reaction of the ranchers (who at this time are mostly Hispano) to different Indian groups as "unpredictable," yet given his own research on Indian-white politics of the time, the differences are not so hard to understand. The majority of Cheyenne were advocates of peace with whites, but there was a dissident group of Cheyenne, Kiowa, and Apache who resisted pressure to reach an agreement. These people, who composed the second group encountered above, would clearly be seen by the Hispanic settlers as more dangerous. In response to this threat, Don Juan Córdova engaged in the kind of individual diplomacy that Hispano villagers had been engaging in for 300 years, often in direct conflict with official government policy: he made an arrangement with the band and sealed it with an offering of meat, thus guaranteeing safety for his livestock, but not for that of his neighbors.

It is noteworthy that most of the people who were in fact raided had Anglo surnames. Anglo-Americans were more likely than Hispanic people to lump all Indian groups together; over and over in Plains history, they exacted retribution for murdered settlers on the first band of Natives they encountered, without determining the guilt of that group--the Sand Creek Massacre is a more egregious example of this thinking. They had no tradition of negotiating with individual bands. This kind of Indian raiding did not end until 1874, *after* stagecoach traffic began in the region. The last report of Indians in the Nine Mile Bottom of the Purgatoire dates to 1876 (Taylor 1971).

The architecture on the Stage Station may well reflect the state of complex political tensions between Indians and Anglo and Hispanic settlers. Several of the buildings along the lower bench, along the arroyo, appear to be defensive in design, with either small or nonexistent window openings. Others, which may be later, seem to have more accessible doorways and bigger windows. These are not structures which were directly impacted by tracked vehicle damage, and therefore we did not excavate in or around them, so fine-grained dating remains unknown. An alternative hypothesis is that the window size grew with better access to things like window glass, which came with stagecoach and then railroad transportation.

Nevertheless, the 1870s, the period of stagecoach travel at 5LA3179, was characterized by buffalo hunting and trading by Pueblo and Hispano settlers, and the bare beginnings of a civilian Anglo presence on the Plains. For instance, along the Purgatoire, Elfido Lopez played with a Ute boy when he was small (he was one year old at the time of the 1870 census) {Louden, 1998 [1937] #277}. Though in political terms the territory had changed hands in the preceding 250 years, from Spain to Mexico, and from Mexico to the United States, some things had changed little: people still traded along the Mountain Branch of the Santa Fe trail, and Indians still raided for what they could not get in trade, or, by this time, from government annuities. But the means of transport of both people and goods on the Plains was changing in the 1870s, with the advent of the stage route and railroad.

Stagecoach and Railroad Lines

The primary stage line through this area, the Barlow and Sanderson, came even more directly through the study area than the Mountain Branch of the trail had. The stages had been following the more traditional Mountain Branch route, but in the early 1870s Barlow and Sanderson decided to move their stage route closer to the Purgatoire River. The ranches that doubled as stage stations on this route, such as 5LA3179 would have been within a day's ride from any number of homesteads and Hispanic family plaza settlements, and were thus a source of goods. The history of staging in this area, as well as its pertinence to 5LA3179 appears in more detail in Chapter 5.

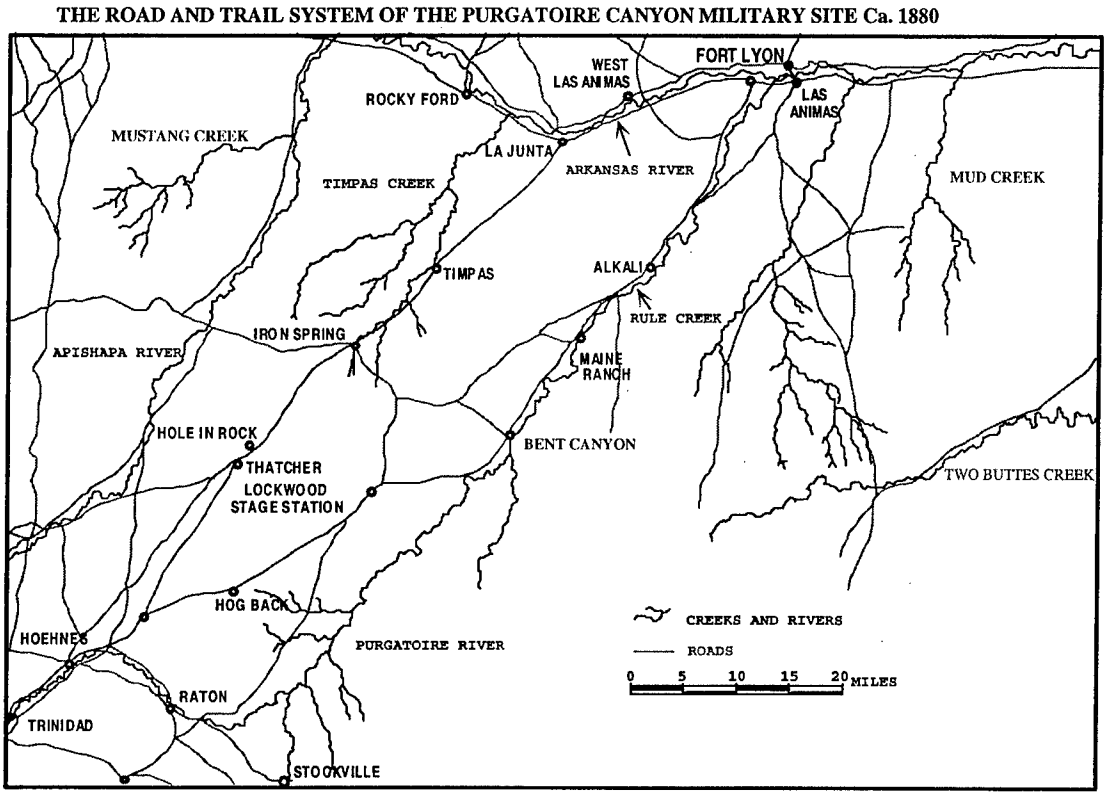


Figure 6: Roads and trails of PCMS c. 1880 (adapted by K. West from Hardesty et al. 1995)

The first train on the Atcheson and Topeka Railroad did not reach Santa Fe until 1880, but made it through the study area as far as Trinidad, Colorado in 1878, hot on the heels of the Barlow and Sanderson. Customer numbers on the route had fallen off for the stage company by 1876, and they decided to discontinue the service. From a national perspective, railroad development constitutes a revolution in mass transit and supply. It did indeed provide more goods with far less shipping time, at less cost, but would have affected most homesteaders and settlers only in the last year or two of their stay. 1880 marked a turning point after which much of the land in the area was consolidated into the hands of a very few large-scale and often absentee ranch owners.

From a local perspective the railroad was a mechanized continuation of a longstanding trade tradition, providing the mail and the goods that supplied the store and Post Office at 5LA3179, which served a larger Purgatoire canyon community. From almost any perspective, the staging phase in this area was nearly insignificant in the social and economic history of trade in general, and even of 5LA3179 itself. This site was a ranch and community

center of sorts for more than 30 years. It was a stage station for something less than five.

Chapter 5

Ranching, Staging, Post Offices, and General Stores

Overview of Homesteads and Ranches (adapted and modified from Church 2001)
One of the main engines of settlement in the western U.S. was the Homestead Act of 1862, implemented only a few years before the earliest settlement along the lower Purgatoire Valley. However, it is important to remember that many people squatted, or occupied land in many areas before they were able to legally claim it. The Homestead Act and associated legislation confirmed or was an obstacle to such settlement at least as often as it facilitated new settlement.

The U.S. system of settlement in the West, including the Homestead Act of 1862, was rooted in the survey system set up by the Northwest Ordinance in 1787. The Northwest Ordinance lead to the creation of the system of land survey which we use in the U.S. to this day, including townships which are divided into 36 square mile sections of 640 acres each. It is a system that Douglas Comer describes as "unrelentingly rational" (Comer 1996, p.57). This is the system by which the United States Geological Survey proceeded to divide up all the country's western territories. In 1804 the public lands were made available for sale in smaller subdivisions of quarter- and half-sections. In 1841 and 1862 the Pre-emption Act and the Homestead Act respectively continued the trend of quadrilateral subdivision of land, which on the face of it was quite rational, an outgrowth of what archaeologist James Deetz has termed a "Georgian Mindset" (Deetz 1977). From the perspective of New Mexican Hispanos, who were more attuned to the ecological realities of the Southwest and southern Plains than were Washington legislators, dividing land into quarters without any regard for the availability of water and variations in topography must have seemed irrational indeed.

Prior to 1848, and the end of the Mexican-American War, the region around 5LA3179 was in the hands of Spain and then Mexico. The Spanish and Mexican governments disposed of land to those willing to settle it by means of a system of land grants. Such grants typically recognized local topography, providing individuals with a combination of private lands,

irregularly bounded, with access to water and arable land, and shares in common lands for pasture and collection of wood, etc. In contrast to this system of land grants, the U.S. Homestead Act of 1862 provided regular 1/4 sections of 160 acres, bounded without regard for water availability, local topography, arability, or grazing potential. The U.S. government assessed land value by the acre, regardless of the particular properties of that acre. Quantity was the criteria for valuation, and resale was inherently likely, despite the explicit small-scale agrarian goals stated in Homestead legislation. In short, as John R.Van Ness describes in his studies on the subject, Anglo systems of valuation relied on "exchange-value" rather than "use-value" (Van Ness 1976). The arbitrary grid system made sense in the well-watered East where dry farming was feasible, and homestead legislation was clearly geared towards individual land-holdings and specialized use. The law was informed by an agrarian ideal of small holdings, and the original Homestead Act favored cultivation, while later versions made some concessions to ranching and timbering. It was not amenable to the sorts of mixed cultivation and livestock agriculture that Hispanic settlers were accustomed to. As a result, both before and after the Act, illegal approaches to obtaining and holding land were the rule in the West. This was due in part to the legislation's unsuitability to the Western climate, but also to the emerging late-nineteenth-century economy and urbanism (White 1991).

By the 1870s and 80s, earlier Anglo characterizations of the Great Plains as the Great American Desert were changing. Because of later expeditions such as that by John Charles Frémont, and boosterism by railroad investors and politicians, the image of the Great American Desert was being replaced in the minds of many Easterners by the hubristic axiom "Rain Follows the Plow", and many began coming west (Frémont 1886; Gilpin 1860). The region around Trinidad and the Purgatoire in southern Colorado was not immune to this trend, with citizens vested in more locally focused boosterism (Beshoar 1882). Anglo-Americans were led to believe they could either extract riches in resource wealth, as in the case of coal mining, or they could realize the ideal homestead envisioned by the drafters of the Homestead Act of 1862. Of course those drafters were steeped in the Jeffersonian Agrarian Ideal, certain that small agricultural landholders were the core of civic virtue. As it happens, the idea that "Rain Follows the Plow" serendipitously corresponded with an

unusually wet cycle of years on the High Plains of Colorado (Lawson 1974; The Book Committee 1993).

Hispanic settlers circumvented U.S. land law in favor of traditional settlement and subsistence practices by squatting, using territories to which they did not have formal claim, and building extended-family plaza structures rather than individual homesteads. Anglo cattlemen also found themselves evading the U.S. legal system of land allocation to accommodate physiographic realities (Church 2002). In pursuing a living through commercial stock-raising, Anglos, like Hispanos, used range land that was outside the boundaries of their homestead tract; however, they did so with different economic goals, and with a different sense of ownership than did most Hispanic families. Robert Rosenbaum and Robert Larson put it this way:

> Mexicanos occupied and used land in traditional ways: they established plazas, constructed acequias, allotted fields, and grazed the vast grasslands in common. Anglos developed the informal custom of range as a way to apply the concept of private ownership to open-range ranching on the public domain. Cattlemen would homestead or purchase their ranch headquarters and obtain rights to water from streams or springs in a general area, then by consensus the range of each was thought to be the grazing land served by their water (Rosenbaum and Larson 1987, p.281).

Unlike the General Land Office, both Anglo and Hispanic homesteaders, as well as cattlemen, were acutely aware of local resources like springs and arable soils, so in private land purchases and valuations, occurring outside of government land or tax office jurisdictions, prices-per-acre varied a great deal. While Mexico, and Spain before, recognized local topography and hydrology in its legal mechanisms governing land grants, the U.S. government did not, and both Hispanic and Anglo residents saw fit to maneuver around this governmental blind spot, but for different purposes. The Hispanos sought mixed agricultural subsistence and surplus, while Anglo-Americans sought larger-scale commercial ranching opportunities. Both required different land boundaries than those provided under U.S. law.

For the same reason, tax assessments are not a reliable source for the value of land in the private market (or, for that matter, of name spelling and land-ownership), and studies that

focus on these sources without a larger cultural and historical context suffer from bias (e.g. (Friedman 1983, 1985). However, the way the tax system and the General Land Office quantified land values does give us insight into how Anglo-Americans conceptualized land and its value. Tax assessors for Las Animas County assumed uniformity in the Plains landscape, leading to a general policy that equal quantities of land had equal value. All land on the Plains, canyon or tableland, spring-fed or not, was of equivalent worth according to government assessors. In the 1870s to at least 1881, assessors valued such land at $1.25 per acre. By 1886 it was all worth $2.00 per acre. Yet when one examines the Tax Rolls for Las Animas County, it becomes evident that the land is valued differently in the private market than it is by the General Land Office. Even taking into account the general economic fluctuations of this period, the discrepancies are interesting. They suggest that local knowledge of soil, hydrology, and topography made for a much more variable private land market than the General Land Office and government tax system recognized.

In the 1870s, when 5LA3179 was founded as a ranch, and then as a home station for the stage route, Anglo-American ranchers were a distinct minority in the area, constituting less than 10 per cent of the population (Colorado Territorial Census 1870). They lived next to, married, and otherwise interacted with Hispanic, Indian, Mestizo, and a few African-American neighbors. Hispanos continued to settle in extended-family plaza settlements, despite the fact that U.S. law did not recognize this kind of landholding (Church 2002). The 1870s represent a short-lived period of relatively small family or extended-family ranch holdings on the part of all ethnic groups. 1880 was a turning point, after which family ranches were in large part consolidated into the holdings of large scale commercial ranching operations, mostly Anglo-owned, with out-of-state investors (Reed and Horn 1995). Even during the years prior to 1880, there were the beginnings of tension between competing visions of land-use: commercial cattle ranching versus sheep ranching and homesteading. Some have referred to these tensions as the range wars, but it was in reality a series of smaller conflicts between cattle ranchers, sheep ranchers, and homesteaders that occurred sometimes face to face, but also in the courts.

Thanks to data from oral interviews conducted by historical archaeologist Richard Carrillo, Paul Friedman notes conflicts between Hispanic sheep-men and Anglo cattle-raisers (Friedman 1988). One of the largest sheep operations was owned by Juan Gutierrez, whom A. W. Archibald described as "one of our earliest settlers and best citizens whom I know very well!" (adding in a comment that seems irrelevant to us now, but is telling in the racially charged post-Civil War climate of the late nineteenth century, that "he showed Caucasian blood, and in appearance was Caucasian," with auburn hair and blue eyes) (Richeson 1934, p.30). One of Gutierrez' employees noted that employees of the Bloom Cattle Company would "turn their horses and cattle loose, right by our yard...It was all open, there was nothing we could do" (Friedman 1988, p.57). Lorenzo Abeyta, an early sheep-man in the area, was accosted by two cowboys from the JJ Ranch. The cowboys shot at him, thought they killed him (he was thrown by his horse), and were rewarded in cash and horses by their employer (Friedman 1988). When the homesteaders got in the way of range lands, the attitude of entitlement on the part of the cattle companies was similar. One cattleman remarked: "They gave us all sorts of trouble, those Nesters. No one could tell them anything and they were frankly puzzled as to how the cattle and sheep men had so long managed to keep the country hid. It was bad for the stock business while it lasted, but it didn't last long" (Friedman 1988, p.59). In this case drought, not violence, settled the question, and most of the homesteaders sold out and abandoned their lands.

Homesteading laws also conflicted with ranchers' use of the open range surrounding privately-owned 160 acre parcels. The wet years allowed homesteaders to take up lands that the ranchers, who owned holdings with permanent water, had been using. As one rancher explained:

> At that time the ranchers had only like 160 acres and the balance was government land and they used it for nothing. Government, state, and everything and it didn't cost them. The old-timers used to try and go where there was water...That's what they would own. They'd use the balance gratis. But when the homesteaders come in there it was a different story. Then we had to buy it (Friedman 1988:70).

The onset of drier years reversed the trend, and as homesteaders moved out, ranchers, having learned their lesson, acquired legal title to their lands. This consolidation of ranch lands and displacement of smaller holders continued into the twentieth century. For example, in 1920,

the Rourke ranch comprised 5384 acres; just ten years later, in 1930, it was 25,855 acres. A cycle of wet years between 1910 and 1920 led to a repeat of the earlier cycle, including several attempts by homesteaders at dry-land farming. Depression and drought in the 1920s were harbingers of the Great Depression and Dust Bowl of the 1930s, and most of these settlers sold once more to large ranchers such as the Rourkes and moved on. Margaret Crowder summed up the situation in one short sentence: "It's pretty good old country if it rains." "It's ranch country. It isn't farming country," Beatrice Hill declared, a proclamation of "highest use" as she and the other ranchers continue to see it (Loendorf and Clise 1997). The decayed remains of hundreds of homestead buildings from the 1870s and 1910s testify to the ranchers' success in this battle.

Clearly cattle were as important a component of Anglo settlement on the Plains as sheep and cattle were for early Hispano settlers. Many aspects of the associated cowboy way-of-life are in fact borrowed from Latin American *vaquero* traditions, but Anglos approached cattle-raising more purely as a cash crop, or money on the hoof. On the other hand, livestock owned by Hispanos, which was generally sheep and goats, brought both meat and cash, but the cash supplemented a more mixed family-level economy. Like Hispanos, Anglos had a sense of customary or consensual land usage, but unlike Hispanos, Anglos did not understand this as communal use, and such custom was never recognized as law. Thus when homesteaders and wool-growers of any ethnic background came and settled in areas that the cattlemen considered their range, the ranchers sometimes went to great lengths to discourage them, but never resorted to the law, as the law was clearly on the side of the settlers.

The concept of communal use of common lands that was part of both the legal and cultural traditions of many Hispano settlers was not in the cultural repertoire of commercial ranching. There was nothing communally minded about Ranchers complaining of homesteaders settling on "their" range. Clearly, neither Hispanos nor Anglo-Americans were confined to the land they patented in the 1870s, so legal descriptions and General Land Office documents may be only slightly more reliable on the subject of Anglo settlement than they are for Hispano settlement. Documents have to be used with a critical eye to this historical context.

Patented land is often co-located with a ranch house or homestead, but seldom with the boundaries of the terrain the occupants actually used.

General Overview of Staging and Postal Routes (modified and adapted in part from Hardesty et. al. 1995)

Another of the significant activities that took place on site 5LA3179 is reflected by nineteenth-century staging practices. So an overview of the history of staging in the West is in order, as well as the particulars of staging at this site.

In general, all stage stations in the American West were similar. At a minimum, they all had buildings and other facilities for the maintenance of livestock and equipment, and facilities to house at least a small resident staff. The more complex stations could include a vast array of corrals, stables, barns, blacksmith shops, sheds, offices, lodging houses, dining facilities, and even saloons. In many cases the stage companies merely contracted with already existing ranches to provide the necessary service, as appears to be the case with the Bent Stage Station. The most comprehensive study to date of Stage Stations located on or near the PCMS is found in the *Data Recovery Report of Lockwood Stage Station at the Piñon Canyon Maneuver Site, Las Animas County, Colorado*, prepared by Western Cultural Resource Management, Inc.(WCRM), in 1995. It seemed redundant to redo all the research on staging in general--and the Barlow and Sanderson routes in particular--that Hardesty and Carrillo had already accomplished so well. So while historical information specifically concerning the Bent Stage Station has been included here, significant portions of this discussion have been taken directly from their study, with some minor editing, including the title of this chapter.

The changes we have made to their materials include new insights into the specific history of the Barlow and Sanderson route from primary documents dating to the 1930s and earlier, including Works Progress Administration-sponsored interviews of aging Las Animas county residents by A. K. Richeson, and articles and interviews in the DeBusk Memorial papers of the Early Settlers Association of Trinidad, Colorado. We also made some minor changes in order to temporally broaden their discussion of trails used during the eighteenth and nineteenth centuries, so as to include the broader trail history we discuss in Chapter 4, and to

clarify some confusion concerning the chronology of international political authority in the PCMS area. And we added data from another home station which was excavated between 1958 and 1961 by Dale Berge, in Arizona, which was published in *The Kiva*, for purposes of comparison (Berge 1968). All source materials referenced in WCRM's work have been maintained and are included in the bibliography of this report. We refer the reader to their work in the original for more discussion of the archaeology of a swing station located along the same route as the Bent Canyon station.

The history of southern Colorado during the nineteenth century, and centuries before, is in large part the history of transportation and access to the territory and state. No historic trail across the Plains, from water source to water source, was established by Europeans. Native Americans had traveled these routes for countless generations. By the time of the 1859 gold rush, a branch of the Oregon/Overland Trail then known as the Trappers' or South Platte Trail had been in use under other names for at least hundreds of years. A branch of the Santa Fe Trail through southeastern Colorado, the Old Cherokee Trail, extended north from the Arkansas Valley to the South Platte River, and had been operational for an equally long time by 1859. During the late 1850s the Army established a supply road along the Smoky Hill River as far west as Ft. Lyon, Colorado, that prospectors extended to the Cherry Creek goldfields after the rush started. Settlers developed a number of cut-offs and branches as short-cuts. All these trails connected Colorado's infant settlements with each other and to the rest of the United States. The territory's transportation picture remained constant for over a decade, proving to be less than satisfactory in the eyes of local residents (R. Athearn 1976; Lawson n.d.; Lechner n.d.; Neuhaus 1928).

In the period post-dating European settlement, overland freighting began as early as the 1700s with the *comancheros,* and it intensified after Mexico allowed trade with the U.S., along what U.S. historians have come to call the Santa Fe Trail, in 1821. The construction of military posts in the 1850s and the opening of mining camps in Colorado later in the decade created an even heavier demand on the transportation companies. The residents of the mining and military settlements demanded improvement of transportation and communication with the mid-western and eastern parts of the country for several reasons,

including facilitating contact with family and friends, sharing of information on public affairs and, more than anything, reduction in the price of commodities shipped from the East. In 1847, one year *before* New Mexico was formally annexed to the United States, and 64 years before the territory gained statehood, Congress established a postal route along the Santa Fe Trail, passing near the PCMS. It bears noting that in 1847, the area now known as PCMS was still part of Mexico. It was not annexed to the U. S. until the Treaty of Guadalupe Hidalgo, the following year.

During the 1850s, Congress continued to grant subsidies to assist the delivery of mail and freight and, in the decade of the 1860s, to construct telegraph and rail lines. According to local sources, the first telegraph lines came through the PCMS area in 1867-68 (Richeson 1934). The Federal government first considered the idea of regular transcontinental stagecoach mail service in conjunction with discussions about the proposed Pacific railroad in 1852 and 1853 (Winther 1957). While railroads eventually provided mail service, intermediary service proved necessary, utilizing regularly scheduled stage and freighting lines. Congressional generosity encouraged private investment in overland communication and transportation. Such investments flourished as entrepreneurs knew that their ventures could be underwritten, at least partially, by the Federal Government (Lamar 1977; Moody 1967). Mail traveled west over a number of routes by private companies under Federal contract. The service was not always dependable, speedy or sure. In March, 1857, the U.S. Congress passed legislation authorizing the Postmaster General to accept bids "for the conveyance of the entire letter mail from such point on the Mississippi river as the contractors may select to San Francisco, Cal., for six years, at a cost not exceeding $300,000 per annum for monthly, $450,000 for weekly, or $600,000 for semi-weekly service" (Root and Connelley 1901).

In 1857, John Butterfield and Company secured the U.S. mail contract and organized the famous Overland Mail (officially the Butterfield Southern Overland Mail Company). Operating between St. Louis and San Francisco, the Concord coaches carried mail and up to nine passengers. They followed a route generally from St. Louis to Ft. Smith, Arkansas, through Texas, to Ft. Yuma, California and on to San Francisco. The distance of 2,729 miles

was traveled on an average of twenty-five days (Root and Connelley 1901). When the first Overland Mail arrived in San Francisco, President James Buchanan sent Butterfield this message of congratulations: "It is a glorious triumph for civilization and the Union. Settlements will soon follow the course of the road, and the East and West will be bound together by a chain of living Americans which can never be broken" (Root and Connelley 1901). Such was the overland travel situation when prospectors discovered gold in what would become Colorado.

Historians believe that as many as 100,000 people rushed to Colorado because of the well-publicized gold discoveries of 1858. The routes used by the Fifty-Niners served as the first commercial links between Colorado and the rest of the nation (Athearn 1976; Lawson n.d.; Lechner n.d.). The Smoky Hill and South Platte Trails became heavily used routes for both freighters and stagecoaches. By March 1, 1861, seven states passed secession ordinances and northerners were concerned about a federally supported southern mail route. On March 2, 1861, the Post Office Appropriation Bill modifying the Overland Mail contract became operational and on March 12, the Southern Overland Mail route was ordered discontinued. The new route extended from Atchison, Kansas, followed the Oregon Trail to Ft. Bridger, Wyoming, and then followed the Mormon Trail to Salt Lake City and connections with California (Long 1941). Until 1862, the stagecoach line carrying mail along the eastern portion of the route from Atchison to Salt Lake City was operated by Bela M. Hughes and was known as the Central Overland California and Pikes Peak Express, or the COC & PP.

The routes followed by the Overland Express and subsequent stage companies were well established by 1859, with some stopover points already in business. These paths tended to follow natural routes where water and forage could be found. Margaret Long, one of Colorado's foremost authorities on pioneer trails during the 1930s, summarized the origins and engineering considerations of the early routes, writing:

> Today automobiles and railroad trains speed over the routes of the forgotten trails of more than half a century ago. The trail was often 10 miles wide, depending on the widely varying local circumstances. It followed the contours of the country, avoiding hills whenever possible, but taking to the higher ground in wet weather, or perhaps swinging around some sandy spot. Grass for the stock, or even the highly essential

> "buffalo chip" for fuel, would often change the location of a trail for several miles (Long 1941:60-62).

In addition to mail and freight, early travelers made the most of their westward trips by wagon or stagecoach. The first recorded stage trip into the region occurred in the fall of 1858 when a Ft. Laramie, Wyoming, driver took newcomers from the Overland Trail southward to the Colorado gold fields.

That trip proved to be the beginning of a heavy traffic that continued to Colorado. In 1866, James Meline traveled the Santa Fe Trail and wrote:

> Since leaving Leavenworth, we have passed on the road, in one week, six hundred and eighty wagons, mostly filled with freight – some of them with emigrants. More than half of these wagons are bound for Denver with freight...[1867:10].

Not all trails carried as much traffic as the Overland or Santa Fe Trails. Instead, early Colorado settlers developed other trails to meet their specific needs. For example, a number of routes came about because of open range cattle ranching. The open range, or "Beef Bonanza" ranches thrived on the Colorado plains between 1865 (the end of the Civil War) and the late 1880s, when harsh winters combined with twenty years of overgrazing led to disaster for most stock growers. Even though ranchers used railroads to ship their animals to eastern markets, they depended on trails to move the herds from their ranches to the railroads. For cattle trails, as well as other trails, certain constraints, including topography, available water, and ease of travel influenced the routing. As a result, many of the trails followed the courses of creeks or rivers (Mehls, et al. 1992).

Whether the travel was over one of the primary routes, such as the Santa Fe Trail, or a secondary route, Colorado's need for imported goods was met by the pioneer freighters using wagon caravans during the 1860s. Foremost among these was the firm of Russell, Majors and Waddell. Although their business life proved short-lived, at the time of the gold rush, Russell, Majors, and Waddell had the largest freight company on the Great Plains. In 1858 the company utilized 3,500 wagons, 40,000 oxen, 1,000 mules, and over 4,000 men in its transportation operations. In 1860, the company hauled 10,000 tons of freight from the Missouri River to the Rocky Mountains. By 1865, merchandise hauled overland to Colorado

was approximately 63,000 tons per year, or about 21,000 wagon-loads (Hafen 1948). The expense associated with hauling freight from the Missouri River towns to the West was considerable. As an example, freight costs averaged "...$1.30 for every one hundred pounds carried one hundred miles in summer, and $4.00 for the same distance in winter" (Lamar 1977). Therefore, 100 pounds of goods freighted from Kansas City to Trinidad, Colorado, a distance of approximately 600 miles, might vary between $7.80 and $24.00 depending on the time of year it was shipped. The movement of passengers by stage proved equally costly in the early days of Colorado settlement.

The COC & PP used a new route along the Overland Trail across Nebraska that began in Nebraska City, the home of Russell, Majors, and Waddell's freight operations. Once in northeastern Colorado, this new line followed the South Platte Trail to Latham, a stage stop near present-day Greeley. Here coaches either continued south along the South Platte River into Denver or moved west to Camp Collins (now Fort Collins) and Virginia Dale before rejoining the Overland Trail in Wyoming. The revised route worked better. Stage stations sprang up at Fort Lupton, Brighton and Henderson's Ranch, among other locales, about this time. However, the high costs of outfitting the stages, stations and other facilities, along with smaller than expected revenues, forced the company into receivership. Further financial troubles beset Russell, Majors and Waddell and eventually forced them out of business.

Ben Holladay, with assistance from pioneer Denverite Bela M. Hughes, bought the bankrupt operation and continued staging and freighting throughout much of the West. Holladay took over the COC & PP and the U.S. mail contract in 1862. Holladay renamed the company the Overland Stage Line and abandoned the Oregon Trail route though Wyoming for a more southern route. From 1862-1869 Holladay's coaches traveled the new route. The new route was designed to be less susceptible to Indian attack, but contained less grass and water for the animals. Indian attacks continued and the resulting fares were high. The rate for the trip from Denver to Salt Lake was twice as high as that between Atchison and Denver. The Post Office Appropriation Bill of March 2, 1862, gave Denver tri-weekly mail service. Two months after adopting the Overland Trail route (September 1862), Holladay announced that Denver was to be included more frequently.

One of the most important improvements made by the flamboyant Holladay involved using the cut-off from Fort Morgan south and southwest to Living Springs and from there to Box Elder Station southwest of modern Watkins, Colorado, near the present route of Interstate 70. From Box Elder Station the stages followed the Smoky Hill North Trail into Denver. Box Elder Station offered an example of a home station complete with meal service for the passengers. Admittedly, the few accounts of meals indicate its operators did not do better than many others in providing appetizing entrees. Despite Holladay's efforts to improve service he found his company beset by competition. In 1865 John A. Butterfield opened a stage line, the Overland Dispatch, and rerouted it to the Smoky Hill North Trail. In 1866 the last few miles into Denver on the new route were described as follows:

> From Hedinger's Lake to Denver a new cut-off [Smoky Hill North] has recently been made, shortening the distance about twenty miles. Ours was the last coach which passed over the old road [Smoky Hill South], the stations and stock being taken up behind us, and transferred across the country to their new positions. The road from Cheyenne Wells to Denver is thus abridged by forty miles, making the entire distance from Ft. Riley to the latter place 460 miles...At Reed's Springs we obtains [sic] our last 'square meal' [breakfast], with the inevitable bacon, for a dollar and a half. Thenceforth our road led over the high divides between Beaver [E. Bijou], Bijou [W. Bijou], and Kiowa Creeks, all of which flow northward to the Platte...Midday was intensely sultry...We took a hasty dinner at Running Creek [now known as Box Elder Creek, this location was Box Elder Station], and then made our slow way, with poor horses across the ridges to Cherry Creek, which we struck about fifteen miles above Denver. Up to this point we had found no settlement, except two or three grazing ranches {Long, 1941 #549, pp.74-75).

Stage stations along the Overland Trail were usually spaced ten to fifteen miles apart. The stations were similar in appearance but not in uniformity of service. The stations were designed for expediency and speed, not for passenger comfort.

Travel by stagecoach to Colorado in 1860 was primitive even by that era's standards. A journey from the Missouri River to Denver took ten to twelve days with a journey to Santa Fe taking roughly the same amount of time. Stage stations were divided into swing or relay stations where a change of horses were provided, and home stations which were larger, had sheds and outbuildings, and provided meals and other amenities to travelers. Occasional

overnight stops were made at home stations, but generally the passengers spent the time packed in the cramped coaches. Passengers faced days of travel with little protection from the elements other than the stagecoach roof over their heads. The dry soils of the plains turned to dust clouds under horses' hooves and the fine particles found their way into even the most tightly sealed luggage. The suspension--leather straps that allowed the coach body some insulation from the bumps of the road--depended on the load of the coach and skill of the driver to be effective. Passengers generally faced a vicious pounding along the way, punctuated by rest and meal stops. Sometimes they got worse than that. The stories of horrendous meals served to travelers at home stations are legion, with the table frequently filled with salt pork, beans, and stale bread or crackers. Occasionally, fresh bread and pies could be had, but those stops tended to be few and very far between. Other stops offered travelers delicacies such as buffalo or antelope roast if the station operator had experienced a successful hunt.

As if to compound the abuse, stage fares from the Missouri River to Santa Fe or Denver generally ran between $100 to $150 each way {Lechner, n.d. #550; Trout, n.d. #551}. Mark Twain (Samuel L. Clemens) in *Roughing It* states, "The first thing we did...at St. Joseph was to hunt up the stage-office, and pay a hundred and fifty dollars apiece for tickets per overland coach to Carson City, Nevada" (Clemens 1903). Despite high ticket prices, stage travel proved an important link between east and west, but stage companies usually faced a financial struggle to survive. Costs for equipment, animals, and labor, as well as the losses from Indian attack, weather, and accidents, all reduced the stage companies' profit margin.

In 1874, *Harper's Weekly* described the stagecoach as "the advance guard of civilization in the far West." However, the advance guard was more a pioneering party than a comfortable, well-maintained organization. *Harper's* July, 1867 issue described "A Stage Ride to Colorado." While enthusiasm remained for travel across the United States, conditions were not ideal. One writer describes the rigors of sleeping:

> The first night in a stage-coach is undoubtedly the most uncomfortable. As soon as night falls passengers evince a desire to make a noise. Conversation quickly gives place to song. This night our songs were of home, and our wandering thoughts

> annihilated the long miles between our rumbling coach and the bright firesides on the Atlantic coast...
>
> Sleeping in a stage-coach is not the most desirable method of passing the night, although it is far preferable to the deep mud of the battleground in which we have slept soundly more than one night. Campaign life certainly educates a person in the art of sleeping, and assists a quick selection of the best location for blankets. The "shoe" of the coach was not available owing to the quantity of baggage stowed therein. The top presented a prospect for longitudination if an arrangement could be projected to prevent being rolled off. That such a desirable fact was established may be known by the statement that the present writer slept on the top of the coach during the rest of the trip while traveling at night. The rest of the party disposed themselves as best they could inside, and complained of cramps (139-140).

Documentary evidence about stage operations, in general, is abundant. It reasonably could be assumed that Carrie Adell Strahorn's descriptions, made during the 1870s and 1880s as she traveled throughout the West with her husband, are apt for many Colorado stations at the time. In 1878 she was told by Jake Farson, a stage driver, "If you fellars ain't got no guns, you better get some for you may need 'em 'fore you strike another town" (Strahorn 1988 [1915]).

A Barlow and Sanderson stage line to Gunnison, Colorado, elicited the following description from Mrs. Strahorn:

> ...there were to be seventeen passengers, eleven of whom occupied the three seats inside the coach, and the remaining six climbed on the roof, then there was the usual amount of mail, baggage and express. We averaged 500 pounds on a seat inside, and there was no computing the weight outside (1915).

As can be surmised from the foregoing descriptions, stage travel constituted a hardship for the travelers and failed to satisfy the booster desires of Denver and Colorado. Stage stations and their operators fared little better. Twain described his stage station experiences in a manner consistent with Colorado travelers, saying:

> The station buildings were long, low huts, made of sun-dried, mud-colored bricks, laid up without mortar (adobes, the Spaniards call these bricks, and Americans shorten it to "dobies". The roofs, which had no slant to them worth speaking of, were thatched and then sodded or covered with a thick layer of earth, and from this sprung a pretty rank growth of weeds and grass. It was the first time we had ever seen a man's front hard on top of his house. The buildings consisted of barns, table-room

> for twelve or fifteen horses, and a hut for an eating room for passengers. This latter had bunks in it for the station-keeper and a hostler or two. You could rest your elbow in its eaves, and you had to bend in order to get in at the door. In place of a window there was a square hole about large enough for a man to crawl through, but this had no glass in it. There was no flooring, but the ground was packed hard. There was no stove, but the fireplace served all needful purposes. There were no shelves, no cupboards, no closets. In a corner stood an open sack of flour, and nestling against its base were a couple of black and venerable tin coffee-pots, a tin teapot, a little bag of salt, and a side of bacon. By the door of the station-keeper's den, outside, was a tin wash-basin, on the ground. Near it was a pail of water and a piece of yellow bar soap, and from the eaves hung a hoary blue woolen shirt, significantly—but this latter was the station-keeper's private towel, and only two persons in all the party might venture to use it—the stage-driver and the conductor (Clemens 1903).

Such plaintive descriptions are numerous in the written record, and even though Colorado Territory remained dependent on wagon roads, early Coloradans worked hard to secure railroads. Such dependence marks the period 1858-1870 in Colorado history when railroads dominated American transportation planning. However, until the railroad arrived, wagon or stage routes continued to be important. Generally, wagon road construction methods tended to be nothing more than widening horse paths and cutting tree stumps as close to the ground as possible, when necessary. By the 1860s, road building had changed little and, as attention focused more and more on railroads, governments expended only minimal effort on roads. The road tax system, a practice accepted across the United States, allowed citizens to pay their taxes through three days of road work, which generally became festive community gatherings rather than serious work projects.

Not until 1879 did the pattern begin to change as the public, nation-wide, started demanding better roads (Rose 1972). By then the railroad dominated long-distance western travel and the stage was quickly becoming a relic of the past in much of the region and nation. Wagons and stages continued to serve a critical role as feeder lines to railroad terminuses. However, Colorado had to endure slightly more than a decade of stage dependency. The end of that dependency was an event for local comment for years before it came to pass. For example, the *Rocky Mountain News* reported:

> The iron sinews of commerce are stretched but across the "Gate of the West" and will soon send the great stage route far into the wilderness again to keep its braying mules beyond the stirring scream of the steam whistle (January 1867).

Even accepting the fact that stations generally were expedient structures, manned by ill-mannered individuals that did little to increase passenger comfort or satisfaction, the stations were a serious drain on company finances. Even if the corporation received Federal financial support through mail contracts, the need to build and/or operate stations along the route cost relatively large sums of money. To attempt to justify the operations, stage operators on the Great Plains generally organized the stops on their routes in a hierarchical manner with terminals at the ends of the routes or junctions of major branches as the primary centers of company activity. The middle level included home stations spaced between 40 and 70 miles apart, representing roughly a half-day's travel between each one, the distance depending on the intervening terrain. Home stations served as points where passengers took meals and drivers and teams could be changed. Swing stations were the most numerous stations and functioned at the lowest level in the hierarchy, and terminal stations were those located at the end of stage routes. (A full discussion and description of the various types of stage stations occurs later in this chapter.)

Generally located between 10 and 20 miles apart, the swing stations provided team changes during very brief stops and no other services except in emergencies (Moody 1967; Taylor 1971). The Lockwood station served as a swing station, while the Bent Stage Station was a home station (Taylor 1971). The foregoing organization scheme remained common practice throughout most of Colorado as long as the stages continued to operate. Indians created another problem for station staff and riders. Until the Indian-white conflict in Wyoming shifted north to the Bozeman Trail about 1866, Indian attacks were common along the Overland Trail. They lasted later along the Purgatoire (Taylor 1971).

The Denver-Salt Lake division of the trail was especially hard hit. The most dangerous stretch of road was between Virginia Dale and Green River, about 325 miles. Robert J. Spotswood, a division agent for Ben Holladay, wrote, "Across from Virginia Dale to Bitter Creek-whenever a man left Virginia Dale and started on that break he was in danger of his

life for an Indian was likely to jump up from behind a bush at any point and shoot him down" (Duck Lake NRHP Nomination).

1865 was a particularly dangerous year along the Overland Trail. In June, Colonel C.H. Potter of the Sixth U.S. Volunteers awaited Lieutenant Colonel Plumb of the Eleventh Kansas Cavalry for assistance in protecting the trail. On June 20, Potter instructed Plumb to provide military escorts for the stage line. Potter wrote:

> I desire that this disposition be made of the four companies of the Kansas Cavalry as soon as possible, and for your information will state that the general commanding has ordered that the mails be transmitted without fail. In case of necessity you can use cavalry horses and quartermaster's mules to haul the stages through until such time as the Overland Mail Company can replace their stolen stock (NRHP Nomination, Duck Lake, listed December 6, 1978).

The importance of the Overland Stage was succinctly described by Leroy Hafen:

> The overland stage was shortlived, its days being numbered before it began. It was the last link between the old and the new, in overland transportation. Along with the buffalo and the roving Indian it lived its day and passed. But its services are not to be despised or minimized. For twenty years its record is interwoven with that of the development of the Trans-Mississippi West (Hafen 1948:389).

Stage Station Types

Terminals

Terminal stations at the end of the stage routes formed the largest and most diverse subtype. Often in towns, terminal stations typically included company offices, supply depots, well-equipped maintenance shops, and elaborate lodging houses for passengers and stage company employees. Unlike the geographically nucleated arrangement of facilities at home and swing stations, however, the companies often scattered the terminal station facilities, which they sometimes shared, throughout the town. Several express and stage companies operating a line between Virginia City, Montana, and Helena, for example, shared the International Hotel in Virginia City as an office and lodging facility (*Virginia Tri-Weekly Post*, July 9, 1867).

Home Stations

Frank Root and William Connelley (1901) describe home stations as "two or three times larger [than swing stations], and provided with sheds, outbuildings, and a number of other conveniences." Home stations were overnight stopping places for stage travelers with facilities for loading, eating, stables and livestock maintenance, making repairs and food production. On Ben Holladay's Overland Stage Company routes in the 1860s, for example, home stations were at the two end points of a stage driver's route, in Wyoming about fifty miles apart, and had sleeping rooms and dining rooms for passengers, a telegraph office, accommodations for station attendants, barns and other facilities for animal husbandry, blacksmith shops, and other facilities. Many home stations had saloons, dance halls, gambling and other entertainment activities. Rock Creek Station (48CR1180) in Carbon County, Wyoming, is typical. The stage station was a two-story log and frame building with a dance hall on the top floor; the ground floor houses a blacksmith shop, saloon, and a gambling establishment (NRHP Nomination, Rock Creek Crossing and Stage Station Historic District, listed November 25, 1983).

Somewhat different was the Stage Coach Inn in Fairfield, Utah, in that it was large. Originally a family residence, it had fourteen rooms, including seven bedrooms. The adobe and wood frame structure served as an Overland Stage Stop and a pony express stop. No liquor or dancing was permitted at the Stage Coach Inn because the owner, John Carson, was a Mormon Elder (NRHP Nomination, Stage Coach Inn, listed May 14, 1971). The Kimball Hotel Stage Stop was also a large, two-story stage stop containing numerous rooms. The log barns were directly across from the station and corrals were built next to the barns (NRHP Nomination, Kimball Stage Stop, listed April 16, 1971).

The role of home stations as a gathering spot for area residents is well known. Root and Connelley (1901), for example comment that:

> While neighbors were scarce – the stations being on an average about twelve and one-half miles apart – dances frequently took place at some of the more important or "home" stations, and it was not unusual for some of the women living nearest to ride the distance on horseback or to get on the stage-coach and go from ten to thirty-five miles, dance perhaps the greater part of the night, and ride back home on the next

return coach. Sometimes, as I happen to know, they would ride fifty miles each way to and from a dance. This distance would take in most of the women along the line at stations and ranches embracing a territory east and west for about 100 miles, and they would think nothing of it. Strangers along the route dropping in at the station during the dance would often be puzzled – simply amazed – and naturally wonder where all the women came from in such a sparsely settled county. Most of the ladies on the overland route appeared to take great delight in dancing, as it was about their only social enjoyment. They were only too eager and willing to ride the long distance by stage for the opportunity to have a friendly visit with their lady friends and neighbors and, at the same time, spend the night in 'tripping the light, fantastic too' (Root and Connelly 1901).

Swing Stations

Root and Connelley (1901) define swing stations as temporary stopping places with facilities for changing teams, making repairs, and sometimes eating. They observe that swing stations along the Platte River were "nearly square, one-story hewn cedar-log structures, of one to three rooms." When James Sharp visited Simpson Springs, another swing station, in Utah in 1891, he reported, "a two room stone cabin, not standing, and a stable 16 ft. by 25 ft. One of these structures had a cedar roof, windows in the east and west walls, and a door in the end" (Berge 1980).

Sir Richard Burton, who visited several swing stations during his 1860 trip along the pony express route made similar observations. At Butte Station just south of what is now the Elko in eastern Nevada, for example, Burton (Burton 1862) observed a one-room rock building and a rail corral with a shed in one corner. A canvas partition divided the building into a sleeping/storage area and a cooking/eating and general-purpose area. Burton observed, "Saddles, cloths, harness, and straps, sacks of wheat, oats, meal, and potatoes" under the bunk beds in the sleeping area (1862). Food preparation and consumption took place around the fireplace in the north wall of the building. A table placed near the fire served as a "buffet...with eating apparatus - tin coffee pot gamelles, rough knives, 'pitchforks,' and pewter spoons," and the station attendants ate at a second table placed in the general purpose area (1862). Burton also observed a tin skillet and dipper, used for drinking and washing, on a low wooden shelf next to the doorway. The station attendants threw refuse out the door.

Traveling between Oneida, Utah, and Montana in 1878, Carrie Strahorn observes in *15,000 Miles by Stage* (1915) that:

> We reined up at a small cabin where dwelt a solitary stocktender. That stage station contained four stalls for animals, a combination parlor, kitchen, and sleeping apartment ten by ten feet in size. Over the door, outside, huge characters read, 'Hotel de Starvation, one thousand miles from hay and grain, seventy miles from wood, fifteen miles from water, and only twelve inches from h-ll.' ... The supper table stood against the partition and as the travelers were gathering what information possible, while trying to eat some of the coarse food, the horses were stamping and pawing in discontent and plunging against the frail barrier of boards between them and the dining table so violently as to suggest their kicking of the dishes off the table.

Archaeology of a Home Station: the Gila Bend Example

Since it is, to our knowledge, the only other home station that has been excavated and the published results of which are widely available, we include a short description of this archaeological project. While it may serve as a valuable comparison to the Bent Canyon station, the excavators at Gila Bend, who were associated with Brigham Young University, were doing more research-oriented work, rather than compliance work, and were therefore able to explore each feature, whereas we were not.

The Gila Bend station was built by Butterfield in 1858, and was abandoned in 1861 (and thereby was established considerably earlier than the Bent Canyon station). In 1867 another company established a tri-weekly service along the same route used by Butterfield, and by 1875, the Texas and California Stage Company ran a daily service. By 1879 a number of local stage lines had appeared, providing "short runs" (Berge 1968: 236). The Gila Bend station was a "time-table" station, where east and westbound mails met. In 1880 the Southern Pacific Railroad came through the area, marking the phasing out of stage travel and freighting. In this event the history of Gila Bend parallels that of the Bent Canyon station closely, except that the Atchison, Topeka and Santa Fe Railroad came through the study area four years earlier. The town of Gila Bend was relocated closer to the Railroad, not unlike the situation in the Colorado town of Las Animas, which shifted closer to the AT & SF.

There were five main structures on the Gila Bend Stage Station site, most (Structures 1, 2, 3 and 5) having three to four rooms. While structures 1 and 2 were initially thought to be separate, it turns out that they were joined by a roofed "breezeway", documented in an historic photograph (Berge 1968: 237). Such a design was apparently common to stage stations, and Berge lists several, in locations as various as Missouri, Arkansas, and Texas. He further notes that "several of the more southerly stations, where marauding Indians often attacked them for their horses, were built like forts" (Berge 1968: 238). While several of the standing walls at the Bent Canyon station do not stand high enough to determine exact window placement and size, some indicate more defensive construction, with small windows, while others, probably later in construction, have larger openings in the masonry.

Another building, Structure 4, at Gila Bend was a forge area, housing a smith. While any of the untested buildings at Bent Canyon might be a smithy, at present we do not know. Structure 3 at Gila Bend was a dining area, and had a basement that may have served as a root cellar. This latter function may be paralleled at Bent Canyon by the structure Feature 9, which is located close to the spring, had deep stratigraphy, and contained abundant butchered animal bones. Feature 9 was probably not a dining area, however, as it would be rather small for the purpose.

Structure 5 at Gila Bend was a stable with small rooms attached to house tack, feed, and supply, and possibly housing for a stable hand. Again, while one of the structures in the lower bench at the Bent Canyon site may serve this purpose, these structures would have to be tested to determine their functions.

Stage Operations and Wagon Roads Through Piñon Canyon (modified and adapted in part from Hardesty et. al. 1995)

Transportation was a major land use of the PCMS area; it served to further the intermingling and mixing of the cultures in the area and mitigated the isolation of the region by the second half of the nineteenth century. The development of new transportation systems, first stagecoaches and freight wagons, and later the Atchison, Topeka and Santa Fe Railway (AT & SF), made the marketplaces and goods of America's emerging industries available to the

area's residents with disposable cash. When the iron horse arrived, the Purgatoire Valley already had a history of use as a route in and out of New Mexico that dated back hundreds of years to the days of Spain's colonial greatness, and beyond (Taylor 1971).

Two independent sources indicate that the initial settlement within the PCMS area occurred in 1867. A young Englishman named William Bell, a member of a surveying expedition organized by the Kansas Pacific Railroad, recorded the first account. Charged with surveying a route through Kansas, Colorado, New Mexico, Arizona, and southern California, Bell kept a journal during the expedition.

Bell began his journey in St. Louis and traveled by rail to Salina, Kansas. From Salina, Bell journeyed overland by mule train to Fort Wallace, then southwest to Fort Lyon (town) on the Arkansas River. There he joined a team surveying from the Purgatoire River, across the Raton Mountains and into Las Vegas, New Mexico. Bell's team left Fort Lyon on July 22 and visited Boggsville. As the survey continued upriver in the general vicinity of the PCMS area, Bell observed an overgrown and abandoned Native American trail in the canyon, some flocks of Mexican sheep and goats, and a herd of unattended cattle. He also indicated that the Purgatorie Canyon was not inhabited south of Nine Mile Bottom, also known as Higbee (Bell 1965).

Bell described a settlement near Boss Ranche [sic]:

> On crossing the river we found a large well-filled ranche on the opposite side, which had only just been built by two enterprising Yankees. Here we could buy everything-clothes and candles, bowie-knives and groceries, canned fruits and mexican saddles, powder and shot, boots and shoes, caps and crinolines, Worcestershire sauce, whiskey and drinks without end. This well-stocked storehouse, raised up in the wilds, which everything has to be carried hundreds of miles by wagons through a hostile Indian country, speaks more for the extraordinary energy and foresight of these Western traders than any panegyric I could write [82-83].

From Bell's description, the edges of settlement, and the world system trade networks, were at the edges of the PCMS by 1867. Furthermore, the tradition of offering goods for sale at such ranches along routes of travel, a precursor of the store at the Bent Canyon Station, was well-established. The area, on the verge of settlement, held a lure for prospective cattle

raisers, sheep-men, and merchants. As discussed earlier, the environment was one typical of the high plains and Colorado Piedmont, lands familiar to the various stage operators in the Territory and the West during the immediate post-Civil War era.

Bradley Barlow and Jared L. Sanderson, stage operators on the PCMS, followed the typical organizational practices of other Great Plains stage lines. Barlow and Sanderson had gained experience as stage operators with Mahlon Cottrill's Santa Fe Stage Company. When Cottrill died in 1864, Barlow, already a manager for the company, took control of the organization. Two years later Sanderson ascended to a partnership position and mail contracts recognized "Barlow and Sanderson," later known as Barlow, Sanderson and Company (Taylor 1971). It was in 1866, during the period of stiff competition on the routes to Denver, that Barlow and Sanderson initiated their route from Kit Carson down to Santa Fe, with a contract to go on through to San Diego. The first route extended from Kit Carson to along Timpas Creek, crossing the Purgatoire at Hoehne. The stations were at Bent's Fort and Iron Spring along the Santa FeTrail, then 45 miles onwards at Gray's ranch, near Trinidad. In July of that year, A. H. Taylor, one of the drivers, built a station at Hole-in-the-Prairie. Still the company built a station at Hoehne. This original route was not changed to travel closer to the Purgatoire, and to Bent Canyon, until 1871 (Richeson 1934).

There were no terminal stations in the PCMS, but one home station, Bent Canyon, represented the middle level. Bent Canyon, as a home station, served as a place where passengers took meals and drivers and teams were changed. Swing stations--like that at Lockwood--were the most numerous stations in the PCMS, but functioned at the lowest level in the hierarchy. Located between 10 and 20 miles apart, these stations provided team changes during very brief stops. The PCMS swing stations provided no other services, except in emergencies (Taylor 1971; Moody 1967). Wm. H. Wilson, the owner of the station at Vogel Canyon, described the system, explaining that there was one stage each day, going each way, and that stage drivers would go about 100 miles "before being relieved" (Richeson 1934, p.83).

> When a stage reached a station the driver seldom left his seat, but threw off the mail and those in charge of the station would unhitch the horses, hitch fresh ones, and in a

very short time the stage would be on its way again, traveling day and night..." (Richeson, p.83)

Part of what made the Barlow and Sanderson route across the PCMS viable was a series of Federal laws passed during the height of the Civil War to encourage the construction of a transcontinental railroad. To Coloradans, these laws were seen as the answer to their prayers. If the Union Pacific could be lured to build through Denver the city would be on the first transcontinental railroad and its future would be assured. This did not happen, leading disappointed Denverites to form their own railroad, the Denver Pacific (DP), in 1867. Its route, through modern day Brighton, connected with the Union Pacific in Cheyenne. Denver boosters also convinced the Kansas Pacific (KP) to build as far west as Denver before fulfilling its Federal land grant charter obligation to connect with the Union Pacific. That proved critical to the growth of the town of Kit Carson and its position as a trans-shipment point on the rail and stage route to New Mexico that the Lockwood Stage Station would be a part of. Between 1867 and 1870 the KP & DP, by 1868 a subsidiary of the KP, struggled to finish their lines, but Barlow and Sanderson determined that connections to the KP would make their routes more viable anyway. The stage routes tied to the rail lines were among the more heavily traveled, but were not the first to cross southeastern Colorado.

Specific to the PCMS, Congress established the first postal route over the Santa Fe Trail in 1847 after the defeat of Mexican forces in what became New Mexico. Two years later, secure in ownership of New Mexico, the United States government let out the first contract to carry mail between Independence, Missouri, via Bent's Fort to Santa Fe, New Mexico, and back. The initial route followed the Cimarron Cutoff of the Santa Fe Trail. Due to hostilities with the Kiowa and Comanche on the high plains, and a change in contractors to the Missouri Stage Company, the route moved to the Mountain Branch of the Santa Fe Trail during the early 1860s. In 1861, the Missouri Stage Company initiated improvements by renovating Bent's Old Fort and turning it into a stage station (P. D. Harrison, Box 1, Fd 77). A second station was established forty miles southwest of Bent's Fort at Iron Springs near the PCMS. The third stop was located at Gray's Ranch, forty-five miles south of Iron Springs and four miles from Trinidad. This is the route that A. H. Taylor drove before

setting up an intermediate station at Hole-in-the-Rock. The route then went from Trinidad over Raton Pass to Maxwell's ranch on the Cimarron River (Friedman 1985; Long, Box 2, Fd 4; Box 15, Fd 1, 3, 4).

Between 1862 and 1865, the stage company experienced several reorganizations that led the Postal Department to reassign the mail contract. On April 13, 1866, the U.S. Post Office awarded Jared Sanderson the mail contract, and, with Bradley Barlow, he formed the firm of Barlow, Sanderson and Company. As of May 29 of that year, A. H. Taylor says that he and twenty-six others left Kansas City with three wagons and three coaches in order to be drivers on the route (Richeson, p. 301). The company initiated improvements along the Mountain Branch of the Santa Fe Trail. For example, Taylor's construction of the Hole-in-the-Rock stage station near present Thatcher in 1866 (Friedman 1985; Taylor 1971; Taylor and West 1973).

Despite the improvements to the line, as early as 1867, the *Rocky Mountain News* was relegating stage stations to secondary roles as connectors to railroads. An advertisement in the December 13, 1872, papers advertised the Denver and Rio Grande Railway and passenger service connected with "Barlow & Sanderson's daily line of coaches for Pueblo, Trinidad, Cimarron, Fort Union, Las Vegas, Santa Fe." The route suffered from occasional Indian attacks and from very cold, snowy conditions, especially during the winter of 1867-1868. The Native American "problem" was supposed to be solved for the stagecoaches by assigning military escorts for the mail from Fort Lyon. But even as late as 1872 there were encounters with more or less hostile Native Americans in the region, and again, the quotation that Morris Taylor took from the *Colorado Chieftain* applies:

> A band of about two hundred Cheyenne led by One-eyed Bull appeared on the Purgatoire River in Colorado in the late summer. They *pointedly refrained from molesting a stagecoach* [emphasis added], and it was said that the ranchers of the area were not worried by their presence. Unpredictably, the opposite reaction was aroused by a small, mixed party of Cheyenne, Kiowa, and (Kiowa) Apache that showed up on the Nine Mile Bottom of the Purgatoire about the same time...Leaving the fertile bottom lands, the Indians rode up the Purgatoire past the ranch of a man named Felton. He followed them upstream past the ranch of a Mr. Gildey, at the mouth of Bent Canyon on the north side of the river, to a little Mexican cluster known as Red

> Rocks Plaza, deep in the spectacular Red Rocks Canyon of the Purgatoire. There the leading citizen, Don Juan Córdova, killed a beef for them and asked them not to molest his livestock in the canyon of the Chacuaco, a southern tributary of the Purgatoire. But once over his line, according to a settler named Whiteman (oddly enough), they raided horse herds belonging to George W. Thompson and Lonny Horn in Colorado and to Dr. Thomas E. Owen in New Mexico (Taylor 1971, p.321).

The weather problem, during periods of heavy snow, was solved by using horses and possibly mules to carry the mail in "trains," rather than on coaches. Nonetheless, drivers and soldiers in the escort suffered tremendously during the winter (Cahill 1918).

The November 8, 1870 *Rocky Mountain News* stated:

> The Santa Fe Post learns that Messrs. Barlow, Sanderson and Co. contemplate the establishment of a fast freight line between that city and Denver. The line will be a weekly one, and will leave each end of the day when there is no regular mail coach leaving. The rates will be half the present express rates, and the coach will run on precisely the same time as the mail coaches. In order to obtain these rates packages must weight at least one hundred pounds.

In early 1871, the Kansas Pacific (KP) established a major terminus at the fledgling town of Kit Carson on Colorado's eastern plains. The KP presence caused Barlow and Sanderson to make plans to build a new stage road between Kit Carson and Trinidad. The route ran from Kit Carson to Las Animas City, where the company maintained a stage stop and office. From Las Animas City, the route went west to Bent's Fort along the Mountain Branch of the Santa Fe Trail before turning southwest. After the Atchison, Topeka and Santa Fe Railroad reached Granada, Colorado, in 1873, a stage line was established from there to Las Animas City (Friedman 1985).

The *Rocky Mountain News* stated on May 13, 1873:

> A Tri-weekly line of coaches will be placed on the route between Pueblo and Fort Lyon soon by Messrs. Barlow and Sanderson. This will make a connection with the Atchison Topeka and Santa Fe road.

The company also made other, less dramatic, route adjustments during the early 1870s. During the late 1860s Barlow and Sanderson faced competition and lost the mail contract to the Denver and Santa Fe Stage Company for a few years (P. D. Harrison, Box 1, Fd 77).

According to local historian Morris Taylor, in 1868 they absorbed the Denver company and thus regained the mail contract. Barlow and Sanderson also purchased routes west and southwest from Santa Fe to the southern California area and thus became second only to Wells, Fargo & Co. in western stage transportation (Taylor 1971).

To accommodate the many new settlers moving into the Bent Canyon/Red Rock area, the stage company built a new road closer to the Purgatoire River and located a series of stage stations in the Purgatoire valley. In most cases, the company reached agreements with property owners to utilize existing ranches. Duane D. Finch and Max Frost, two long-time Barlow and Sanderson employees, laid out the route, including apparently the section through the PCMS that went somewhat from ranch to ranch (Taylor, 1971 #60; DeBusk, v.d. #561, Fd 4}. According to Finch,

> ...accompanied by Max Frost and traveling in a buggy drawn by two mules, we laid out the route from Kit Carson to Trinidad. We located one station at Bent Canon [sic], at Steve Conroy's ranch: another station at Lockwood then came on to the Picketwire, at the ranch of W. T. Burns. From the Burn's station we started one coach back towards Kit Carson, while Frost and I came on into Trinidad (Richeson: 218)

Thus the routes included three stations located in the PCMS: the Stage Canyon Stage Station, located near the head of Bent Canyon; Lockwood Stage Station; and the Hogback Stage Station, which was added later (Long 1941, Richeson 1934). At least one other stage driver that Finch mentions in his account, one Henry George, lived in the census area of the lower Purgatoire, and appears in the 1870 Territorial Census. Because the route was laid out utilizing existing ranches, it is hard to determine any "stage station only" artifacts. William H. Wilson, who ran the station at Vogel Canyon, noted that drivers generally drove 100 miles before being relieved (Richeson 1934). Barlow and Sanderson did not use traditional Concord coaches between Kit Carson and Trinidad on the new route; instead they used smaller, lighter, two seat coaches (Riddle 1963).

One of our best sources of information for this period is Duane Finch, who had been a Barlow and Sanderson employee since 1866. He was a Civil War veteran, had been imprisoned at Andersonville, and was, by all accounts, a man to be reckoned with. In 1869 he was running in charge of the Sanderson stage lines and stationed in Ft. Scott, Kansas:

> ...travel was heavy. The travelers represented all classes of people. Finch had orders from J. L. Sanderson to handle the traffic whatever effort might be required. He even went so far as to say keep the crowd moving, even though some may be unable to pay their fares. One day Finch remembers that they sent out 125 passengers using all their available coaches. Two of the coaches collected no fares (Richeson 1934: 219).

In 1870 Finch married in Pleasant Hill, Missouri, and wanted to locate "in some isolated section where railways would not likely come to disturb business conditions, and drive out all other modes of transportation." Sanderson listened, and said he had a place in mind. "Where?" asked Finch. "He replied, Trinidad, Colorado. When in after months, I reached Trinidad, Mr. Sanderson's remark often came into my mind, and, I felt certain that he was right. I looked for no invasion by railroads in my lifetime" (Richeson 1934: 219). In this, of course, he was mistaken.

Rates on the stage lines varied through time. For the original route near Timpas Creek, between 1866 and 1871, the freight rate was $0.75 per pound and passengers paid $0.25 per mile. After 1871, when the route was moved closer to the Purgatoire, freight rates were lowered to $0.30 per mile, but this was still very expensive, especially when compared to Railroad freight. Duane Finch, a driver, tells the story of a box that arrived for Father Monnecum, the Catholic Priest in Trinidad, which cost $23.00 C.O.D.:

> At first Monnecum refused the box. But it excited his curiosity very much. He would come in daily and look it over. After some days he paid the charges and took it out. Afterwards I inquired of the Padre, if his box was worth the money. Somewhat wroth he exclaimed, 'The dam'd fools!" and would answer no further (Richeson 1934, p.223).

Despite rates that the locals deemed high, the fact that the stage lines ran on the fiscal edge remained clear.

> A few days after coming to Trinidad, I had an altercation with the messengers on the coaches. Shipments of express were sometimes heavy, and my rule was to keep it all moving. The messengers were inclined to take on about as much as made a convenient load, and no more. One day a messenger protested with some vigor, but I kept on tossing up the packages till all were loaded. This messenger promised to have me properly disciplined for such conduct, but was told to take his complaint to J. L. Sanderson Sr., who had personally located me here. This satisfied the irate messenger (Richeson 1934:220).

Some of the cargo was quite valuable, as well as heavy:

> Our stage express carried considerable amounts of gold in buckskin sacks, shipped from Elizabethtown, N. M. to Denver. When we opened our stage office in T-dad, money was transmitted by express exclusively, so far as I know. Sums of money arriving in the night I carried home and placed under the mattress on which I slept. Next day I would place it in an iron safe in one of the mercantile houses. Thatcher Brothers had an iron safe...Also Henry Biernbaum, and possibly others. I made a vigorous protest to the stage company against the manner in which I was compelled to handle money in transit – especially carrying it on my person by night and on the street. I notified them that I would not agree to be responsible for any loss, if beyond my control. After a time they sent me a small iron safe – not larger than a man might carry (Richeson 1934: 220).

For a long time there have apparently been rumors of gold buried at the Bent Canyon Stage Station (Robert Hill, personal communication, August 2000). Stage shipments such as that described above--although clearly these shipments never came through Bent Canyon--might have provided the seeds of such rumors, and account for the various deep pits that were excavated in Structure 1 (possibly a general store) at the station post-abandonment (see descriptions in Chapter 6).

Given such loads, and the leather strap suspension on the coaches, rides for passengers were very uncomfortable. The following description of an account of a trip through the area in 1875 describes the difficulties travelers faced:

> The passengers left the newly created town of West Las Animas in a four-mule coach, traveled past Boggsville at the mouth of the Purgatoire, to Alkali Station, 20 miles out, kept by Albert Perry. There two horses were hitched to the coach in place of the mules. From Alkali they headed through Nine Mile Bottom to a stage station 11 miles away in Vogel Canyon, operating on the sheep ranch of Fagin and Brown. Fifteen miles further was the stop at Bent Canyon station [Stephen Conroy ranch] where James Benson was the postmaster. There the travelers ate, and acquired a new

> driver. Twelve miles on they arrived at the Lockwood Arroyo stage station. From there it was 17 miles to the Hog Back station. Fifteen more miles brought them to a station run by Max Frost at Hoehne. From there Trinidad was only 13 miles away (Taylor 1971 in Friedman 1985).

Personal accounts relate the discomfort of travel, and at times, threat to life and limb. Duane Finch described one "Jabez Fisher, a cripple, suffered spinal injury in the upsetting of a stage coach. He walked about the streets [of Trinidad] holding a pillow to his back" (Richeson 1934, p.224).

According to Paul Friedman's research, Stephen Conroy, an Irishman, came to Colorado in 1856 as a stagecoach driver driving the U.S. mail along the Santa Fe Trail. Around 1867, he built the ranch in Bent Canyon, and as of 1880, the census shows he had a wife named Kate, and a nephew and niece. Around the turn of the twentieth century, he moved to Trinidad to manage livery stables there, and the Bent Canyon ranch and some-time stage station was incorporated into the Rourke family ranch property (Friedman 1985). Friedman, and local historian Morris Taylor, agree that while Conroy owned the ranch, one James Benson was Postmaster there as of 1872 (Friedman 1989, Taylor 1964). However, according to Taylor, Benson was also the manager of the Stage Station (Taylor 1964).

The following description of an unidentified stage station provides some idea of what life may have been like at stations on the PCMS:

> The stage station contained four stalls for animals, and a combination parlor, kitchen and sleeping apartment ten by ten feet in size...The walls of the room were decorated with pictures cut from police publications...The host's duties were not only the care of the stage horses on one side of the thin board partition, but he was also the cook and general utility man on the other side (Strahorn 1915).

The August 1, 1859, *Leavenworth Times* commented:

> At each of the express stations with the exception of the division from the South Platte crossing to Denver City, comfortable buildings have been erected...From the South Platte Crossing to Denver efforts are perceptible at each of the points selected for stations to erect permanent improvements in the shape of sod houses, mule guards, stables, etc.

Unfortunately, sod, log, and adobe structures were not permanent in the sense of remaining standing after over one hundred years of weather and usage. Documentary evidence supports the lack of extensive artifact remains. A Helena stage station was described as follows:

> The furniture of a stage station might be all homemade, but attractive and comfortable, but usually it was stiff and scarce, and the seats only boxes and kegs which had yielded their contents to an uninviting table. There was seldom a cloth to cover the pine board tables, but that was better than the much soiled colored ones that in some places seemed to do service for a whole season.
>
> The bottles of condiments, with the addition of an old caster of cruets filling the center of the table, wore their fly-specked paper wrappings, and were made worse by dirt and greasy hands; the *cups and plates were of the heaviest and coarsest ware, glasses were thick and lusterless, if there were any at all, the snout of the cream pitcher (which never knew cream) would be gone, the sugar bowl cracked* [emphasis added], and over all in season a swarm of flies settled and buzzed and fought for more than their share of provender (Strahorn 1915).

Such descriptions might explain the general lack of ceramic sherds found on the Bent Canyon site during excavation.

Margaret Long, a tireless chronicler of early Colorado trail travel during the late 1920s and the 1930s, researched the Barlow and Sanderson routes as well as others on the Colorado plains. The descriptions, highly edited, were published. However, earlier drafts, somewhat more wordy and unpolished, are available at the Western History Collections, Norlin Library, in the Margaret Long collection. Pre-publication descriptions from her field notes and notes on the Government Land Office plats made by Long of the three stations in PCMS offer greater detail:

> ...The Stage Canyon station was at the head of Bent or Stage Canyon, a tributary to the Purgatoire just below its junction with Chaquaqua Creek. The ruins of the station are beneath the bluff on the north side of the canyon (N.W. quarter Sec. 7, T.28 S., R.56 W.) The roofless stone walls are divided into small, square rooms, not unlike the Indian pueblo ruins in New Mexico. The date, 1866, is carved on a stone embedded in the hillside above the buildings, but unfortunately the rest of the inscription is illegible. Where the creek bed winds its way past the station it contains excellent water holes. The old maps show both a road up Bent Canyon [probably from the Stage Station to Rourke Ranch] and another coming across above the river bluffs from Vogel Canyon [it is possible that the opening in the wall on the hilltop above Feature 1 is to accommodate this stage road]. The latter coming from Vogel

> Canyon is undoubtedly the stage road, it goes a few miles farther up Bent or Stage [Canyon] beyond the station and bears away from the southwest... The Santa Fe stage road from Iron Springs turned southwest up Stage Canyon en route to Lockwood Creek.
>
> ...(from endnotes: The road up the Purgatoire from Las Animas to Stage Canyon is shown on Nell's Maps of Colorado for 1885 and 1889, and the Hayden Survey of Colorado of 1877...The roads converging at Stage Canyon are shown on the maps mentioned in the note above, and also on Colton's sectional map of Colorado for 1873. These maps are available at the western history [sic] Department of the Denver Public Library.)

Long's comment that the inscription near the date of 1866 carved in the rock is illegible is not true if the lighting is right. The inscription (Feature 17) reads: "As you pass by remember me [though] miles apart we may be." This inscription is located on and near bedrock metates, and predates both Conroy's ranch and the staging operation. This may be simply the work of a lonesome traveler, given that this was a handy route down the canyon long before the stage route. But the style of verse is also consistent with that which adorns many gravestones of the period, so it is possible that someone may be buried nearby.

The Long research found that Barlow and Sanderson operated the stage line in the Purgatoire Valley for five years (Long Box 15, Fd 21). With the construction of the Denver and Rio Grande Railway to El Moro, near Trinidad in April, 1876, the demise of the stage lines as the principal means of transportation in the PCMS was assured. Barlow and Sanderson continued operating the line between Las Animas and Trinidad and also ferried passengers between Trinidad and the railhead at El Moro. By the summer of 1876, two years before the Santa Fe Railroad reached Trinidad, traffic on the stage route had dwindled. In September 1876, the company abandoned stagecoach service along the Mountain Branch of the Santa Fe Trail and the Purgatoire Valley (Friedman 1985). Barlow and Sanderson, however, continued to operate stagecoaches elsewhere in Colorado, primarily connecting mountain mining communities with the various railroads (Bryant 1975).

The Panic of 1873 forced the railroads to halt construction in Colorado and elsewhere around the far West. At that time, the Santa Fe railroad had extended westward as far as Granada, the Kansas Pacific had reached West Las Animas, and the Denver and Rio Grande had

established a terminus at Pueblo. The Santa Fe realized the potential for continuing up the Arkansas Valley and linking its line with the Rio Grande at Pueblo, thereby providing access to Denver. The opening of the coal mines in Trinidad provided potential for future markets that the Santa Fe wanted to tap, as well as securing the route over Raton Pass into New Mexico. In June 1875, the company resumed construction starting in Granada. By September, the line had reached West Las Animas. In February, 1876, the line had extended to La Junta and by March it had reached Pueblo (Athearn 1962; Lamar 1977). In April, in response to the actions of the Santa Fe, the Denver and Rio Grande Railroad extended its tracks from Pueblo south to the Purgatoire River. Two railroads faced each other for access through Raton Pass into New Mexico. The Santa Fe began construction south from La Junta, along the old Mountain Branch of the Santa Fe Trail, and finally reached Trinidad on September 1, 1878 (Friedman 1985).

As of this date, Demacio Lopez, who had moved his family briefly from the area at the mouth of Minnie Canyon to Las Animas so he could work on the Railroad, had moved back to his land on the Purgatoire (Friedman 1989). Again, however, Friedman and historian Morris Taylor disagree on details. According to Taylor, the Post Office moved from Bent Canyon Stage Station down to the mouth of Bent Canyon in 1877 or '78, where Eugene Rourke was Postmaster and also had a general store. Demacio Lopez was his assistant, as he was fluent in both English and Spanish (Taylor 1964). Friedman says in one place that Lopez established the Post Office and store in 1878, but also says that Lopez was not Postmaster until the 1880s, and shows up in the business directory as Postmaster and store-owner in 1890 (Friedman 1989). So it is unclear whether Lopez or Rourke established the Post Office/store, but it is clear they worked there together. The timing of the Post Office move to the mouth of the canyon, away from the Stage Station makes sense in light of the arrival of the Railroad and the demise of the stage business at the head of the canyon.

In contrast to the expensive shipping costs charged by overland wagon freighting companies, the railroad freight rates allowed for reasonable tariffs on eastern and midwestern goods. Most of the rail carriage originated in the burgeoning transportation hub of Chicago. The average charge to ship one ton of freight one mile by railroad was $2.88 in 1881; this figure

had dropped to $0.77 by 1907 (Lamar 1977). The comparison of the charges by freight companies and the charges by railroads in 1881 for transporting 100 pounds of goods a distance of 100 miles shows significant differences. The railroad cost amounted to an average of ten percent of the wagon freight charges. Similar cost comparisons can also be made for passengers. But, more importantly, the speed and comfort of travel by rail drew people away from the stagecoach. Shortly after 1900, the automobile and motorbus would be the *coup de grace* to stagecoaches as feeders to the railroads.

The stage station's history is known in general, but the day-to-day specifics are shrouded by time. Activities at the site related to the operation of the Bent Stage Station contribute only a little to the archaeological record in the areas where we were allowed to excavate. Most of the stage-related buildings are on the lower bench above the arroyo. Concurrent and subsequent site activities related to agriculture, the Post Office, and potentially general store-related activities, however, left a detailed archaeological record that reflects a longer period of occupation than the few stage years. According to Friedman, the property was patented to one Juan Medina in 1881, then passed to the J. J. Cattle Company, and then to the Rourke family ranch (Friedman 1988).

The Bent Stage Station site was the location of several concurrent and sequential land uses. From the time of its construction, railroads were moving across the west and providing the primary method of transportation to larger cities. The stagecoach stations were the first vanguard of that communication system and provided a critical link in western settlement. However, they did not initiate such settlement, and more often than not, stage companies located such stations on pre-existing ranches. Before, during, and after the abandonment of the Barlow and Sanderson stage line through the PCMS, the site served as a community center for the more remote and dispersed settlements in the adjacent canyons and table lands.

Overview of General Stores

As has already been argued in Chapter 4, this study area was part of a network of routes facilitating a network of trade between the Plains and the Southwest, dating from well before contact. Therefore, it should not be surprising that nodes of trade, whether formal ones at

Pecos at the time of contact, the less formal rendezvous of the early nineteenth century, or informal ones such as *comanchero* trading locations, were dispersed along these routes.

Those who settled ranches and plazas along the Purgatoire were, of necessity, flexible about how they earned a living. Their primary focus may have been mixed subsistence and surplus agriculture, or more purely commercial stock-raising, but all were willing to supplement their income opportunistically if the means presented itself. And the various routes established through the territory, such as the Barlow and Sanderson stage route, constituted such opportunities. The Thatcher Brothers had opened a store along the Santa Fe Trail, along Timpas Creek. The ranchers and stage station managers at stage stations, particularly "home stations" where people often spent time for meals and to deliver mail, were quick to use their access to supply routes to establish small stores. People from the surrounding rural countryside would already have been coming on a semi-regular basis to pick up their mail, and it only made sense to reinforce the role of such a place as the hub of a rural community by providing other goods for sale. Among Hispanic settlers, this would have been little different from the local, small *tiendas* that one still finds in domestic households throughout Latin America. Such stores are less likely to be specifically mentioned in the legal or political records, as, for instance, Post Offices were, because they were not licensed.

Along the earlier Barlow and Sanderson Route, before they surveyed the route that came closer to the Purgatoire, there was a store at the station at Gray's Ranch, outside of Trinidad, which was tended for a time by a contemporary cattle rancher along the Apishipa, D. L. Taylor. In later interviews with S. W. DeBusk, Taylor noted records of a gentleman who bought two drinks of whiskey, at $0.25 each, then bought a gun, at $25.00 (DeBusk memorial papers, n.d., p. 310). Prices were dictated in part by the isolation and lack of competition, and in part by freight rates, which changed with the advent of the stage routes, and then the railroads. Items sold included "dry goods, groceries, liquors, hardware, farming implements, queensware, clothing, hats, boots, and shoes" (DeBusk Memorial papers, n.d., p.147 – a statement to Mr. R.D. Russell, Sept. 8, 1871). A list of items ordered by a homesteading couple from the Thatcher Brothers and Co. store, in preparation for setting up their homestead in 1871, is informative:

3 sacks of flour @ $4.50	$13.50
50 lbs. coffee [sic] @ 24¢	$12.00
100 lbs. sugar @ 18 ½ ¢	$18.50
5 gals. syrup @ $1.50	$7.50
1 box soap $7.00, ½ box candles $4.00	$11.00
60 lbs. lard @ 22 ½ ¢	$13.50
5 lbs. butter $5.00 & 5 lbs. tea $7.00	$12.00
50 lbs. beans $2.00, 1 shovel $2.00	$4.00
1 lb. salt 50¢	$1.70
1 skimmer 25¢, 1 strainer 50¢	$.75
1 comb 50¢, 12 yds. flannel @ 50¢	$3.50
1 lb. pepper 50¢, 2 boxes blacking @ 50¢	$1.50
10 yds. jean $9.00, 4 yds. flannel @ $2.60	$11.60
4 pr. hose $1.33, 4 pr. hose $1.00	$2.33
horse 25¢, matches 30¢	$.55
toys $1.00, 12 yds. calico $1.68	$2.68
door locks $1.00, gloves 75¢	$1.75
tobacco $2.00, bucket 75¢	$2.75
hinges and screws	$.40

In a paper read by local historian S. W. DeBusk before the Early Settlers Association of Trinidad, CO, on August 27, 1901, he remarks:

> The early merchants weren't in business for health alone. A paper of needles cost a quarter. If the buyer complained, the seller would refer to the high freights which must be paid. A spade cost $2.50. E. J. Hubbard received the first arm chair in Trinidad. It was manufactured in Denver of native pine, and cost $7.00, delivered. Riley Dunton received the fist horse radish roots brought from "the sates" by express, on a Barlow and Sanderson Coach. Express charges on the small backage $4.50...Bill Hoehne (Dutch Bill) imported the first corn sheller. This machine superceded the method of beating corn from the cob with sticks. For a long time bacon and butter sold for a dollar and a half a pound. When corn went below ten cents a pound, the farmers declared they couldn't grow it for that price (Richeson 1924, p.307)

Prices would have been subject to change with the changing freight rates along the stage, and later, the railroad routes. As already mentioned, freight on the earlier Barlow and Sanderson stage route, nearer to Timpas Creek, was $0.75 per pound for freight (passengers were charged $0.25 per mile) (Richeson 1934, p.304). After the stage route was relocated closer to the Purgatoire, in 1871, rates were $0.30 per pound for freight, and (Richeson 1934, p.220). A. H. Taylor, one of the early drivers on the Timpas Creek route, and later the station owner and manager at Hole-in-the-Prairie, noted that his passengers were mostly "merchants from New Mexico, principally Jews" (Richeson 1934, p.304).

While there is no explicit mention of a general store at the Bent Canyon Stage Station in the historical records, it would have been unusual for a stage home station not to have one. Furthermore, when the stage route closed in 1877, and the Post Office moved to the mouth of Minnie Canyon, a store came with it according to the research of local historian Morris F. Taylor. Local settler Demacio Lopez was the assistant to the Post Master Eugene Rourke, as the former was fluent in both Spanish and English (Taylor 1964). Paul Friedman, in contrast to Taylor's account, and based on far fewer primary sources, states that Lopez "opened" the store and Post Office at the mouth of Minnie Canyon, in 1878 (Friedman 1989: p.34). Taylor's account is undoubtedly more accurate; it is not unlikely that in 1878, Lopez succeeded Rourke as Post Master.

The fact remains that the Bent Stage Station, and the Post Office and store at the mouth of Minnie Canyon, served as the hub of a dispersed community that is referred to in the historical record as the Red Rocks community. Before Barlow and Sanderson moved the stage route from the Timpas towards the Purgatoire, Gray's Ranch, near Trinidad, served as the store that supplied all the settlers down-river along the Purgatoire, according to D. L. Taylor, who manned the store at the time (Richeson 1934). If people were willing to travel as far as Trinidad to purchase needed items (and the fact that they were is attested to over and over again), then surely, when a home station was established at Bent Canyon, the station managers would have seen and acted on the entrepreneurial opportunity. Furthermore, even after the stage route fell into disuse, this location would have been relatively convenient to the newly established Atchison and Topeka Railroad. While the train made no formal stops until Trinidad, informal and unscheduled slowdowns along the route allowed locals to move cream to town, and retrieve bags of mail (Louden 1998).

Chapter 6
Research Design

Introduction

The research design for this project was in large part dictated by the military. The immediate goal of excavation was to assess the damage that tracked vehicles had imposed on the site, and therefore we were initially restricted to digging only where there was tracked vehicle damage. However, we did have some flexibility to excavate areas outside those directly affected by tracked vehicles, though not far from them; exploring in that context was only for purposes of comparison with impacted areas. Any larger anthropological research questions were perforce secondary to this main goal, but the potential of this site for providing data on several such questions remains, and will be discussed in the following sections.

Commerce

Interaction and trade on the Plains, and between the Plains and other regions such as the Southwest, has long been a point of research for those interested in the past both before and after the arrival of Europeans. The role of the site as a home station in a stage route for people traveling between regions makes it an ideal place to study the nineteenth-century aspects of such interaction. Furthermore, the possible presence of a general store, possibly in existence for both the pre- and post-stage eras, with later access to the nearby Atchison and Topeka Railroad, could provide insight into the role of such places as points of distribution for manufactured goods from distant points.

The 1870s and 80s was a pivotal period of change in this region, during which a relatively discrete transition occurred between the more restricted access to goods and travel provided by the stages, and the more expanded access to resources provided by the railroad. The impact of such transitions in the early stages of globalization, often framed in terms of World Systems Theory in social scientific and historical research, can be profitably examined on this site. Local choices to such global processes can also be analyzed.

Community

The general store on the site, as well as the Post Office, can also provide information on the role of such establishments as community centers in areas of dispersed rural settlement. Sense of place, identity, and community dynamics are fruitful areas of inquiry in the social sciences, and given that the demographics of settlement here in the 1870s and 80s was more diverse, cosmopolitan, and extensive than it has been in all the years since (a pattern that is widespread on the Plains, not simply true in this area), such sites from this period can be invaluable in determining what roles community centers played in the lives of the people who rode miles, in some cases for most of a day, just to get to the store and pick up their mail.

Ethnicity

Related to questions of identity and place are questions of ethnicity and ethnic interaction. In the 1870s the region was inhabited primarily by Spanish-speaking settlers from New Mexico and Mexico, some of whom had been transformed in place from Mexican to U.S. citizens only twenty-odd years before. Though they remained a demographic majority in the region, the 1880s witnessed an influx of white Anglo-American and some African-American settlers from a range of eastern states (more southern than northern), and from several European countries. All groups intermarried and traded and were neighbors on the Plains, but also in the 1880s much of the land began to fall into the hands of a relatively small number of primarily white, Anglo-American settlers. The role of the stage station, and later that of the general store and Post Office, as a community center makes it a point of interaction for members of all these groups of people, and therefore a good location for looking at the material patterns of site and artifact use that resulted.

Agriculture

Despite the multifunctional nature of this site, it should not be forgotten or under-emphasized that through the entirety of the period, from the 1870s until roughly 1909, this site was first and foremost a working ranch--and only secondarily a stage station--and then it became a general store and Post Office. As a result, it is a good example of ranching during a period spanning the important 1880 transition to the first years of the twentieth century. And ranch

workers continued to occupy features of the site seasonally or sporadically for decades after its formal abandonment, after it was incorporated into the holdings of much larger commercial ranching establishments. The evolution of ranching from small family endeavors and initial homesteading to larger commercial enterprises spanning tens of thousands of acres with absentee owners and investors is all within the history of this location, and the architectural and artifactual remains should provide insight into this process of change.

Data about all of the above areas of inquiry are available at this site, and to the degree that we were able to excavate portions of it, we retrieved such data. However, we were not encouraged to organize the excavation primarily in order to answer such questions, so our insights into these areas are both more incidental and more unsystematic then they would be had exploring such issues been our primary goal.

Chapter 7
Methodology

Field Methodology

Because our research goals were dictated by the military, our methodology was too, to the extent that a large proportion (about half) of the available one-by-one meter excavation units that we were to dig were laid out for us by DECAM personnel before we arrived on the site. All of these units lay along the tracked vehicle tracks that constituted the damaged areas of the site. None lay outside these areas, so initially it looked as though we would only be able to explore damaged areas without any reference to undamaged areas for comparative purposes. Thankfully, during the course of the field work, our strategy became more flexible.

The placement of units over structure foundations was according to a grid oriented with the feature, in the special case of Feature 1 on the upper bench, and Feature 9 on the lower bench. The other units on the lower bench, located along tracked vehicle tracks and according to DECAM priorities, were laid out with a Brunton compass and mapped in with a Total Station. We made detailed plan maps of the features we excavated, and profile drawings of every Excavation Unit (EU).

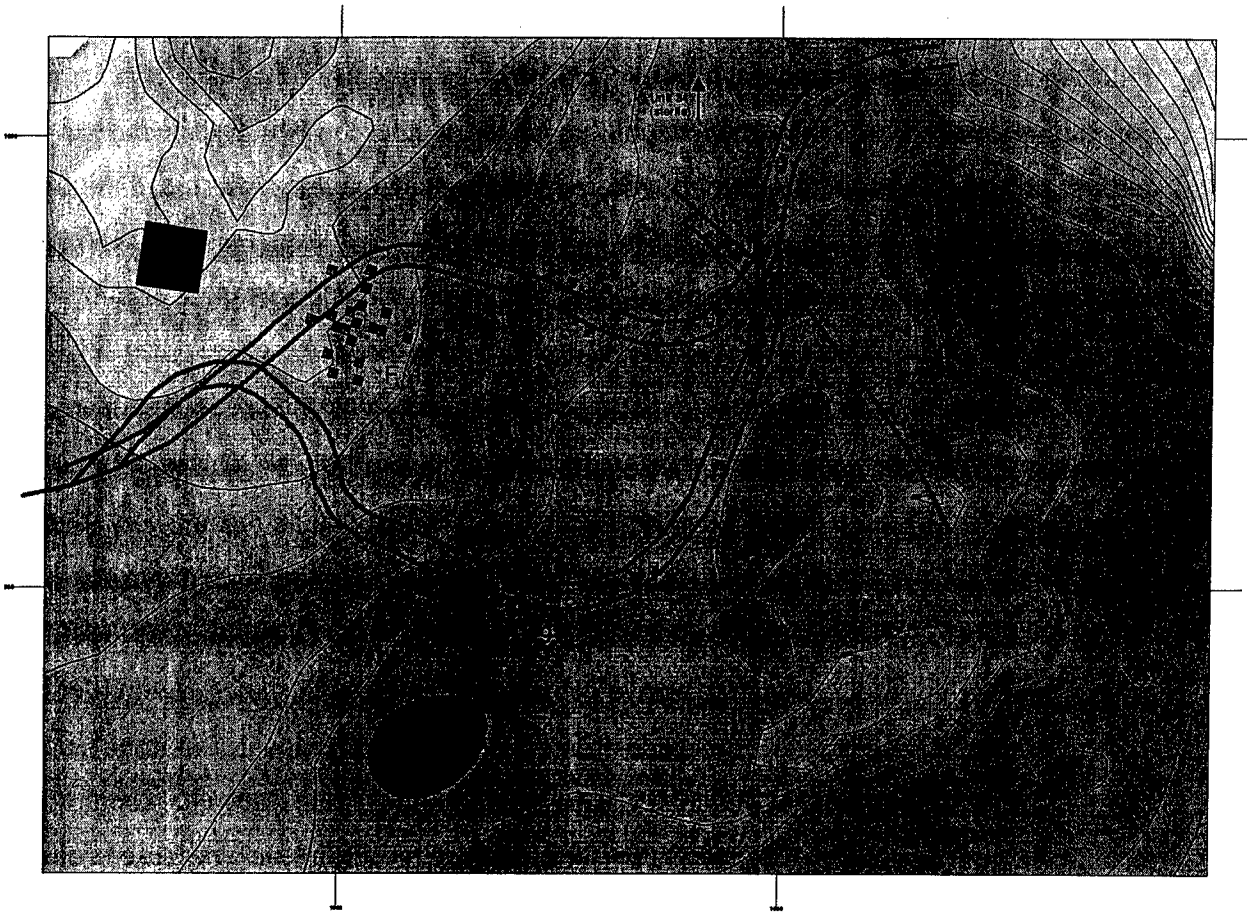


Figure 7: Excavation Units and resistivity grid over Feature 2

We excavated almost all of the excavation units laid out for us along the tracked vehicle tracks, but we also excavated several in features that were impacted, but outside the areas of direct impact. This activity resulted in 46 excavation units, all told. In one-by-one meter excavation units that spanned tracked vehicle tracks, the compressed soils of the tracks were excavated as separate lots, screened separately, and had any artifacts bagged separately. In many, but not all cases, water screen samples were taken from the track and non-track contexts separately as well.

The placements allowed us to compare damaged and undamaged areas, to determine the degree of damage, and also to retrieve enough data from specific architectural and other feature contexts. From this data we could draw at least preliminary conclusions about function and address the secondary questions outlined in the research design. Students

excavated all units using natural stratigraphic levels, or lots. The term lot was used to indicate changes in matrix that may or may not have occurred as horizontal strata, including, for example, hearth fill. Thus one lot could lie within another lot, whereas the term level implies horizontally layered soils only. Of course any change in matrix as clearly defined as a hearth was also given a feature designation, bisected, photographed, mapped, and bagged separately for water screening and/or flotation.

Excavation units were considered culturally sterile when the last 20 centimeters produced no cultural materials. There were some excavation units, such as EUs 28, 40, and 41 (containing Feature 11, a historic period hearth, and, well below that, Feature 15, a dark ashy strata with artifacts and fire-cracked rock that were prehistoric), that never did reach culturally sterile levels, due to overall depth of deposits and time constraints for the field school course. Soils exposed in the arroyo cut adjacent to this area show potential for late Pleistocene and Holocene transition deposition (David Kuehn, Personal Communication, August 2000), the exploration of which was not in the scope of our research. There was a historic feature, Feature 9, which was also not excavated to sterile levels because of time constraints and feature depth. In this case, deposits continued down in EUs 44 and 42, but were finally so obscured by large rock fall from surrounding structure walls that we were not able to continue without opening new, adjacent excavation units.

None of the stage station buildings along the lower bench of the site were excavated in the course of this project, as they were not directly damaged by tracked vehicle training activity. In order to answer any research questions directly pertaining to the stage station use of this site, these buildings would need to be tested. For that reason, the information we were able to acquire on the material culture of staging activities is minimal at best. Of the artifacts we collected from the two structures we did excavate, Features 1 and 9, those of Feature 1 probably post-date any stage activity. Those from Feature 9 may pertain to the five-year stagecoach operation, but probably pre- and postdate that phase as well.

In summary, since illicit tracked vehicle routes rather than research objectives drove the location of excavation units, the information on site activities that we were able to recover is

by necessity spotty and somewhat disconnected. Furthermore, very little of it may actually relate to the brief period during which the site functioned in part as a home station on the stage route.

Lab Methodology

Field Lab

In the field lab, water screen samples were processed, and all of the artifacts were sorted by excavation unit number, by lot (level), and by type. They were catalogued, bagged, labeled, and made ready for transport and further analysis after the field work was complete. Items were counted and entered into an Excel spreadsheet noting provenience and artifact or sample type.

Post-field Lab

The analyst entered all the data into a Microsoft Access database, with the following separate tables: Ammo, Bone/Shell, Ceramics, Glass, Lithics, Metal, Nails, Wood/Coal/Charcoal (noted and weighed, but not to be curated), and Other. All tables include the following fields: Site #, Cat #, Feature, Unit, Lot, Elevation, Surface Coll, Material, Description, Portion, Quantity, Weight, Early Date, Late Date, Category, Class, Assoc Cat #, Photo, H_2O, Flot, and Comments. Other fields varied by table as appropriate to the type of artifacts being described, for example, "color" for glass or "pennyweight" for nails.

A complete listing of artifacts with all the common fields is in the table labeled Master in the database. To determine "category" and "class" we employed a modified version of Stanley South's functional categories (South 1978) for the analysis of the Historic artifacts.

Category	Class
architecture	building material
	window glass
	hardware
domestic	furniture
fauna	fauna
firearms	ammunition
hardware	electrical
	tool
indeterminate	indeterminate
lithic	chipped stone
livestock	fencing
personal	adornment
	clothing
	medicine
recreation	alcohol
subsistence	consumption
	food
	storage

Table 1: Artifact categories and classes

Category and class designations serve to consolidate like-functioning but very diverse artifacts into groupings that make patterns of activity across the site clearer and easier to illustrate. The indeterminate category refers to fragments of vessel glass that were too small and un-diagnostic to be placed in a category or class. Glass vessels can relate to categories as diverse as subsistence (e.g. tumblers, condiment bottles, mason jars, ginger beer bottles, etc.), recreation (e.g. alcohol bottles), or personal (e.g. medicine bottles). Thus if the fragments were small, fragments were labeled indeterminate.

Lithics were analyzed and divided into chipped stone and ground stone for artifact class. Many of these items, especially those found in mixed contexts such as the post-occupation looter pits in Feature 1, could as easily be from post- as from precontact contexts. Others, from less disturbed contexts with other historic period materials, are probably evidence of historic use of stone materials, either by Native Americans, New Mexicans, or *mestizos*. Those from deeper levels, especially on the lower bench and near the arroyo, near Feature 15, are undoubtedly prehistoric.

Material type, color, completeness, and some information related to reduction were noted for lithic tools and debitage. Flakes were noted as primary (cortex covering the dorsal side), secondary (cortex partially covering the dorsal side) or tertiary (no visible cortex). Dimensions in metric notation were taken only for complete dimensions, and the weight noted for all specimens in grams.

For historic artifacts, measurements were also in centimeters and grams unless the English system of measurement was a manufacturer standard, such as was the case for hardware items like screws, or pennyweight in the case of nails.

The following section lists all the possible fields for data entry for each artifact table. When information for a field was not available, the field was left blank. Fields common to all tables include: Site #, Cat #, Feature, Unit, Lot, Elevation, Surface Coll, Description, Quantity, Weight, Category, Class, Assoc Cat #, Photo, H2O, Flot, and Comments. All other fields varied as appropriate for each artifact type. Modified, where used, refers to manufactured items that were modified and/or reused for purposes other than those intended by the manufacturer, for example, bottle glass worked into scrapers.

Data entered in artifact tables specific to type

Ammunition

Material, Portion, Length, Diameter, Caliber, Center/Rim-Fire, Maker's Mark, Manufacturer/Type, Early Date, Late Date

Ceramics

Portion, Form, Length, Width, Diameter, Thickness, Closure, Decoration, Glaze, Maker's Mark, Early Date, Late Date

Glass

Portion, Finish/Shape,Length, Width, Diameter, Thickness, Color, Mold Marks, Embossing, Maker's Mark, Modified, Contents, Burned, Early Date, Late Date

Lithics

Material, Color, Modified, Flake, Type, Complete, Portion, Length, Width, Thickness, Period, Culture

Metal (not including nails)

Material, Portion, Length, Width, Diameter, Gauge, Decoration, Early Date, Late Date, Modified

Nails

Type1, Type 2, Portion, Pennyweight, Length, Early Date, Late Date, Modified

Other

Material, Portion, Length, Width, Diameter, Thickness, Maker's Mark, Early Date, Late Date, Modified

Faunal analysis

The faunal material recovered was sent out to Dr. Erica Hill for analysis, and she entered her data into Microsoft Excel. The fields she included were: Feat, Unit, Lot, Cat #, Count, Taxon, Element, Side, Modification, Comment. Her database of materials excavated in the 2000 field season is included in the appendices with the rest of the analysis data tables, and her findings are discussed in Chapter 9. Her findings specific to Feature 7, excavated in 1998, are included in that feature's description in Chapter 8.

Cartridge analysis

Ken West, a student of anthropology and history at CU-The Springs, did extensive research on and analysis of the variety of cartridges of various calibers and types from the site. His findings and illustrations are included in Chapter 9.

Magnetic Susceptibility

Steven DeVore processed soil sample columns we collected at 5 cm intervals in EUs 3, 20, 26, 42, and 44. In this way we sampled the lower bench where there was a prehistoric component below the historic levels, both the excavated structural features (1 and 9), and a looter pit (corner of Feature 1). The results of this work are presented in Chapter 11. Higher readings strongly mirrored the cultural levels in these units, including both historic period levels in all units, and a prehistoric component in EU 20.

Chapter 8

Feature and General Excavation Descriptions (by Sherry Thrash and Minette Church)

Introduction

The feature/structure numbering system used for the 1983 forms caused some initial confusion for the students and directors alike. Since architecture is by definition an archaeological feature just as a hearth or a pit is, we reassigned feature numbers to all the features on the site, and the numbering system as structures was discarded. The majority of these features were not tested, so no excavation description is included for them. Features 9, 10, 11, 12, 13, 14, 16, and 18 were not recorded on the 1983 form, and were defined in 2000. The list of features is as follows:

Feature 1 = structure foundations on upper bench, consisting of Rooms A, B, and C

Feature 2 = possible privy west of F 1

Feature 3 = pit northeast of F 1

Feature 4 = wall north of F 1

Feature 5 = enclosure on lower bench, near rim rock, north of F 9

Feature 6 = tiny enclosure on lower bench, near rim rock, west of F 20 and 21

Feature 7 = well on edge of arroyo, excavated in 1998 by C. Loendorf and R. Lindsey

Feature 8 = largest enclosure on north end of lower bench

Feature 9 = structure foundations south of F 19

Feature 10 = walkway running east from doorway of F 1

Feature 11 = historic period hearth in EU 28 on lower bench

Feature 12 = remains of fence running off of F 9 and enclosing the spring

Feature 13 = probable looter pit in EU 26, on southeast corner of F 1

Feature 14 = probable looter pit in EUs directly east of main doorway of F 1

Feature 15 = prehistoric organic fill layer in EU 28

Feature 16 = probable looter pit in EUs 4 and 7, north room (Room A) of F 1

Feature 17 = bedrock metate with carved text dating to 1866

Feature 18 = rock shelter and wall complex on east side of drainage

Feature 19 = 1983 "Structure 2"

Feature 20 = 1983 "Structure 4"

Feature 21 = 1983 "Structure 5"

Feature 22 = 1983 "Structure 6"

Feature 23 = 1983 "Structure 7"

Feature 24 = 1983 "Structure 8"

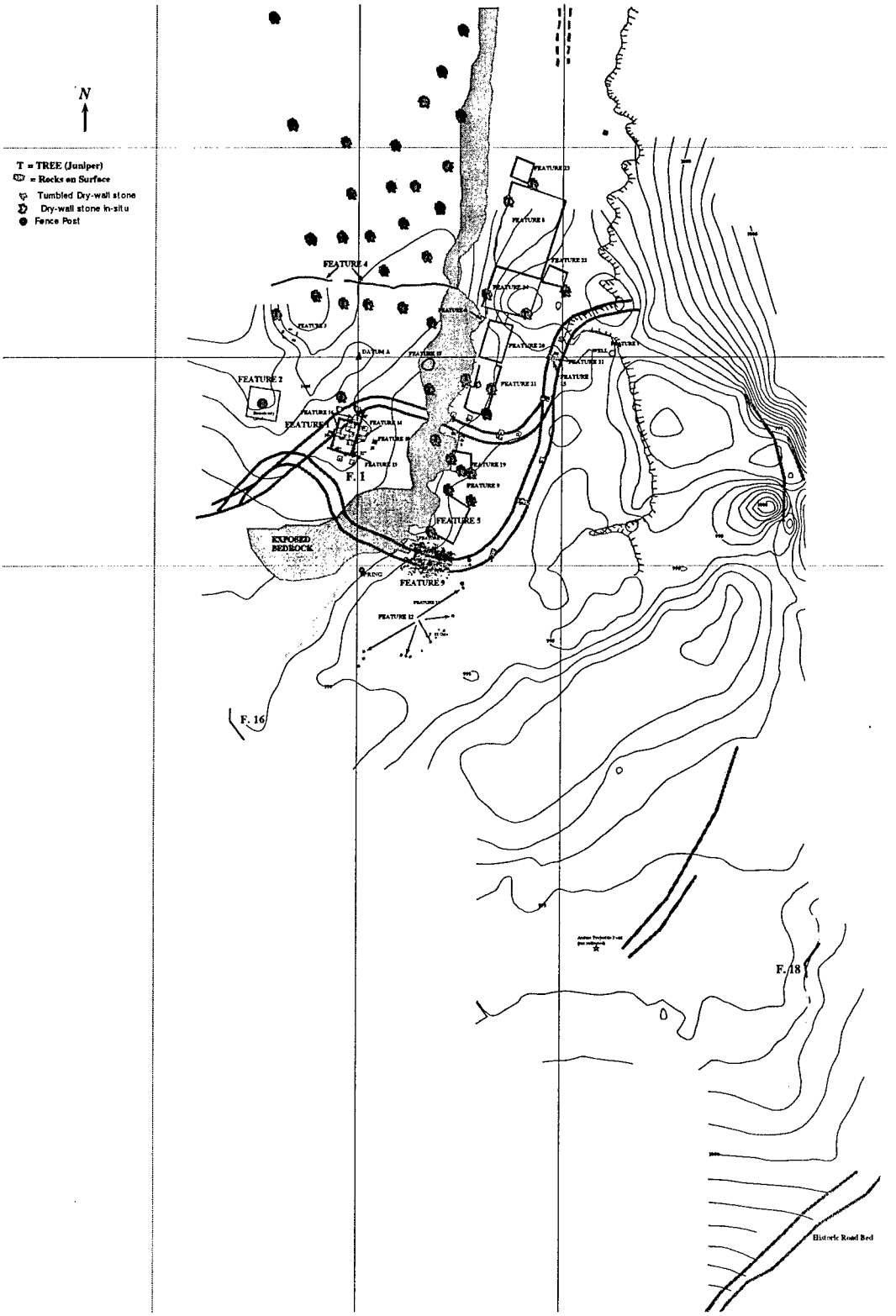


Figure 8: Site Plan

Feature 1

General Description

Feature 1 (called Structure 1 in the original site form from 1983) is a double-coursed sandstone foundation which may have been the Post Office that existed on the site, and perhaps served also as a general store. For purposes of excavation, the three rooms of the structure were designated 1B, 1A and 1C, running from north to south.

When laying out the first Excavation Units (EU) of Feature 1, the entire feature appeared to consist of two large rooms, which we labeled 1A (south room), and 1B (north room). However, 1B turned out to be enclosed on only three sides, remaining open to the west, built after the other portion of the structure, and may have been a place to park buggies or horses. In room 1A, EU 2 (initially) and EU 22 (subsequently) revealed stone footers of an interior wall which would have divided that space in two. Accordingly, we divided room 1A into two rooms, 1A (north) and 1C (south), and redefined Feature 1 as a whole to consist of two distinct interior rooms (1A north, 1C south) and one three-walled, abutting exterior room (1B).

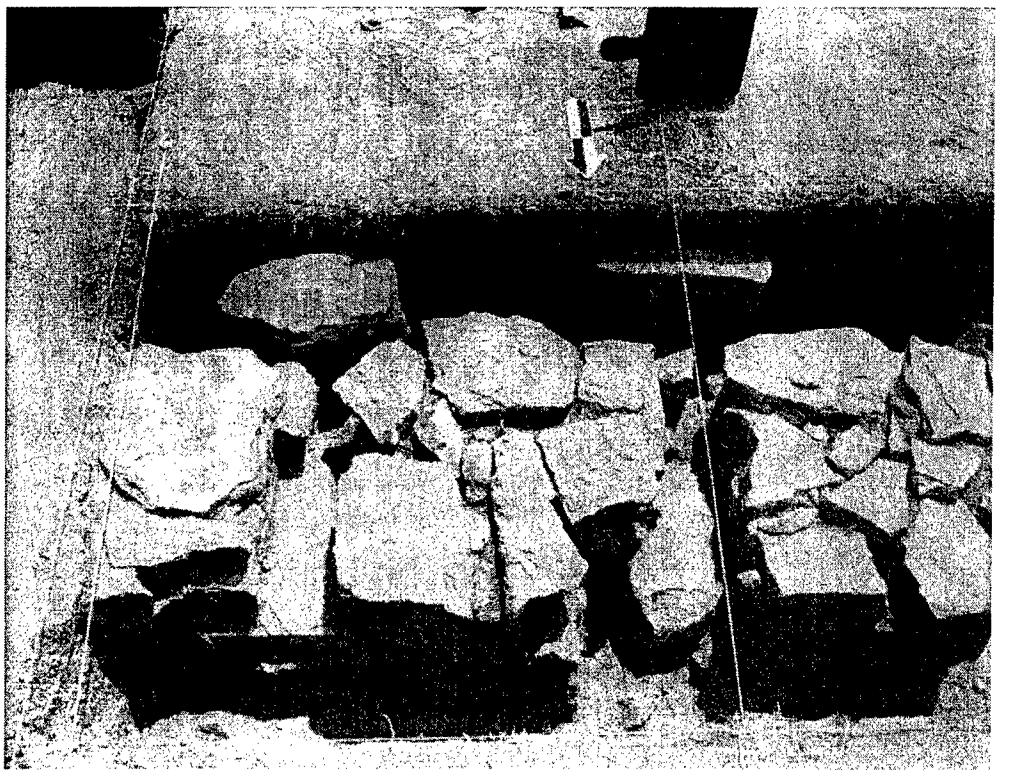


Figure 9: View south of supports for joists and possible wall between Rooms A and C, Feature 1

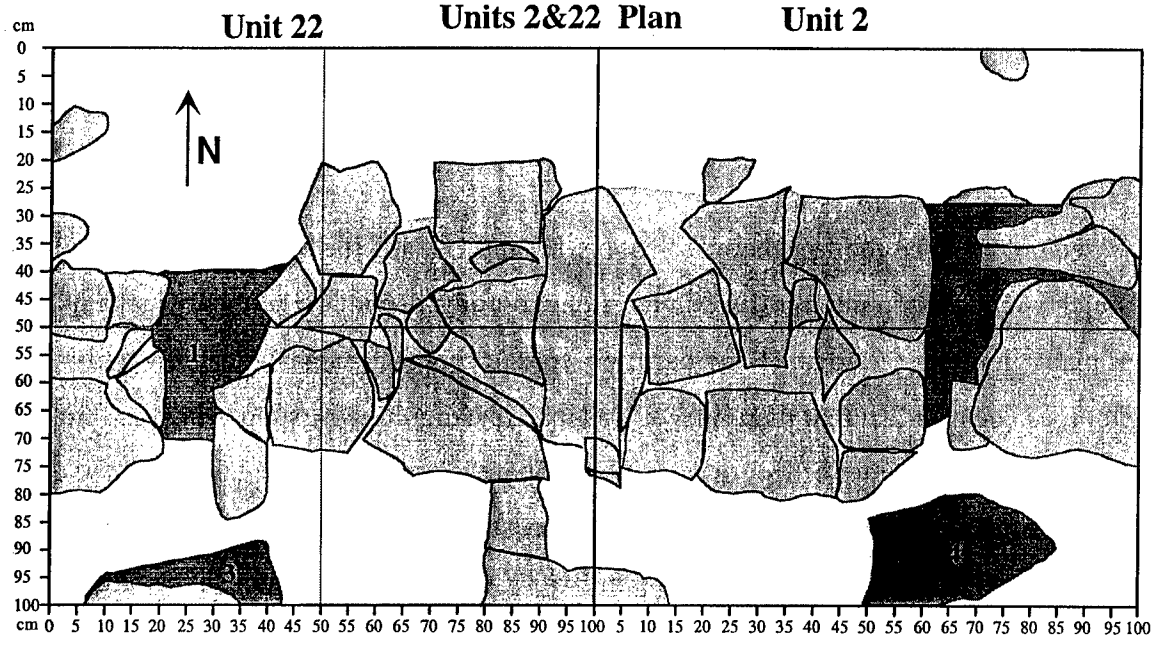


Figure 10: Feature 1, Rooms A and C, plan of floor joist supports

NOTE: Stones 1,2,3 and 4 as well as two center stones were underneath wooden floor joists

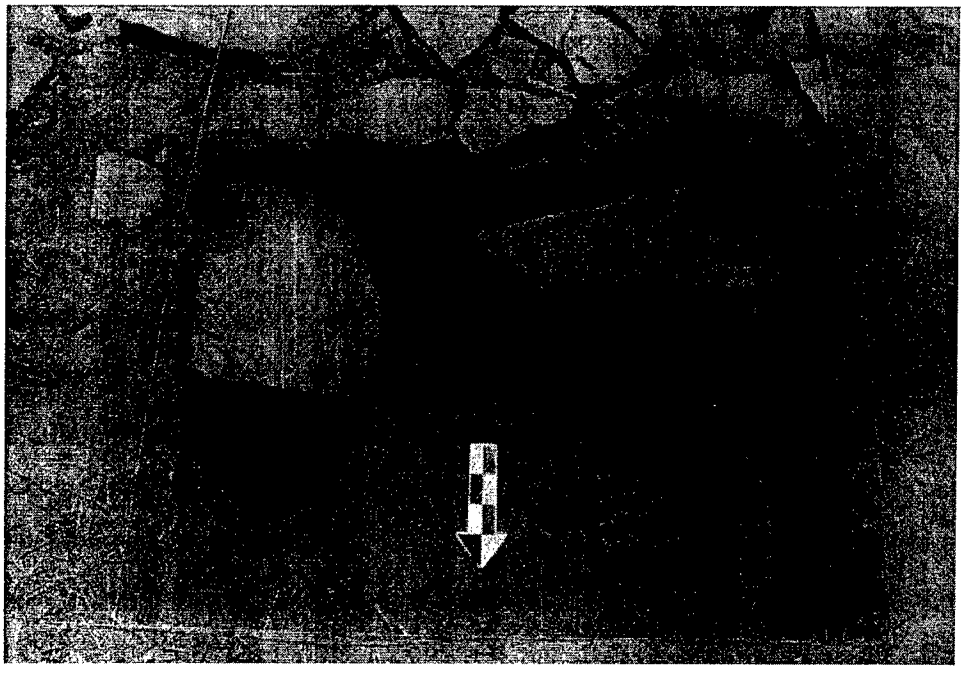


Figure 11: Feature 1, Room C – rocks to support ends of floor joist near south wall

The entirety of Feature 1 is approximately eleven meters north-to-south (from the outside wall of 1B to the South wall of Room 1C) and five meters east-to-west through the interior of

the main structure. Room 1A, the larger of the two rooms, contained six EUs: 2, 3, 4, 5, 7 and 22. Excavation Units 2 and 22 are east-west adjacent and actually lie on the dividing wall between 1A and 1C. Room 1C contained three EUs: 1, 9, 11, and 27. Room 1B was partially excavated in three EUs: 6, 8, and 13.

Based on the stone footings between rooms 1A and 1C, and the evidence of large timbers which were tenoned into mortises in the stone footings, Room 1A probably had a plank floor. A plank floor affixed to large and narrowly spaced support beams indicates a load-bearing floor, as does the fact that there was at least one rectangular post supporting the floor and/or the roof near the center of Room A, in EU 4. There is some evidence that this floor extended into Room 1C as well; there is a complimentary stone footing to those exposed in EUs 2 and 22, near the south wall of the structure, in EU 27. Charred wood between the large stones in EUs 2 and 22, as well as various amounts of charcoal in most units in Room 1A would be explained by the burning of a plank floor. There is no evidence as to the form or materials of the roof, but there was the base of a rectangular post near the center (EU 4) of room 1A, and there may be another in similar position in room 1C.

The foundation of Feature 1 was constructed of sandstone blocks quarried from the surrounding canyons. The walls, now gone, could have been adobe or framed. There were not as many nails as one would expect from dismantling a framed structure, but it may have been removed whole, to a ranch or a farm, after the site was abandoned, which is a common fate of abandoned, but still useful buildings in the area (Church 2001). Room 1A had two doors to the outside, almost directly across from each other, evidenced by gaps in the foundation, in the east and west walls. The one facing east was unusually wide, at almost a full meter. There was probably an interior door between Features 1A and 1B. However, the footings under the plank floor would not need to be gapped to accommodate a doorway, so absent the structure, there is no evidence for where the door lay in the wall. Both of the exterior doorways lay just north of the footers dividing rooms 1A and C, falling within Room 1A. There may have also been a door to the outside in Room 1C, in the south wall, near the west corner, but evidence for this doorway was less conclusive than for the other two. Given the presence of a stone-paved walkway with stone steps (Feature 10), and the location of the

Stage Canyon Stage Station to the east and down slope from Feature 1, the east door was probably the main entrance. The west door had a flat stone stoop, broken by tracked vehicles, but excavation revealed no evidence of a path or walkway beyond. The fact that the three-walled enclosure of 1B opened to the west may be accounted for by the vestige of a road that may have come through a gap in a stone wall (Feature 4) uphill to the west and north.

Figure 12: View of Feature 1 looking south

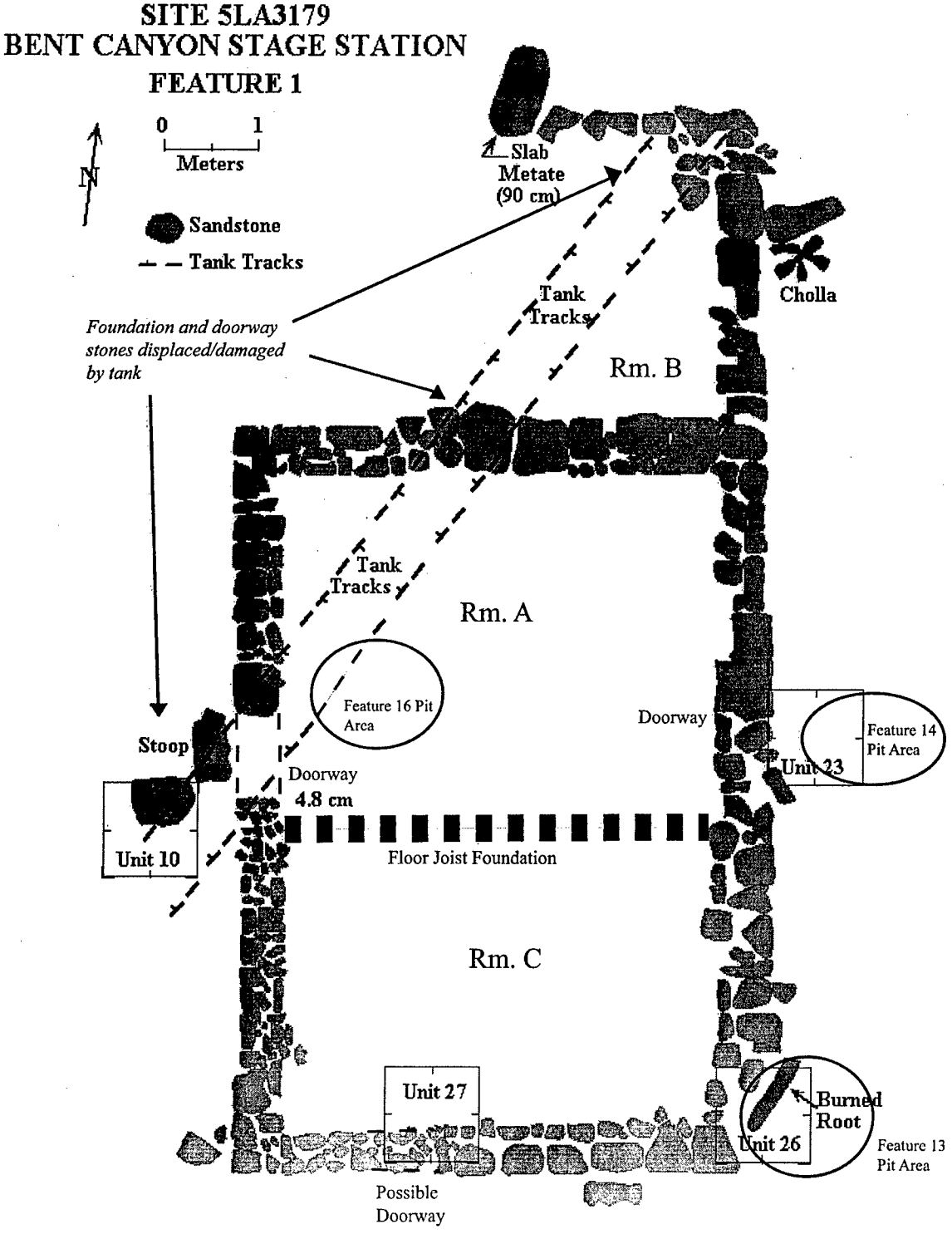


Figure 13: Plan map of Feature 1 - only excavation units near foundations shown (by R. Carrillo, modified by M. Church)

Excavation Description

The area outside of the east doorway was excavated as EU 23, and EU 12 was placed just 1 meter north and east of 23 to try to catch artifacts swept out or spilled over from the doorway. EU 23 was expanded to the east in EU 38 in order to continue excavation of a deeply excavated, post-occupation pit feature discovered in this doorway area (Feature 14). The area outside the west doorway was excavated as EU 10, and EU 7 was placed inside Feature 1A to try to pick up doorway debris there. EU 7 did not show evidence of doorway debris, but did reveal another post-occupation pit in the stratigraphy of the south and west EU walls. This pit was also revealed in the sidewall of EU 4. Artifacts from EU 7 confirm that the pit was post-occupational. Like Feature 14, and another such pit designated Feature 13, which was located at the southeast corner of the structure, in EU 26, this may be a post-occupational "looter pit" that was refilled with large loose stones acquired from the wall of the structure itself. Artifacts recovered from EU 10 were domestic, but not necessarily residential. As is the case on so many historic period sites such as this, there is local lore about gold having been buried around the site (Robert Hill, personal communication, July 2000). This legend may account for the presence of such pits, but it could just as easily have been bottle hunters, another bane of historic site integrity.

There was evidence in EU 26 (Feature 14) of a large tree, perhaps planted by site inhabitants, at the southeast corner of the building, perhaps shading the main entrance and the low terrace along that corner. Elsewhere on the site, currant and elderberry trees still exist where they were planted near the outside corners of structures. In Lots 3 through 5 of EU 26, a large deposit of charcoal was revealed to be a root of that tree, extending beneath the southwest corner of the structure. At this place in the foundation wall the southwest corner was missing, and EU 26 was placed here to investigate this gap. The evidence of a large burned tree root going beneath the foundation stones could indicate that the tree was planted in front of the structure and then when the tree burned, either independent of the structure or not, it fell, and its root mass dislodged the foundation stones above it. This would constitute an alternative explanation for the Feature 14 pit, which would account for the gap in the wall and the large stones revealed by excavation approximately a meter from the wall itself. But it does not account for the other pits.

EUs 9 and 11 were placed outside the south end of the structure on the leveled terrace area. EU 9 was placed to try to pick up where the terracing would have started, or to determine if there was evidence of a porch around the south side of the structure (an idea which was discounted after discovery of the large tree root in EU 26). No evidence of intentional terracing or of a porch structure was recovered other than the suspiciously right-angled flatter area. Some of the lots beneath the root zone of these two units were sampled for flotation and pollen as well as the standard wet screen.

EUs 6, 8, and 13 were placed in what was later defined as Room 1B. The lack of a west wall in this room indicated that it was a three-walled structure, open to the west, and the foundation stones of this space abut those of room 1A. This feature may have been a carriage parking or garage-like structure. A piece of cast iron, probably a wagon or carriage hitch, recovered from EU 6, as well as several upholstery tacks and other artifacts from EUs 6 and 13, support the suggestion that this area may have served as a garage or carriage-storage area.

EU 27, Lot 3, in Room 1C revealed a layer of fine, powdery yellow soil (Munsell 10 YR 5/3 silt loam) beneath the depth of the support timbers for the plank floor. This was unique to this portion of the structure and may have been dirt brought in to level out the floor before laying the support beams. This Unit, in Lot 5, also revealed a layer of what may be adobe melt (Munsell 10 YR 4/3). This layer was not distinct while excavating the unit, and became apparent in the sidewalls. The layer was distinct and approximately 10 cm thick. The appearance of adobe melt at this depth (approximately 45 cm below datum) might be explained by adobe wall collapse after the plank floor was burned and/or removed, but as adobe melt was not found elsewhere, it may simply be more soil hauled in to level this area under the floor footings.

EU 3, Lot 3, Room A, at approximately 23 cm below datum, revealed the probable floor zone of the structure. This was one of the most artifact-rich lots on the site. Artifacts recovered here contained domestic items, but like the rest of the feature, nothing suggesting long term

occupation, such as broken ceramics. Lot 5 of EU 4, at approximately 42 cm below datum, revealed a posthole filled with decayed wood. The post hole was approximately 6 cm deep, rectangular at its base, 25 cm across the diagonal, and was supported on two sides by large flat stones. Lot 5, just above where the posthole appeared, also seemed to be a floor zone with artifacts.

Feature 1 may have been the Post Office and general goods store, or simply a domestic residence, or some combination of the two; however, the excavated data points to a commercial rather than a domestic function. The over-engineered load-bearing plank floor, wide eastern doorway, and to some extent the assemblage of recovered artifacts as well as artifact types curiously absent from the assemblage, are all in keeping with a commercial function. The most prevalent and therefore remarkable artifact recovered was window or display case glass. 153 pieces of clear flat glass weighing 229.5 grams were recovered from EU 5 alone, inside Room 1A. This quantity of glass, if it represents only windows, would be unusual for a domestic space in this period. Furthermore, only 12 pieces of ceramics related to subsistence are in or around the structure, whereas in a domestic space inhabited for any length of time, especially after the advent of the railroad, one would expect more. Homestead sites in the region dating before the railroad and inhabited only five to seven years exhibit more ceramics than this structure does. There is archival evidence of a Post Office, a working ranch, and the Stage Canyon Stage Station on this site. When the Post Office moved down to the mouth of the canyon in the 1880s, mention of it in the documents is linked to a general store (Friedman 1988, Taylor 1964). With access to goods brought by stage, it is not unlikely that there was a general store during the stage period at this site as well.

This structure was slated for excavation because of evidence of tracked vehicle damage on the surface. The tracked vehicle treads clearly went through rooms 1A and 1B, and tracks were evident on the surface in portions of Excavation Units 6, 7, 8, 10, and 13. Throughout the site, when excavators encountered units with tracked vehicle tracks, the soils were much more compacted and considerably harder to trowel. In units with tracked vehicle compression in one area and uncompressed soils in another, it was common to use a hand

pick in the compressed areas and only a trowel in the remainder of the unit. Excavators generally recorded tracked vehicle compressed portions of their units as separate excavation lots, so soil from these areas was screened separately. Several foundation stones on the surface and one large doorstep stone just under the surface were damaged.

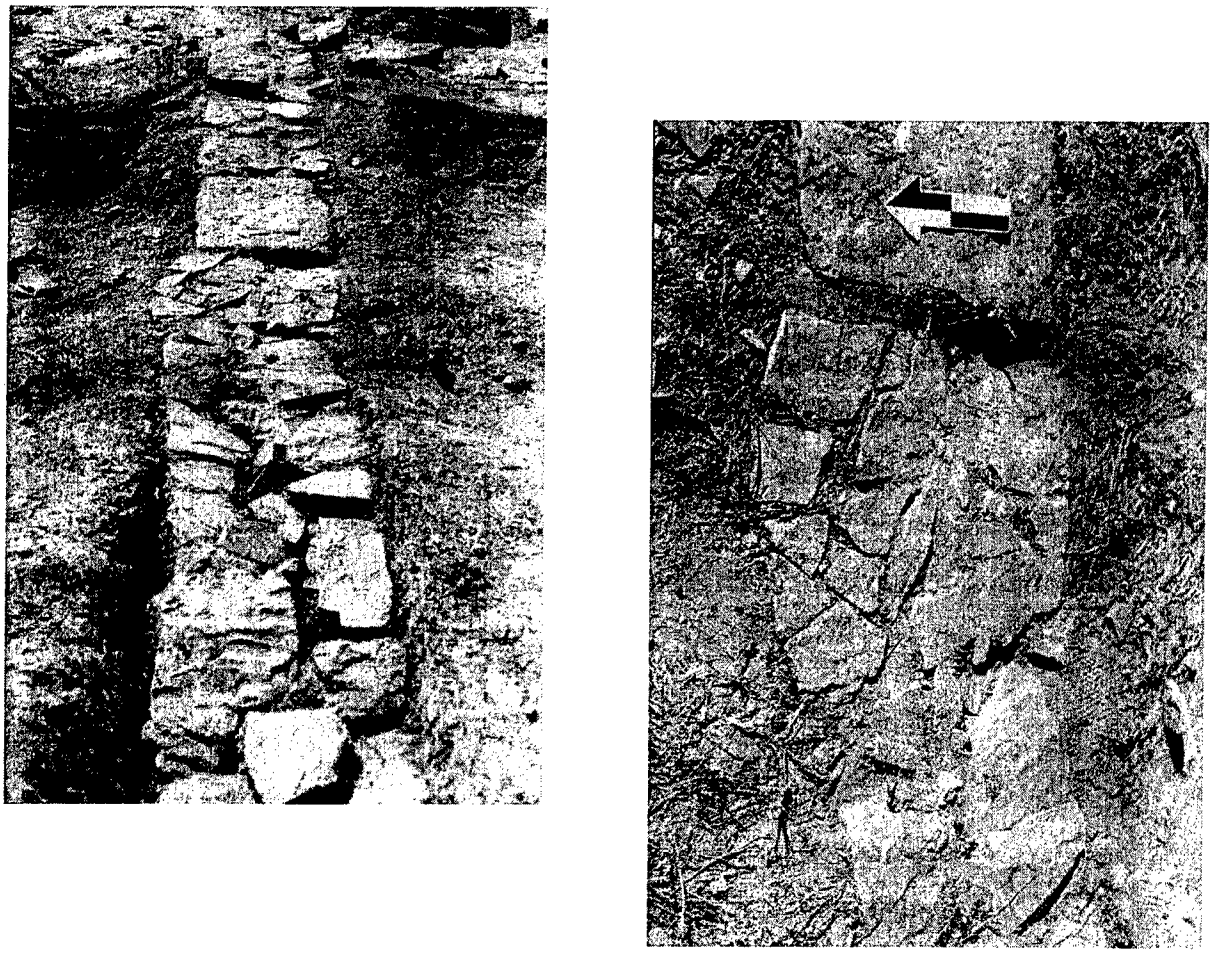
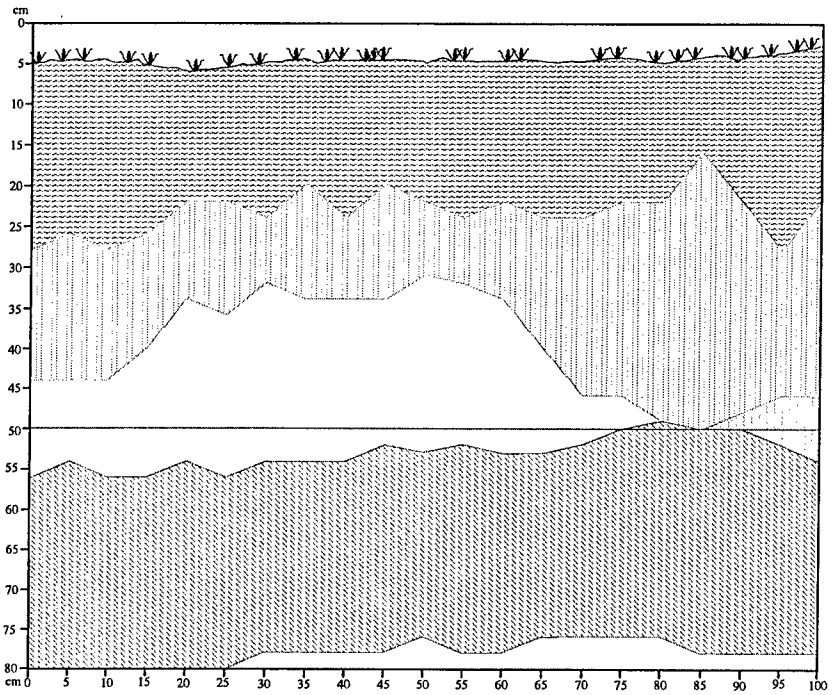


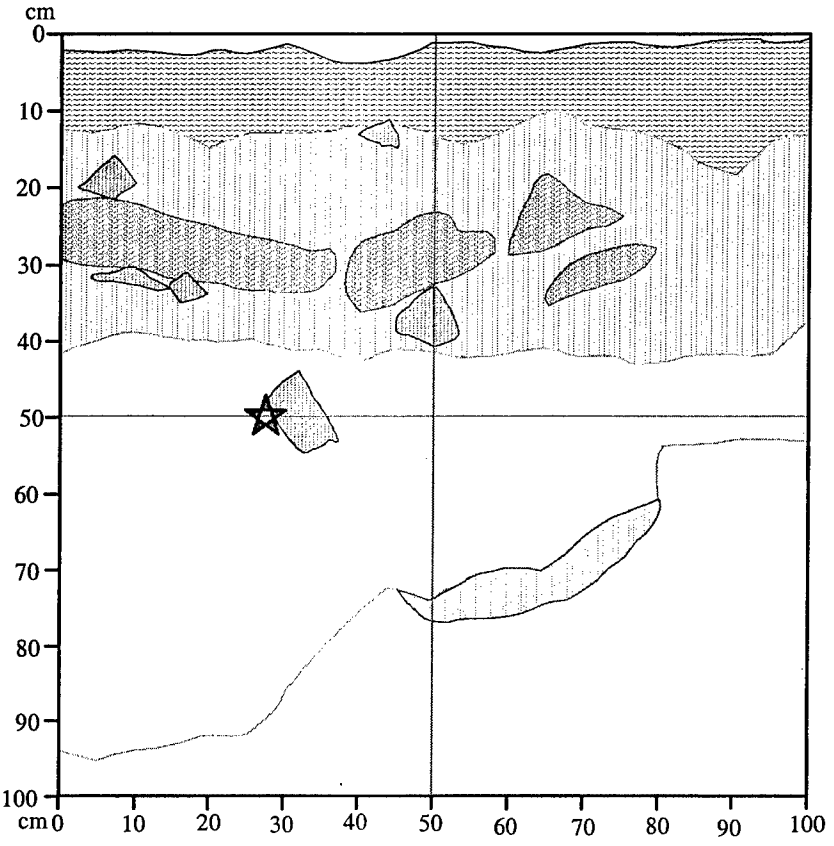
Figure 14: Feature 1, foundation wall between Rooms A and B showing tracked vehicle damage



Key	Description	Munsell #	Key	Description	Munsell #
	Root Layer; Clay Loam	10YR5/3		Lighter Sand & Clay Loam	10YR4/3
	Clay Loam	54 2.5/1		Softer Dirt	10YR6/3
	Sand & Clay Loam	10YR4/3			

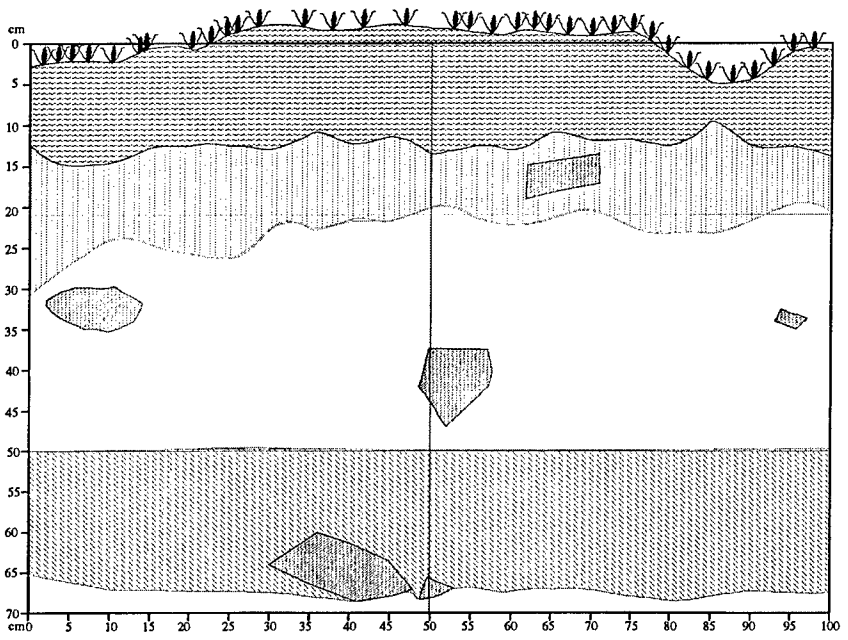
Figure 15: Feature 1, Room A, Excavation Unit 3, west wall profile

Excavation Unit 4. West Wall Profile



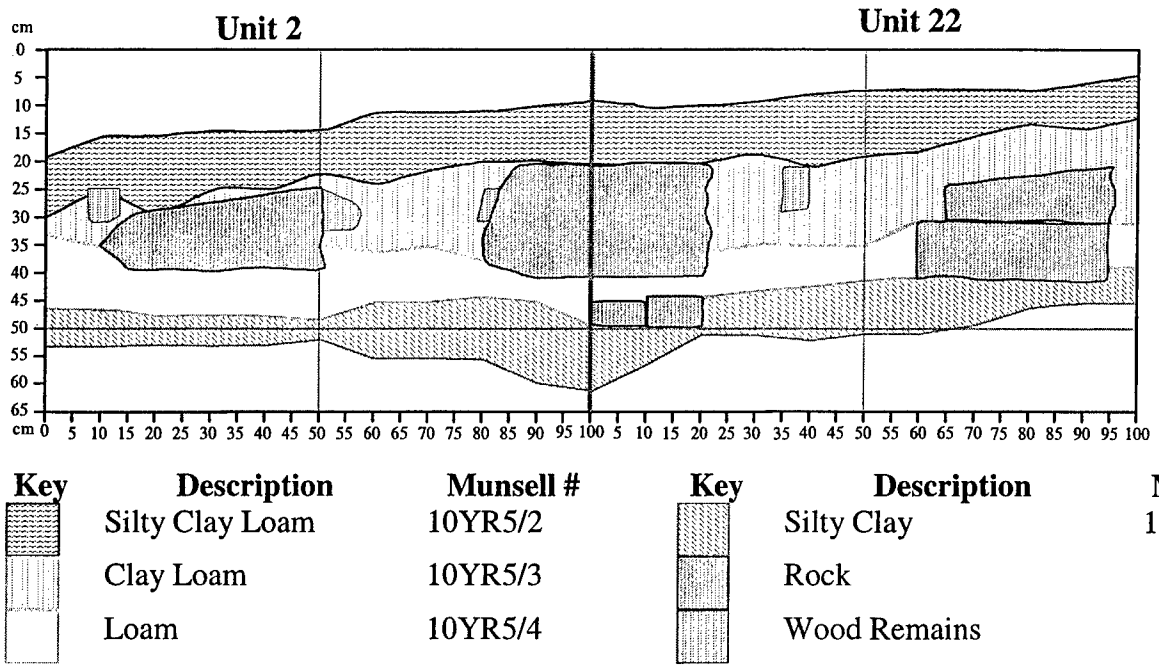
Key	Description	Munsell # (Wet)	Key	Description	Munsell # (Wet)
	Clay Loam	10YR3/3		Rock	
	Clay Loam	10YR3/2		Silty Clay Loam	10YR3/4
	Sandy Loam	10YR5/3			
	Sandy Splotch	10YR6/4	☆	Wood in Sidewall	

Figure 16: Feature 1, Room A, Excavation Unit 4, west wall profile



Key	Description	Munsell #	Key	Description	Munsell #
	Root Layer, Silty Clay Loam	10YR5/5		Silty Clay	10YR6/3
	Clay Loam	10YR5/3		Rock	
	Sandy Clay Loam	10YR5/4			

Figure 17: Feature 1, Excavation Unit 5, east wall profile

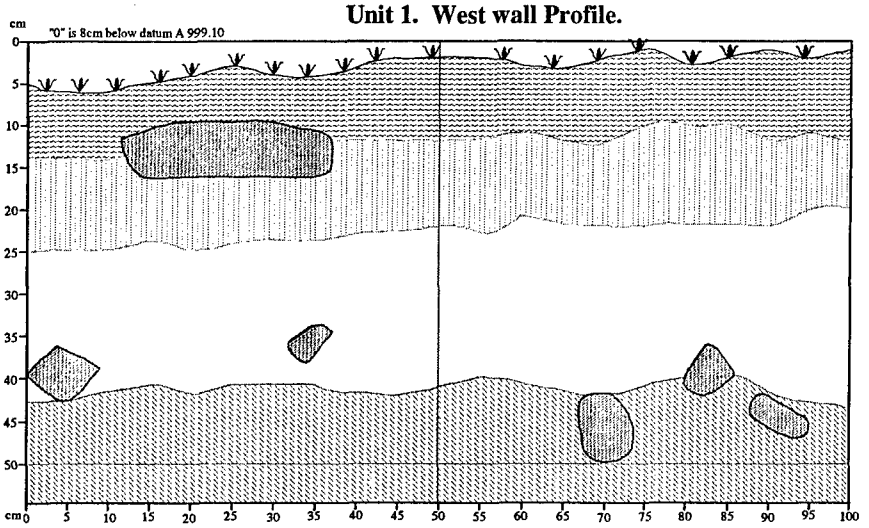


Key	Description	Munsell #	Key	Description	Munsell #
	Silty Clay Loam	10YR5/2		Silty Clay	10YR5/4
	Clay Loam	10YR5/3		Rock	
	Loam	10YR5/4		Wood Remains	

Figure 18: Feature 1, Room C, Excavation Units 2 & 22, south wall profile showing joist support stones and decayed wood

SITE 5LA3179

BENT CANYON STAGE STATION
FEATURE 1C
Unit 1. West wall Profile.



Key	Description	Munsell #	Key	Description	Munsell #
	Root Layer; Loose Silty Clay	10YR4/3		(Lower) Silty Clay	10YR5/2
	Loose Silty Clay	10YR5/3		Silty Clay	10YR5.5/3
	(Upper) Silty Clay Loam	10YR5/1		Rock	

Figure 19: Feature 1, Room C, Excavation Unit 1, west wall profile

Feature Damage Description

EU 10 was placed outside the doorway on the west wall, near a large flagstone, forming a back stoop. The flagstone of this stoop was dislodged, cracked and broken in two when a tracked vehicle rolled over it. The southeast corner of the unit had tracked vehicle tracks on the surface and soil compression was noted to a depth of approximately 35 cm in this area. The soil difference here was remarkable: in the tracked vehicle-compressed area, the soil color was Munsell 2.5 YR 5/2 (dry) while in the rest of the unit the soil was Munsell 10 YR 5/3 (dry) at the same depth.

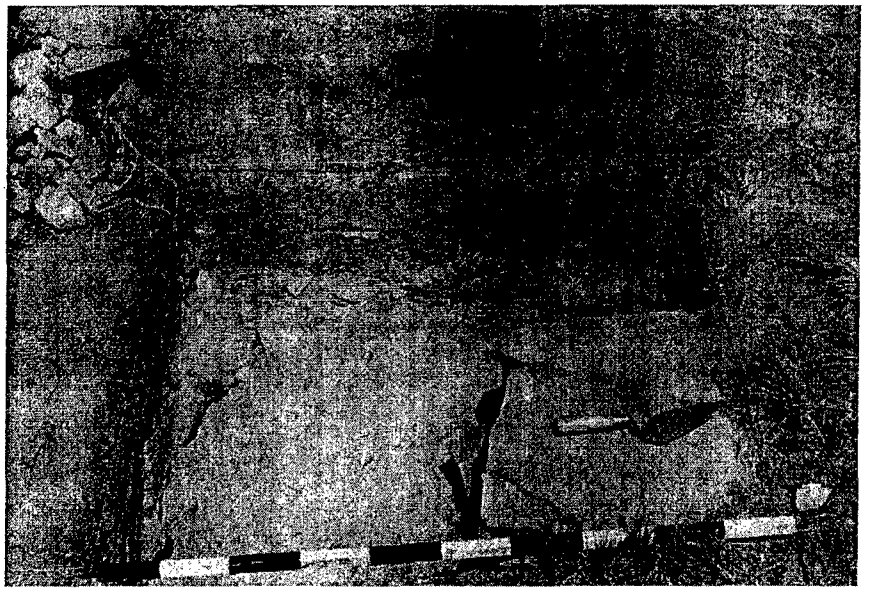


Figure 20: Outside west doorway Feature 1, Excavation Unit 10 - view north showing tracked vehicle damage to door stoop stone

EU 13 was within Room 1B and had tracked vehicle tracks on the surface in the southeast quadrant of the unit. Tracked vehicle compression in the soil was noted until approximately 35 cm and the difference in soil color was Munsell 10 YR 3/4 (wet) to 2.5 YR 4/2 (wet). EU 6 was within Room 1B, and tracked vehicle tracks were evident on the surface in the northeast quadrant of the unit. Soils were visibly compressed to a depth of approximately 44 cm but the soil change was not as drastic as in EU 13. Soils outside the tracks were Munsell 10 YR 6/2 (dry) whereas compressed soil was 10 YR 7/1 (dry).

Excavation Unit 7 was inside room 1A near the doorway on the west wall, and tracked vehicle tracks were evident on the surface in the northwest quadrant of the unit. Soil compression was noted to a depth of approximately 43 cm.

EU 8 lay just outside the space created by the three walls of room IB. Tracked vehicle tracks were evident on the surface of the unit in the southeast corner, but excavators noted no visible compression of the soils. EU 8 was placed somewhat upslope from the bulk of the structure and from the other tracked vehicle track units, and the soil consistency was different from the other units as well; specifically, it contained more gravels.

Artifacts

Window glass came from virtually all excavation units both external and internal to the feature. The varying densities give a very rough sense of window locations. For example, the high quantity of glass in EUs 5 and 12 (171 and 358 pieces respectively) suggest that there was probably a window in the east wall of the structure, north of the doorway in room 1A. Other locations are less clearly suggested, but both rooms 1B and 1C have some quantity of window glass, as do EUs 11 and 9, located on a low constructed terrace that runs around the southeast corner of the structure. So there may have been windows in these spaces as well.

The quantity of glass is unusual in a homestead of this period, and not all of it may have actually been used in windows. Even after the appearance of rail transport, glass windows were expensive enough to restrict the average homesteader to one or two, and before that, one pane of glass was sometimes shared between several homesteaders, as one glazed window was a required improvement under the homestead act (Wilder and Lane 1988). If this structure functioned as a Post Office and perhaps a general store, the quantity of glass would be explained as having come from display cases. Such a function would also explain the distribution of flat-window glass throughout the interior spaces, rather than it being clustered near segments of walls where windows would have been.

Differences in the functions of the interior rooms, B, A, and C, can be explained by both architectural and artifactual evidence. The main door of Feature 1 is undoubtedly the one in the east wall of Room A, because of its unusual width. However, Room B is a three-walled room opening to the west, where a road comes down to the structure. So while the enclosed rooms of the structure were oriented to the east towards the older stage-related buildings for purposes of pedestrian traffic, later construction of the Room B enclosure was oriented to the road from the west. The foundation stones of Room B abut those of Room A, suggesting that this room was built later, although how much later is unclear. So it may be that the orientation of this structure to outside traffic changed over time, from east to west. Alternatively, the doorway could have been oriented to pedestrian traffic, while Room B concurrently housed horses and carriages coming from the west. Artifacts in Room B

contain transportation related items, carriage parts, whereas the other two rooms do not. The subsistence items in Room B are all vessel glass and a piece of strap iron. Strap iron often came around wooden barrels of food and other stuffs. This room had considerably less window glass, and only one piece of bone, which was not burned and not diagnostic beyond the class vertebrata. Artifact assemblages in Rooms A and C are more diverse than those of Room B, further suggesting that the latter room was a more restricted-purpose room.

The greater overall diversity of artifact classes in Room A might well reflect that which would be expected in a general store, while less diversity in Room C could denote its back room status. Room C has recreational items related to tobacco and alcohol, suggesting its possible use as a place to relax during breaks in business. Room A recreation-related items are toys, specifically marbles. The low quantity of any one artifact class in Room A, other than window glass, would reflect the fact that diverse items would not likely have been used in the space, but were simply stored until people came in to buy them. Three kaolin marbles were found in EU 3 in this room, as well as two fragments of the leather bag in which they would have been sold; clearly this is not a case of a single marble lost in the course of play. The one writing implement on the site, a piece of chalk, is from Room A. In a store setting, breakage and discard would be more unusual, and one would expect that what fragments there were would be of a more diverse nature as opposed to reflecting particular spatially defined domestic activities. Again, none of the rooms in this structure has an artifact assemblage suggesting everyday domestic use. The low incidence of ceramics is particularly noteworthy. While use as a general store is not noted directly in the documents, it is not unlikely to have been linked with the commercial ventures of the occupants of this site. The patterning of artifacts in this feature does not prove such use, but is consistent with our interpretation.

In terms of faunal remains, Room A had one medium bird, one large mammal, another mammal, and some unidentified specimens. Room C had three medium-to-large mammal specimens, and four unidentified specimens. Again, none showed evidence of burning. Excavation Unit 9, outside the structure on the low terrace south of the building, had one unburned piece of large mammal bone.

Artifact dates for each room, using *Terminus Post Quem* (TQM) dates, match the documented dating for the site as a whole, but do not refine the dating of this building within that period. Room A has some artifacts with manufacturing dates in the 1860s, in addition to the 1830s and 40s, but this does not change the dates of the feature in general.

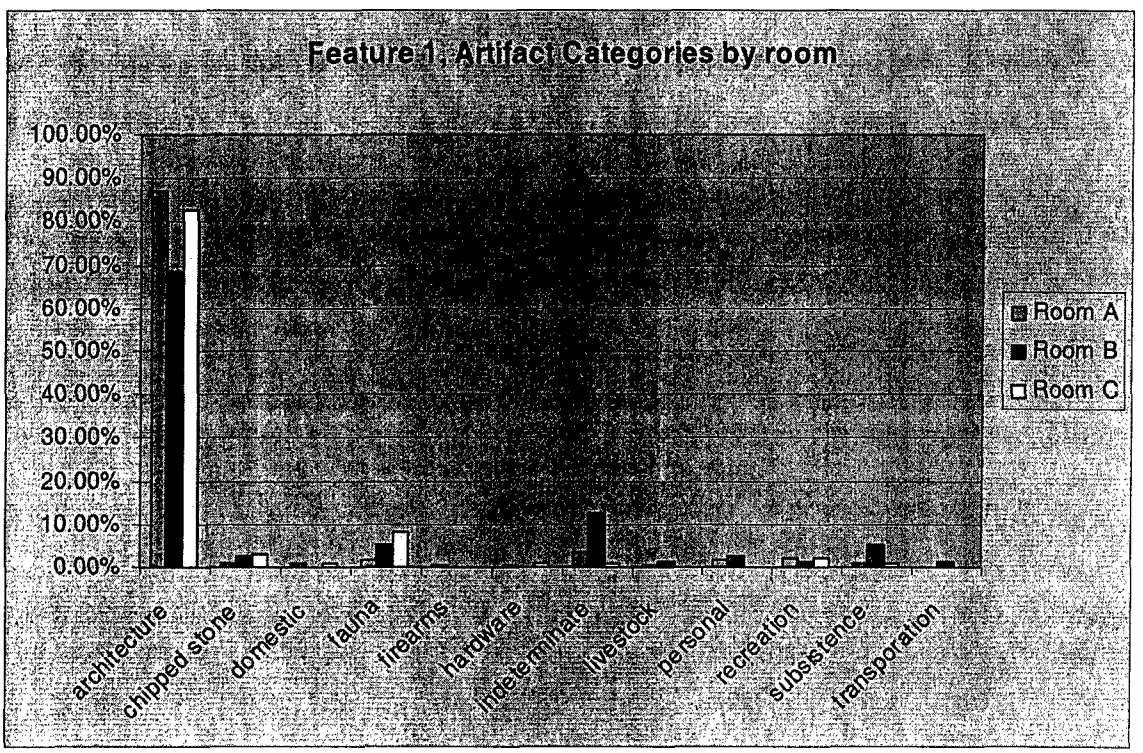


Figure 21: Feature 1 artifact categories by room

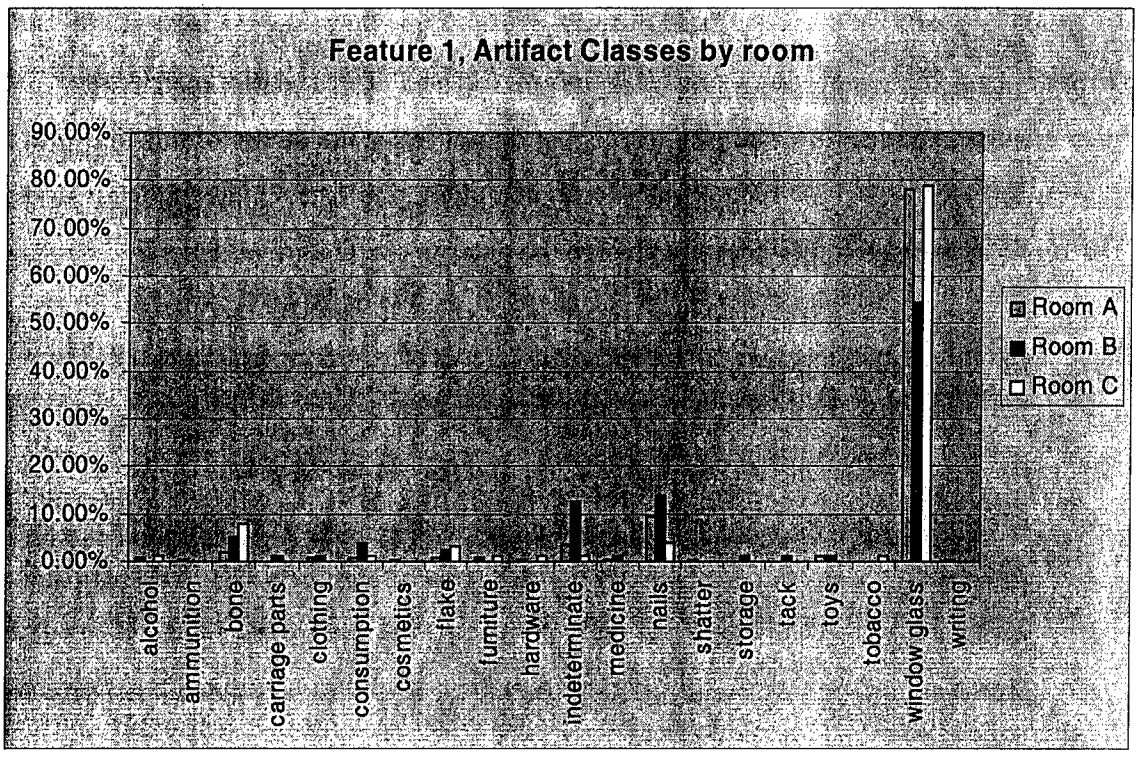


Figure 22: Feature 1 artifact classes by room

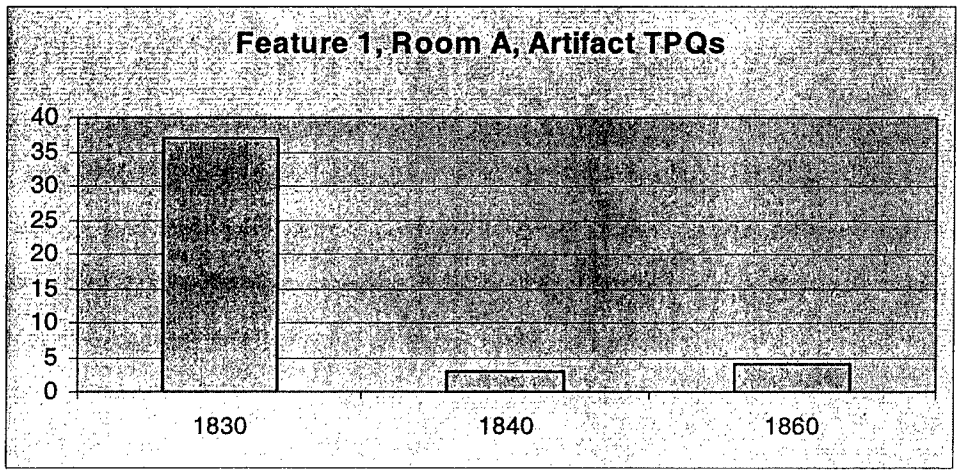


Figure 23: Feature 1, Room A, artifact TPQs

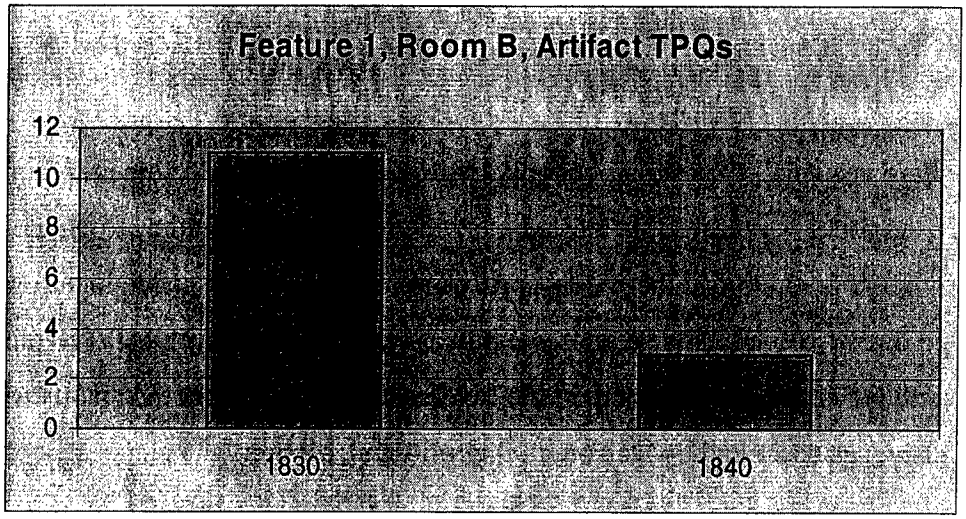


Figure 24: Feature1, Room B, artifact TPQs

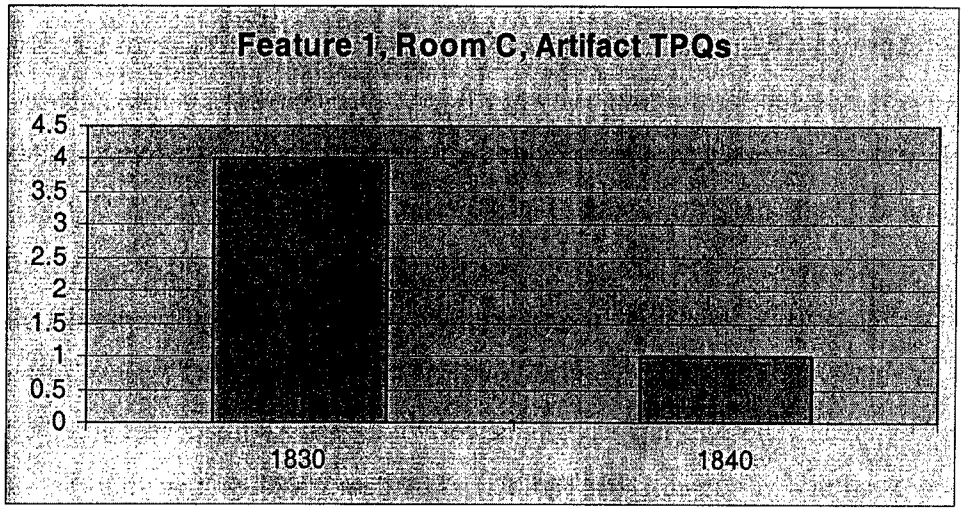


Figure 25: Feature 1, Room C, artifact TPQs

Feature 2

General description

This feature is a small depression, roughly two meters square, with some randomly arranged 10 to 20 cm rocks within it. It is located a few meters west of Feature 1, outside the west doorway. It is possible that there was a privy in this location, but as the feature was not impacted directly by tracked vehicles, we did no excavation. Steven DeVore ran a resistivity grid over this feature, with the help of the field school students, but the results were inconclusive, as described by DeVore in the following section.

Resistivity Survey of a Proposed Privy Area at Bent Canyon Stage Stop (By Steven L. DeVore)

The survey was conducted as part of a training exercise with the University of Colorado-Colorado Springs (CU—The Springs) field school under the direction of Dr. Minette Church. The area was selected for the resistivity profile because Feature 3, a rock pile of local stone, was believed to be a privy associated with the foundation of a house located a few meters to the east on the same landform as the Bent Canyon Stage Stop (5LA3179). The resistivity survey used a Wenner probe array with the probes set at 1-meter intervals (see Bevan 1998:7-18; Clark 1996:27-63; Heimmer and DeVore 1995:29-35 for more details of resistivity surveys). The value displayed on the Gossen Geohm 40D resistivity meter was recorded by hand. These resistance values were placed in a spreadsheet and the resulting apparent resistivity was calculated (Table 2). The data was then placed in the Surfer for Windows mapping program and a shade map (Figure 27) was generated. In addition to the shade map, a contour map was also generated (Figure 28).

Survey results indicate an area of relatively lower resistivity at North 2.5/East 4. This location could possibly represent the location of a privy hole; however, it is also possible that it is caused by geological irregularities in the underlying bedrock. Without excavations in this location, it is not possible to give a definitive identification of the cause of the anomalous low apparent resistivity reading. Several relatively high resistivity readings to the north of this low may indicate the close proximity of bedrock to the surface.

Figure 26: Feature 2 overview

Table 2: Resistivity measurements of Feature 3 resistivity survey

East	North	ohms	ohm-m
0	1.5	14.52	91.23206
0	2.5	16.7	104.9294
0	3.5	17.07	107.2542
0	4.5	15.57	97.82942
0	5.5	19.59	123.0878
1	1.5	14.51	91.16923
1	2.5	15.4	96.76128
1	3.5	18.8	118.1241
1	4.5	17.08	107.3170
1	5.5	17.31	108.7621
2	1.5	16	100.5312
2	2.5	14.06	88.34179
2	3.5	15.03	94.43649
2	4.5	17.61	110.6471
2	5.5	15.86	99.65155
3	1.5	15.1	94.87632
3	2.5	13.7	86.07984
3	3.5	17.76	111.5896
3	4.5	16.39	102.9816
3	5.5	15.63	98.20641
4	1.5	16.2	101.7878
4	2.5	13.14	82.56124
4	3.5	17.75	111.5268
4	4.5	16.2	101.7878
4	5.5	14.51	91.16923

5	1.5	16	100.5312
5	2.5	14.61	91.79755
5	3.5	17.56	110.3329
5	4.5	17.31	108.7621
5	5.5	14.79	92.92852
6	1.5	15.7	98.64624
6	2.5	16.74	105.1807
6	3.5	16.83	105.7462
6	4.5	17.91	112.5321
6	5.5	15.02	94.37366
7	1.5	16.4	103.0444
7	2.5	16.5	103.6728
7	3.5	16.18	101.6621
7	4.5	15.78	99.14889
7	5.5	16.03	100.7196

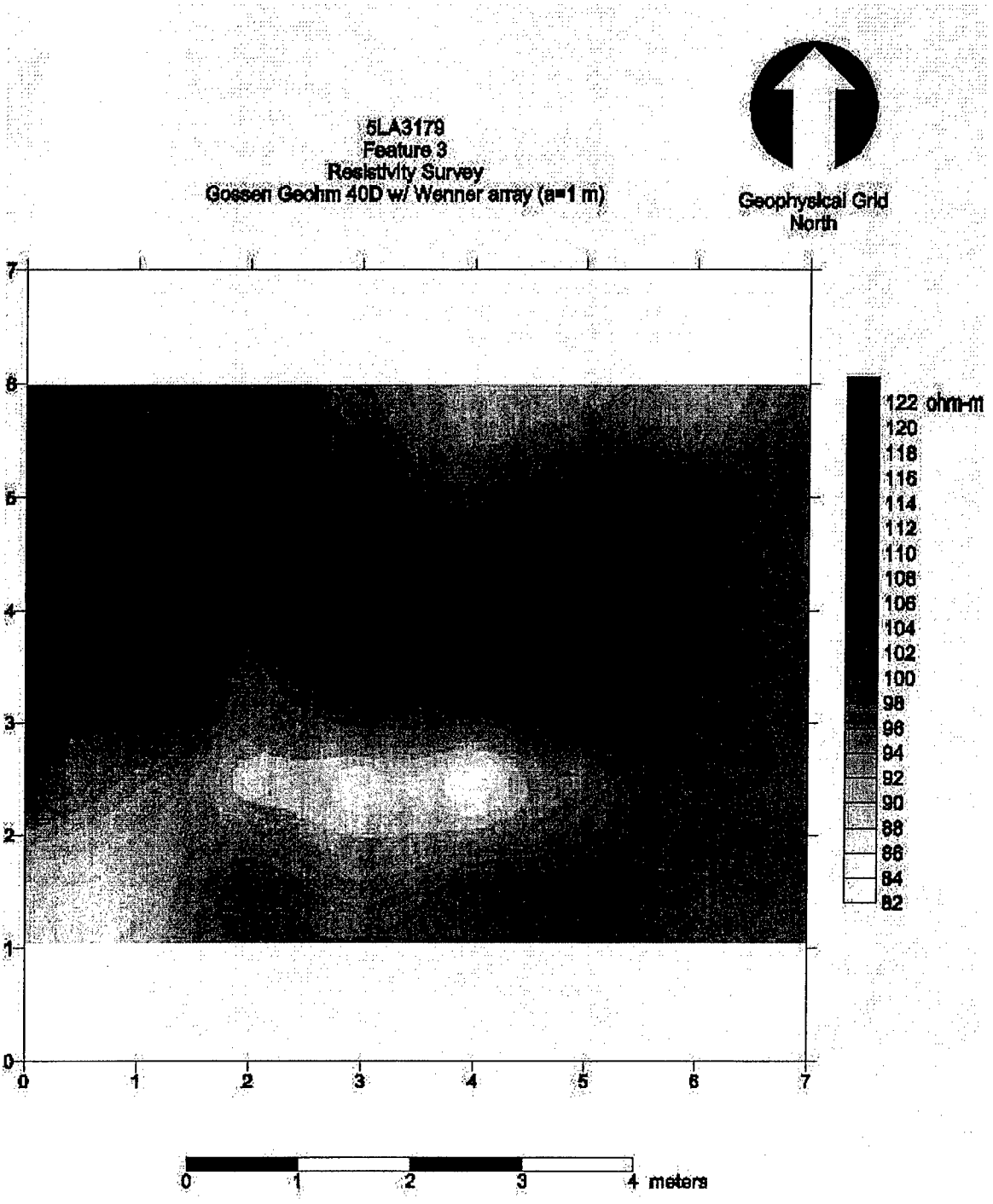


Figure 27: Shade map of resistivity survey of Feature 3 locality

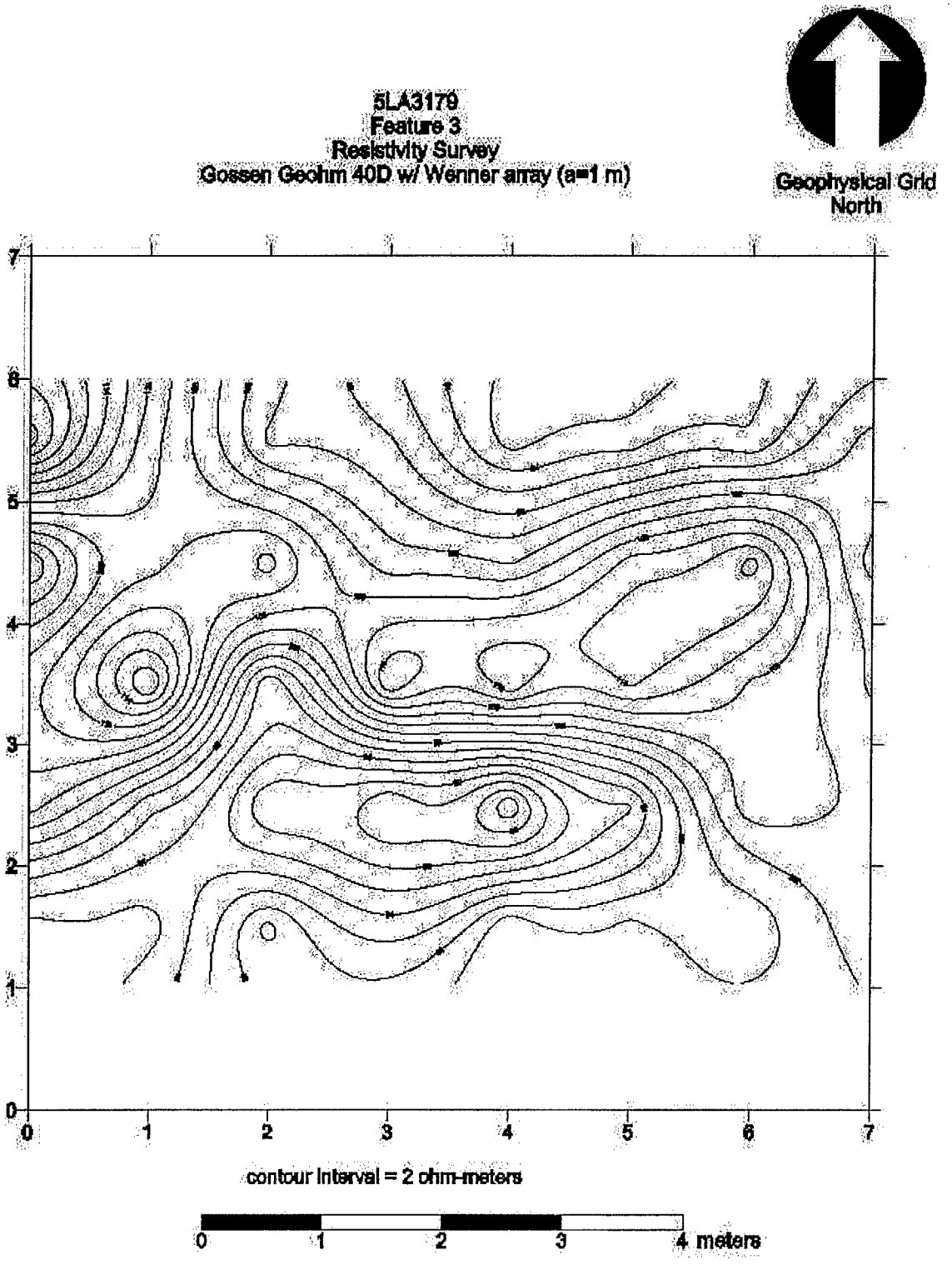


Figure 28: Contour map of resistivity survey of Feature 3 locality

Feature 4

General description

This feature is a stone wall that runs east-west up the hill to the north of Feature 1. There is an opening where what remains of an old two-track path comes down towards the feature from the west.

Figure 29: Feature 4 wall on hillside north of Feature 1

Figure 30: Feature 4 view of east side of opening for two-track passage

Features 5 and 6

General description

These features are structures on the lower bench which were not impacted by tracked vehicles, and were therefore not excavated at this time.

Feature 7 (excavation description by Chris Loendorf and faunal description by Erica Hill)

General description

This feature is a masonry-lined well lying right on the edge of the arroyo, on the lower bench of the site. It was excavated in 1998 by Christopher Loendorf and Roche Lindsey, and the following description comes directly from their notes. The section on faunal remains comes from the pertinent section of a report by Dr. Erica Hill on the fauna from several sites at the PCMS (Hill 1998).

Feature 7 is a well that was constructed by digging a roughly oval pit which was then lined with sandstone blocks. The pit was approximately 2 m by 1.6 m, and at least 2.9 m deep. The well was probably considerably deeper than the base of our excavation, as the point at

which excavation was stopped did not appear to be close to the water table. The bottom of the feature is probably deeper than the base of the adjacent arroyo. The sandstone lining consisted of relatively uniform courses of stones that varied substantially in length (0.2 m to 1 m) and thickness (0.08 m to 0.25 m). The stones, however, were more uniform in width (0.15 m to 0.25 m). The sandstone lining appears to have extended above the modern ground surface, as substantial wall-fall was present in the fill that was removed from the well. It is not possible to accurately estimate the height of this superstructure because the well was not fully excavated. The density of the wall-fall rocks in the well suggests that it was at least 1 m higher that the current ground surface. Wall rocks in the lower portion of the well were set back from upper courses such that the feature became wider and longer with depth.

Excavation strategy

Feature 7 was designated Excavation Unit (EU) 1 and excavated as two loci (Locus A and Locus B). The unit was roughly split in half with Locus A on the west and Locus B on the east. Locus A was excavated in natural and arbitrary levels. Level 1 was a natural level, the excavation of which was terminated at the contact of laminated sediments. Fill from this level was removed by troweling. Fill in EU 2 was removed in arbitrary 10 cm levels to a depth of 1.6.m BSDL, at which point the levels were increased to 15 cm in thickness. All levels in EU 2 were removed by a combination of troweling and shoveling. As a result of the high bone density in EU 3 the two 15 cm levels (2.5 m to 2.8 m BSDL) excavated in this EU were removed by troweling and wooden implements. The thickness of the levels was increased from 10 cm to 15 cm in order to speed excavation and because of the low artifact density, and the artifacts in EU 2 were secondary deposits from slope wash. Only one level was removed from EU 1, Locus B. Fill was removed by skim shoveling and troweling, but was not screened. Artifacts were grab-sampled.

Depositional history

Excavation of Feature 7 was terminated before the base of the feature as a result of safety concerns. Consequently, the initial research issues were not fully addressed, but we collected sufficient data to characterize some aspects of the feature. Sediments at the base of excavation, 2.8 m below surface datum line, consisted of moderately compacted clay

(possibly adobe) and laminated silt and sand. The clay appears to have been culturally deposited in the feature, probably to cover the faunal remains that were thrown in.

This layer of deposition was consigned EU 3 and extended from roughly 2.8 m BSDL to 2.5 m BSDL. The base of EU 3 was not determined, but faunal elements at the base of Level 15 suggest it continued at least 10 cm below 2.8 m BSDL. Fill at the base of the excavation included culturally deposited clay and colluvially deposited laminates. A large number of faunal elements were collected from EU 3. The elements were predominately from small carnivores, and were only partially articulated. No fully articulated individuals were collected. Bone from larger mammals (including possible deer and coyote remains), as well as rodents and possible amphibian bones, were also collected. Diagnostic artifacts that appear to have been deposited at the same time as the fauna were collected from EU 3. Field observations of the artifacts suggest that the trash in EU 3 was deposited some time after the late 1800s, and may have occurred at the end of occupation of 5LA3179, or after it was abandoned. The concentration of partially articulated small carnivores in EU 3 suggests that the material was deposited as a result of trapping, where the skins were predominately sought. Analysis of the fauna (particularly evidence of damage to lower limbs caused by traps) may resolve this issue (see discussion of faunal analysis by Dr. Erica Hill, below).

EU 2 consisted of colluvially deposited laminated silt and sand. Some pockets of clay were present in EU 2. The clay appears to have slumped into the feature and may be adobe. All cultural material in EU 2 was small and appears to have been deposited by slope wash. A variety of small artifacts, including glass shards, ceramics, bone fragments, metal (including square nails), a single shotgun casing, and prehistoric lithics, were collected from EU 2. Level 12 in EU 2 (2.2 m BSDL to 2.35 m BSDL) included a comparatively large number of nails. It is unclear why more nails were deposited in this level, and no evidence for a wooden superstructure was present in the level. EU 2 extended from 2.8 m BSDL to 1m BSDL.

EU 1 consisted of loosely compacted aeolian deposits that occurred from 1 m BSDL to 0.91 m BSDL. This fill appears to have been the result of fairly recent deposition, and few artifacts were collected.

Goals and results

Most of our initial research issues were not resolved because excavation of Feature 7 was stopped before its base. It appears that Feature 7 was probably a well and not a cistern. The side walls were relatively straight, Feature 7 was more than 2.7 m deep, and no evidence for a plaster lining was present. Most of the fill removed from EU 1 consisted of naturally deposited laminated silt and clay. This fill extended from the base of the excavation to near the current ground surface in Feature 7. Trash was thrown into the feature at some point after it was abandoned. This trash deposition event probably occurred after the site was abandoned, but may also have occurred at the end of occupation of the site.

Faunal material

This well provided the bulk of the faunal materials recovered and analyzed (n = 2375) from the 1998 season. The fill in the upper portions of the well is probably the product of colluvial depositional processes. The lower levels, which yielded the bulk of the vertebrate faunal materials, were deposited as a result of cultural activities.

Several taxa were identified from 5LA3179 that were not present at any of the other five sites that yielded faunal materials. These taxa included toads (*Bufo* spp.), true frogs (*Rana* spp.), at least two heteromyid rodents – pocket mice (*Perognathus* spp.) and kangaroo rats (*Dipodomys* spp.) – and white-footed mice (*Peromyscus* spp.). The only carnivores identified from the 1998 faunal assemblages were those from 5LA3179. These remains were probably intentionally deposited and represent the residuum of trapping and skinning activities. A total of 36 gray fox (*Urocyon cinereoargenteus*) specimens were identified, as well 154 specimens of the genus *Canis* (wolves, coyotes, and dogs). Finally, 156 specimens of the striped skunk (*Mephitis mephitis*) were identified from the lower levels of the well context. Four crania of this species of skunk were recovered from Level 15 of the well context. All four crania displayed cut marks made by a late historic metal implement. Cut marks were also present on the maxilla and right and left mandibles of a gray fox, *U. cinereoargenteus*, recovered from Level 14.

The presence of cut marks on the skulls and mandibles of striped skunks and gray foxes indicates that a hunter or trapper was attempting to separate the pelts from the underlying

tissues. Cut marks on these elements are consistent with Binford's observations (Binford 1981, pp. 106-107) that "there are actually very few places on the anatomy where the manipulation of the skin brings the butcher in direct contact with bone. The two places...are the lower legs and the head." Skinning marks are qualitatively different from those that would be expected from the osteological remains of animals harvested for subsistence purposes, because dismemberment is not the primary objective (Binford 1981). While animals butchered for consumption display cut and chop marks consistent with the separation of joints and the removal of meat from bone, skinning marks may be found on skeletal elements that have little or no meat content, such as the skull.

As furbearers, both the striped skunk and the gray fox have been hunted or trapped in Colorado since the seventeenth century. In the nineteenth century, eastern Colorado contained a number of trading posts, such as Bent's Old Fort, which is located on the Arkansas River north of the PCMS study area. The fort was constructed to facilitate the acquisition of animal products and precious metals for shipment to the eastern U.S. In addition to silver and gold, buffalo hides, beaver pelts, and the furs of several other mammals were exchanged for horses, mules, firearms and ammunition. Bent's Old Fort yielded the remains of a swift fox (*Vulpes velox*). The analyst speculated that the fox had been skinned and the pelt traded (Comer 1985, p. 62). Although site 5LA3179 post-dates Bent's Old Fort by a half-century, the remains of both fox and skunk indicate that certain taxa were being exploited analogously.

In addition to the herpetofauna, rodent, and carnivore remains, 5LA3179 yielded 24 *Odocoileus* (deer) and 17 leporid specimens. The deer remains, which were confined to Levels 14 and 15, probably represent a single, juvenile individual. The elements present comprise the hind portions of the appendicular skeleton, including a left innominate, right and left astragali, right and left calcanei, and several portions of both the right and left tibiae and femora. Un-fused epiphyses indicate that the individual was a sub-adult. The shaft of the right femur exhibited at least forty cut marks, as well as a mid-shaft spiral fracture. A chop mark was observed on the distal epiphysis of the right femur; portions of the left femur and epiphyses also exhibited chop or hack marks. The presence of chop marks at the

epiphyses indicates an attempt to separate the femur from the tibia at the joint. Binford (1981: pp. 116-117) has observed that the lateral and medial condyles of the epiphyses frequently display evidence of dismemberment. Such patterning was observed on the distal epiphyses of both right and left femora of the *Odocoileus* remains recovered from 5LA3179.

In sum, 5LA3179 displays evidence for both the consumption and non-food processing of mammals. The remains of a juvenile *Odocoileus* with evidence for dismemberment indicate that this taxon was utilized for subsistence purposes. The carnivore remains from the same provenience indicate that the gray fox and the striped skunk were harvested for their skins. The remains of another carnivore taxon – *Canis* (wolves, coyotes, and dogs) – cannot be conveniently assigned to either subsistence or the fur trade on the basis of the osteological evidence. The *Canis* remains did not display cut marks. Neither skinning nor butchery marks were observed. Walker (Walker 1983) observed both cut and chop marks on *Canis* remains from a fur trading post in Moffat County, northwestern Colorado. On the basis of these marks, in addition to ethnohistoric evidence, Walker argued that the domestic dog was exploited as a food resource at the trading post during the first half of the 1800s.

Although it is possible that the *Canis* specimens at 5LA3179 represent subsistence remains, cut or chop marks would be expected at the joints. No such marks were observed. Nor were skinning marks similar to those observed on the skunk and gray fox specimens present on the *Canis* cranial remains. There were at least two *Canis* individuals present. Two sets of right and left mandibles as well as two maxillae were recovered from Level 15 of the well context at 5LA3179. This context yielded the only examples of pathological skeletal remains observed during the analysis of the 1998 faunal materials. Level 14 yielded a *Canis* spp. right radius and ulna that were fused at the shaft. Extensive bony callus formation was evident on the diaphyses of both the radius and ulna. Perimortem osteoblastic and osteoclastic activity was apparent. Additionally, the radius was laterally displaced, indicating possible mal-union at the site of the fracture. The formation of a callus and the remodeling of the bone observed on this specimen is also typical of simple fracture. In addition to the fracture evidence, this same set of fused bones displayed evidence for infection. It is unclear

whether the infection was secondary to the fracture. The infection was not active at the time of death.

According to Baker and Brothwell (Baker and Brothwell 1980, p. 93), the radius is the bone that fractures most frequently among carnivores. The example reported here appears to support this generalization. A *Canis* metapodial from Level 15 also displayed pathology, as did several phalanges from Level 14 that were assigned to the medium mammal size class. The metapodial and the phalanges displayed abnormal bony growths. Such growths may represent the involvement of these elements in the fracture trauma evident on the radius and ulna if these specimens do indeed come from the same individual.

Feature 9 and Feature 12 (by Amie Gray and Minette Church)

General description and damage

Feature 9 was located in the south portion of the site, on the lower bench, just east of the cap rock outcrop. It lies south of the series of structures most likely associated with the stage period of the site, and north of some livestock enclosures and the spring. The units uncovered some of the lower courses of stone that were still in place. The feature was initially difficult to define based on the surface stone alignments because this feature was by far the most adversely affected by the tracked vehicle damage to the site. One or quite possibly two tracked vehicles ran directly through the middle of this feature, traveling down off the cap rock from the west directly on top of the feature and then turning as they came through, badly disturbing the stone walls and distorting foundations.

This feature may have been a corral or pen of some sort for animals, circumscribed by a fence line, and combined with some kind of meat-processing area, possibly in a cold cellar within the masonry structure. The surface was littered with many stones that had fallen from standing walls. A series of posts line up with and join the north wall. This fence line would have enclosed the feature and perhaps the fresh water spring just south of the feature. A butchering/meat storage or processing building would have needed such close access to water.

Figure 31: Feature 9 view north from within Feature 12 fence enclosure

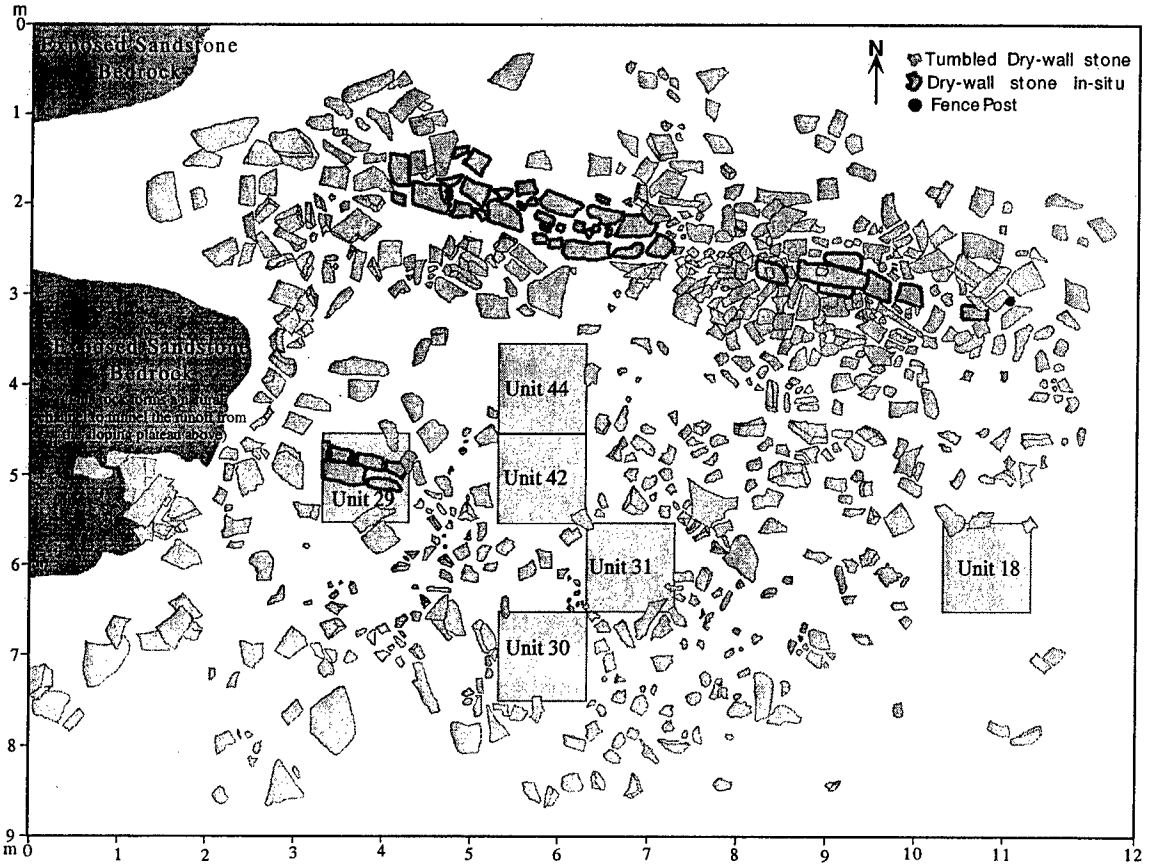


Figure 32: Feature 9 plan drawing (by J. Fladung, digitized by K. West)

EUs 29, 42, and 44 were located in Feature 9, amid the fallen rock debris, while EUs 30 and 31 lay just outside it, but still inside the associated fence line. Unit 29 was closest to the sandstone formation, and it was placed accordingly in an effort to reveal the south wall, which was less visible on the surface.

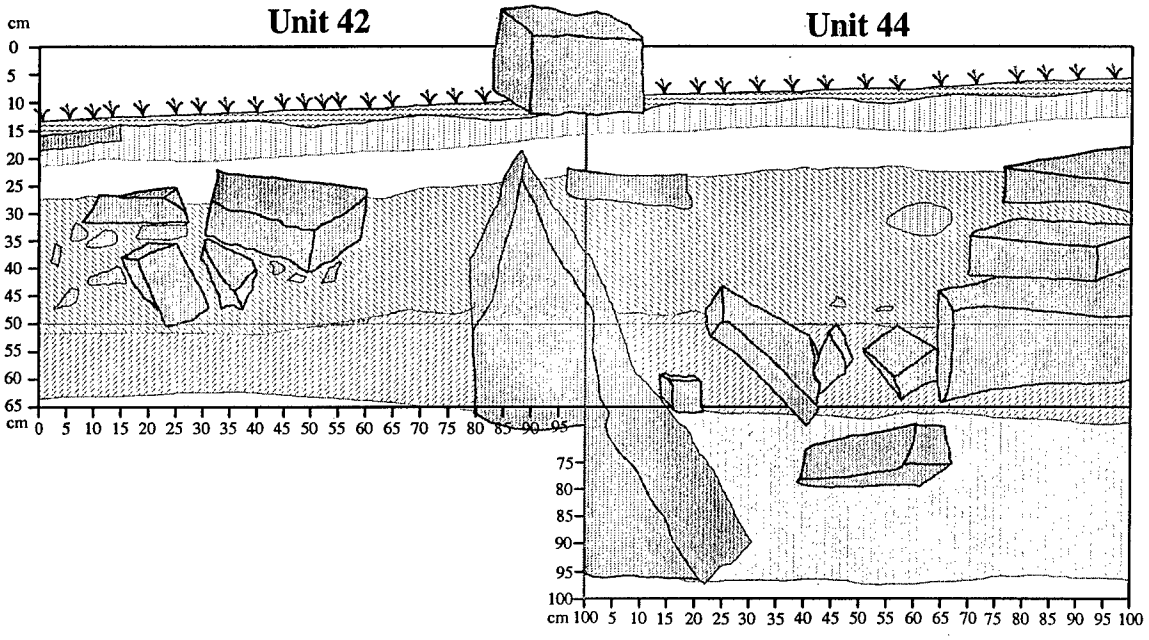
Excavation description

Unit 29 revealed a two-course wall that ran from west to east. The wall was deformed into a curve by the pressure of passing tracked vehicles. It had been chinked with mud. Butchered bone was found in the wall, between the courses. There was charcoal throughout this unit, as well.

Figure 33: Feature 9, Excavation Units 42 and 44, and Unit 29, showing tracked vehicle distorted walls on surface (left) and in Unit 29

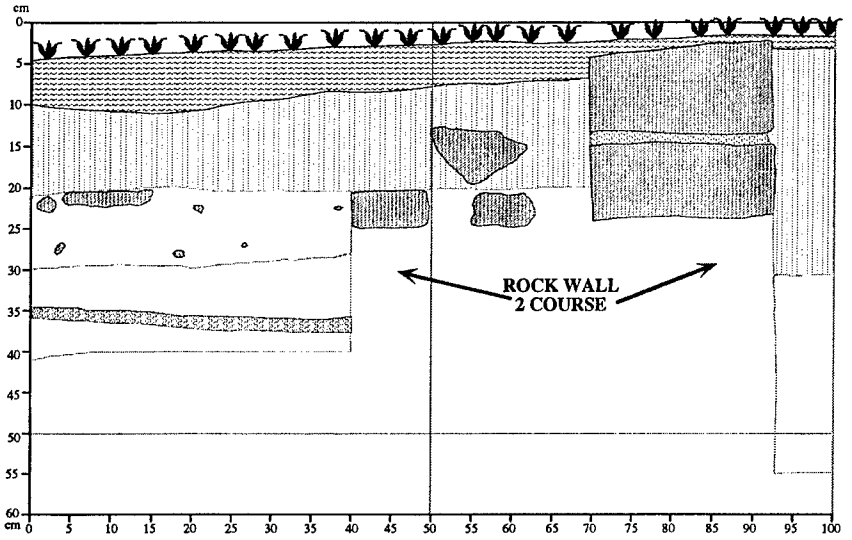
Figure 34: Feature 9, Unit 29, showing segment of wall distorted by tracked vehicle pressure

EUs 42 and 44 had large cut stones, some smaller stones, as well as charcoal dispersed throughout, suggesting that there might have been a cellar or deeply excavated feature here. Unit 44 was placed in the tracked vehicle tracks. The two units were not excavated to the base of this feature due to lack of time; another two adjacent excavation units would have had to be opened to get past large cut blocks in the bottom lots of both units. These excavation units were considerably deeper than Unit 29, with Unit 44 ending some 90 cm below present ground surface. There were still artifacts and rock-fall at this level.



Key	Description	Munsell #	Key	Description	Munsell #
	Root Layer; Silty Clay Loam	10YR3/2		Silty Clay	10YR4/2
	Silty Clay	10YR3/3		Sandy Clay	10YR5/3
	Silty Clay	10YR2/2		Rock	
	Silty Clay	10YR4/3		Root Fibers	

Figure 35: Feature 9, Excavation Units 42 and 44, west wall profile

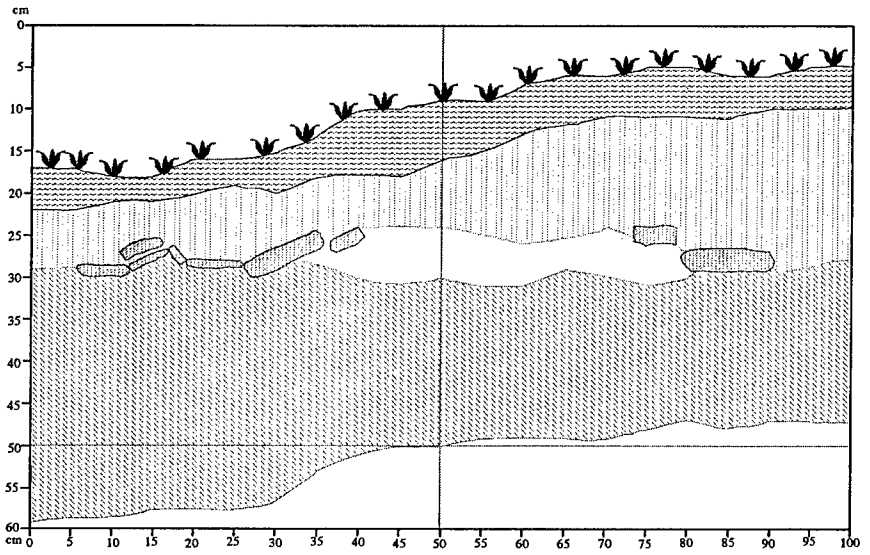


Key	Description	Munsell #	Key	Description
	Root Layer; Silty Clay	10YR4/2		Conglomerate
	Silty Clay	10YR5/2		Rock
	Silty Clay	10YR4/3		Mud Mortar

Figure 36: Feature 9, Unit 29, west wall profile

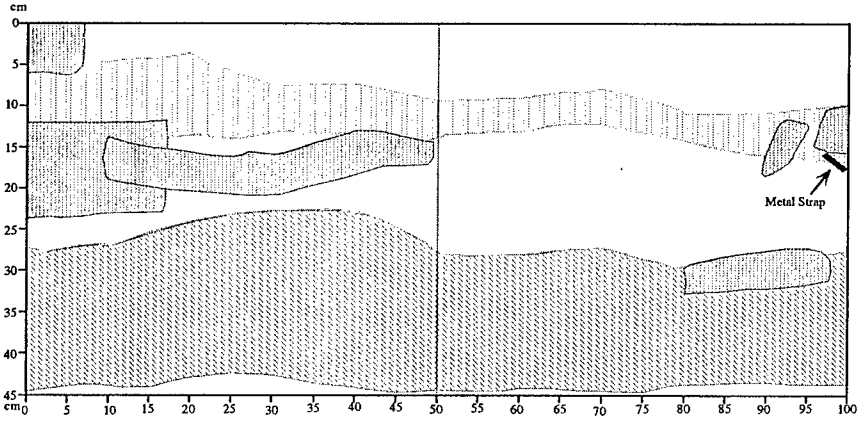
Unit 30 was the furthest unit to the south and was outside of the structure proper (Feature 9), but within the enclosing fence line (Feature 12). A number of stones that present on the surface were debris from wall-fall. This unit's final depth was 41 cm, and charcoal was found throughout this unit. The soil was a consistently silty clay loam, 10yr4/3 (wet).

Unit 31 was also outside Feature 9, but within Feature 12. The unit had a final depth of 41 cm and charcoal was present throughout. The soil was mostly silty clay loam, 10yr5/3 (wet).



Key	Description	Munsell #	Key	Description	Munsell #
	Root Layer; Silty Clay	10YR4/2		Loose Silty Clay Loam	10YR4/3
	Silty Clay Loam	10YR4/3		Rock	
	Compacted Clay Loam	10YR4/3			

Figure 37: Feature 12, Unit 30, west wall profile



Key	Description	Munsell #	Key	Description	Munsell #
	Silty Clay Loam - Rocky	10YR4/3		Loose Silty Clay Loam	10YR4/3
	Compacted Clay Loam w/Gravel	10YR4/3		Rock	

Figure 38: Feature 12, Unit 31, north wall profile

Artifacts

The masonry structure remains hard to interpret, given the fact that we were unable to excavate to its actual vertical extent. Fallen wall stones in Unit 44 lay 57 cm below the base

of the wall in Unit 29, and we did not reach the base of the cultural level or floor of the feature. However, the depth of the feature below the base of the walls indicates some kind of cellar, perhaps a cold cellar, and the abundance of faunal remains indicates some kind of meat processing or storage facility. The faunal remains represented mostly large and medium-sized mammals, and a significant number of them (12 of 178) had clear evidence of butchering, including saw and/or cut marks. One bone came from a deer, probably mule deer, and a few cottontail elements were recovered mostly through the water screen process(see Chapter 8 for more discussion of faunal material).

There are distinct differences in the assemblage from EUs 29, 40, and 44, within the walls of Feature 9, and EUs 30 and 31, which were outside the feature walls, but within the fence line surrounding the feature, which is Feature 12. Proportionately, there was significantly more faunal material within the walls, and the one domestic item (class = furniture) is a piece of lantern glass. Interestingly, most of the architectural debris, including nails and window glass, are outside the structure walls, but still within the fence line. There is still bone represented, but not as much. This could be explained by windows in the structure breaking and falling to the outside, however that would not explain the nails there. Another explanation is that some of these artifacts have washed down to this area from the bench above, the same route the tracked vehicles took. This did indeed happen to some extent, as a few artifacts were found washed into interstices in the masonry construction. However artifact patterning is consistent throughout the vertical extent in each Unit, and particularly given the depth of Unit 44, it is unlikely that washout can explain patterning so deep below the surface. Artifacts washing down from above would generally lie on or closer to the surface. A final explanation is that someone at some point may have cleaned out the feature, sweeping debris outside. However if this were the case, one would expect that relative artifact frequencies would not be so dramatically different.

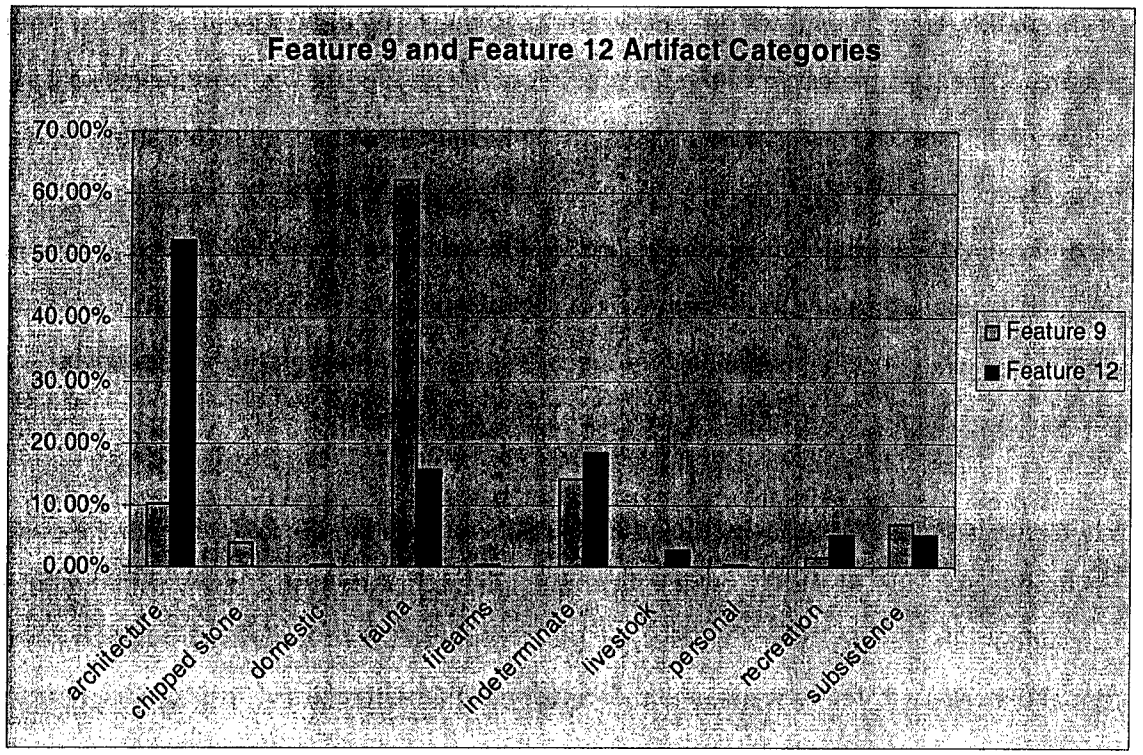


Figure 39: Features 9 and 12 artifact categories

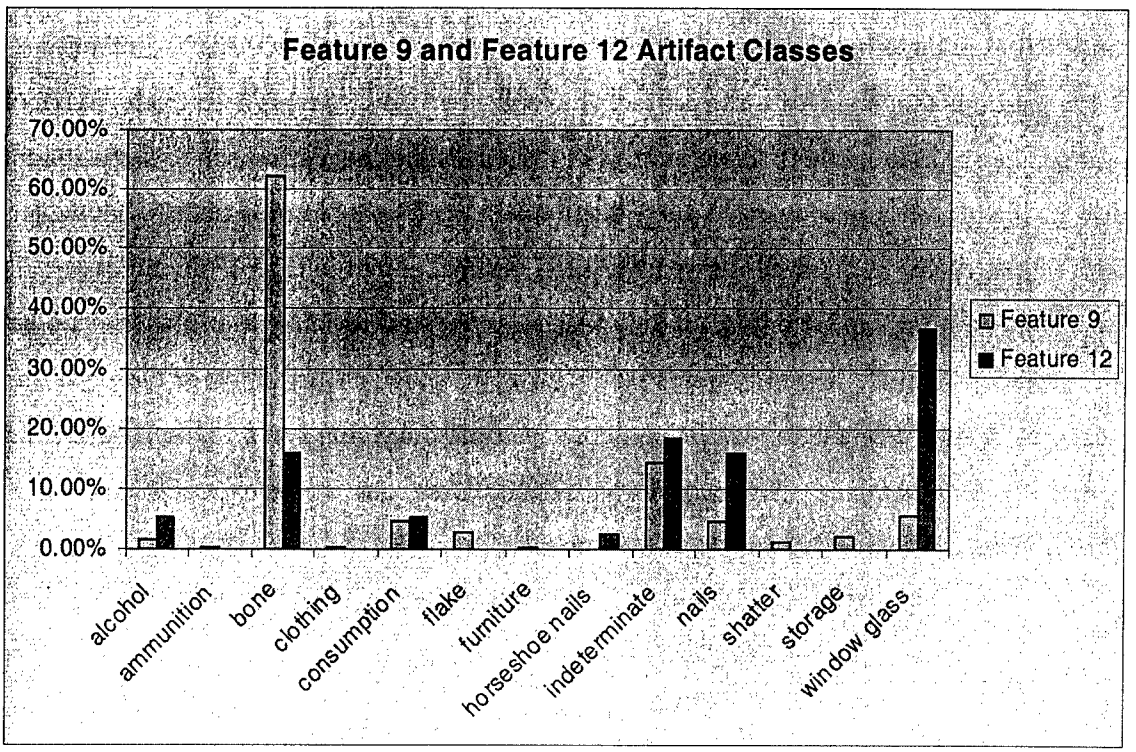


Figure 40: Features 9 and 12 artifact classes

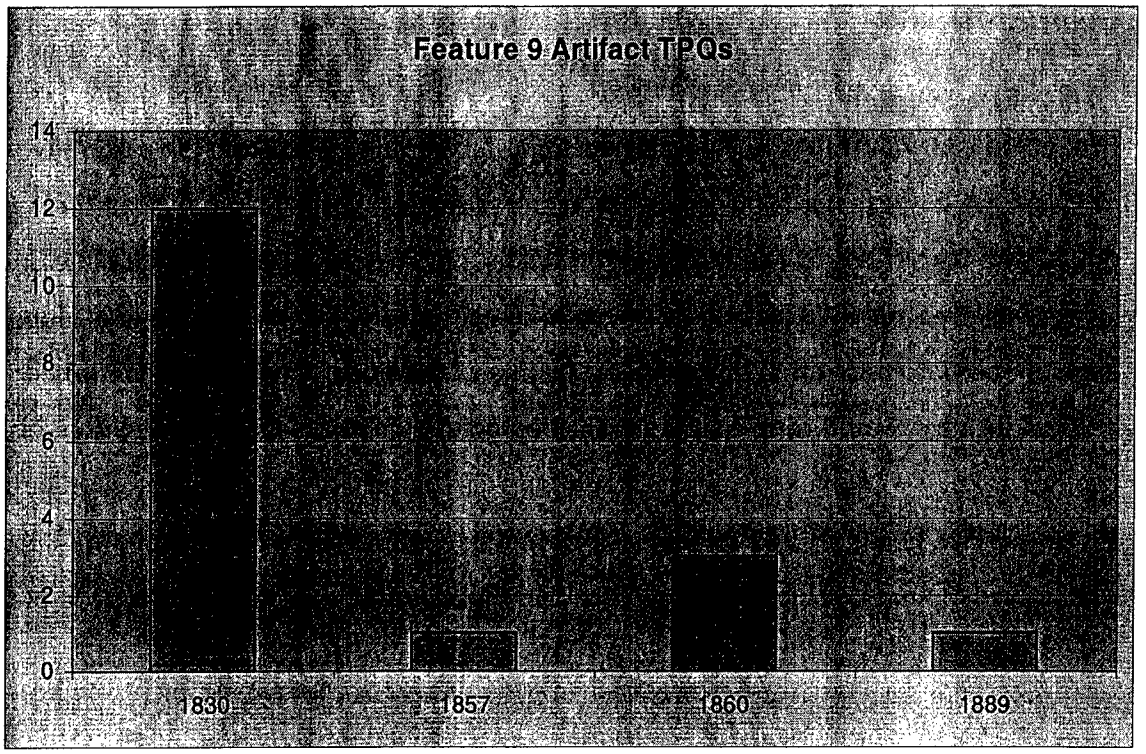


Figure 41: Feature 9 artifact TPQs

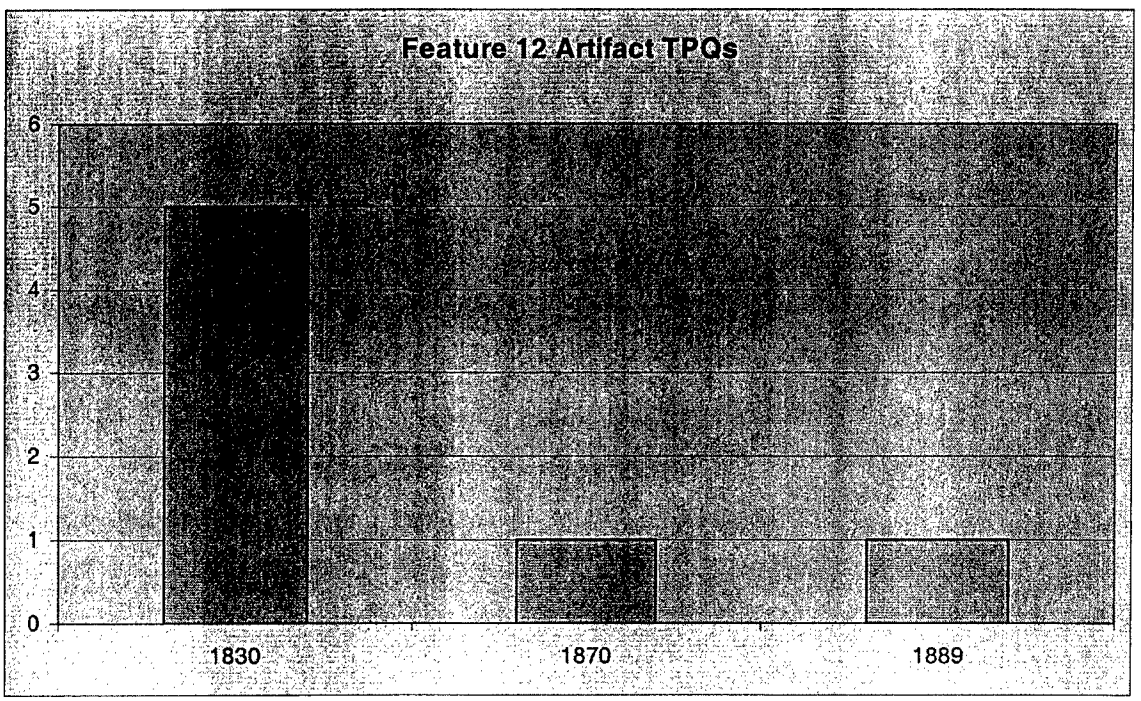


Figure 42: Feature 12 artifact TPQs

Feature 10

General Description

Feature 10 is a walkway made of flat sandstone slabs heading east from the eastern doorway of Room 1A down towards the lower bench and the arroyo. This feature was initially most obvious on the surface as two large quarried slabs, slightly displaced away from the doorway, approximately 8 cm thick and 40 by 60 cm in dimension. There are chisel marks along the edge of one slab from initial quarrying or shaping of the stone. These two slabs when in their original location would form a substantial stoop before the wider-than-average door of Feature 1. They were moved, presumably after abandonment of the structure, in order to dig a large pit (see Feature 13 description). Continuing down-slope to the east, the walkway is constructed of smaller slabs which had been partially buried. Some of these were exposed by EU 21.

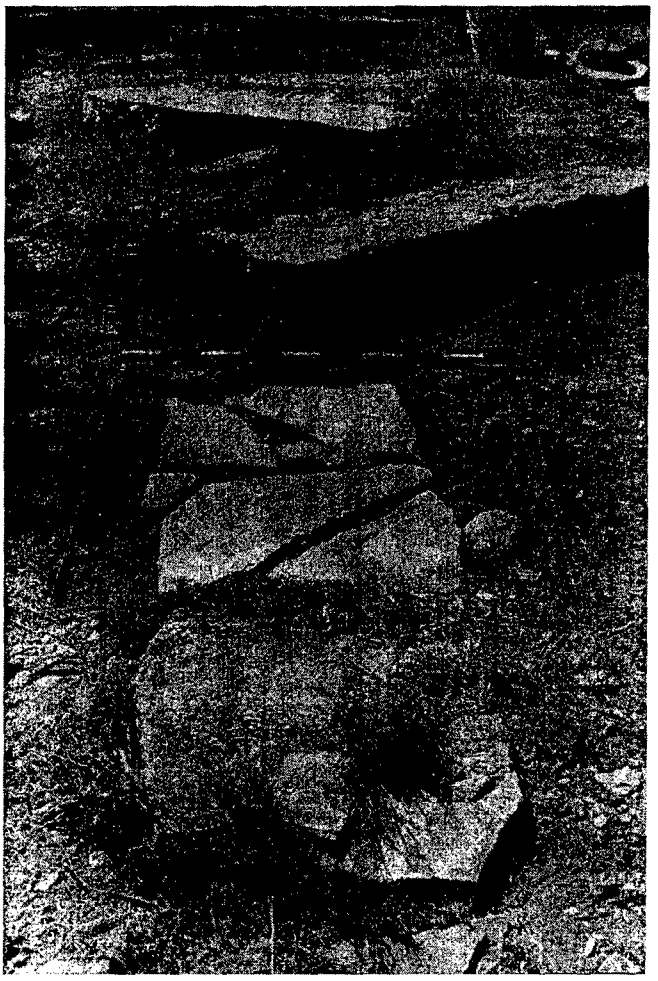


Figure 43: Feature 10, Unit 21, walkway east of eastern door, Feature 1, towards lower bench

Figure 44: Feature 10, large stoop stone, displaced post-occupation, showing chisel marks from shaping

Figure 45: Feature 10, Unit 21, showing slightly buried walkway between Feature 1 and lower bench

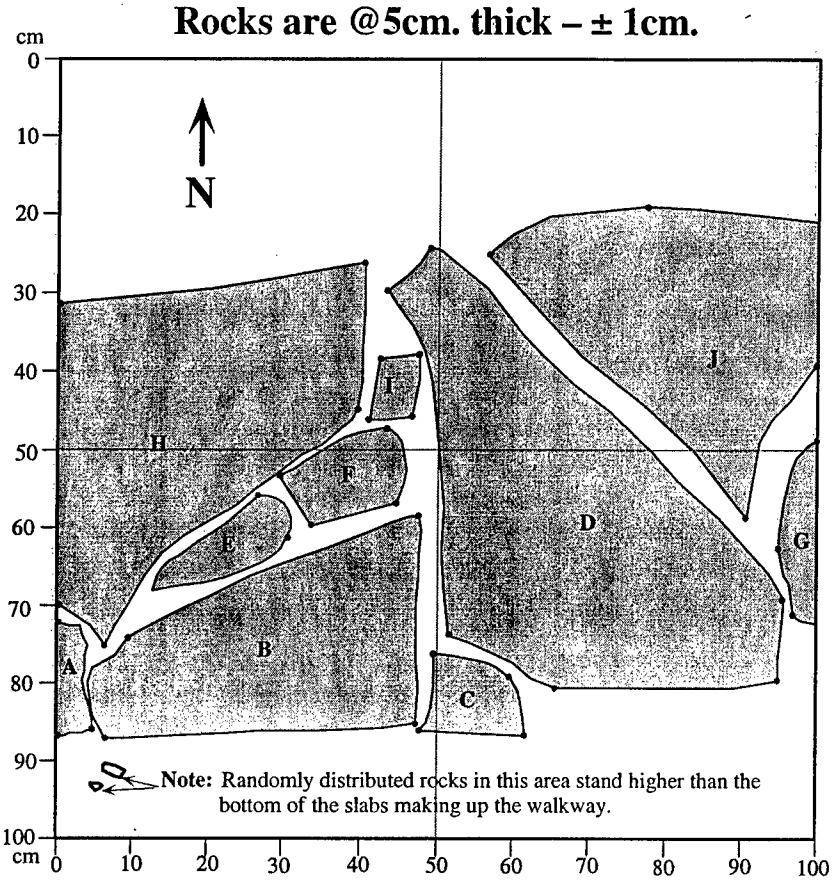


Figure 46: Feature 10, Unit 21 plan drawing

Excavation Description

On the surface of EU 21, Feature 10 was indicated by large, relatively flat sandstone slabs that appeared to be intentionally placed. After removing approximately 10 cm of root mass and soil partially covering the stones, the excavator noted that gaps between the larger stones of the Feature were filled in with smaller chinking stones.

When the excavation was completed, the formal walkway from the east doorway of the Feature 1 structure was revealed, further indicating, along with the large size of the doorway, the east as the main direction of entry to the building, despite the fact that a road to the structure came down from the west, up the hill. The walkway was approximately 60 cm wide and appears to have been constructed atop existing bedrock, not loose soils. The shallow soils of Feature 10 were a Munsell 7.5 YR 6/3-(dry), and were generally sandy loam, possibly indicating soils washed in from run-off of the slope to the west of Feature 1.

Artifacts

Artifacts along this walkway are most likely to be items that were swept out the east door of Feature 1, or dropped in the yard area. All temporally diagnostic artifacts had a TPQ date of 1830.

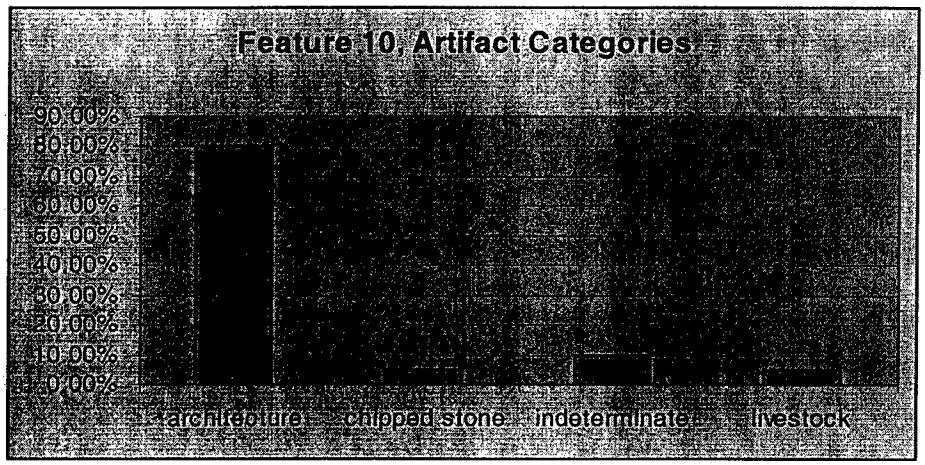


Figure 47: Feature 10 artifact categories

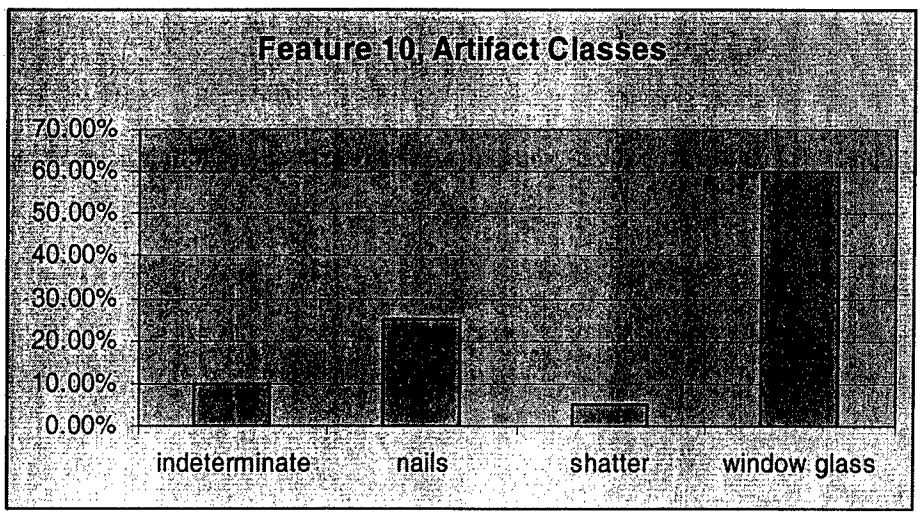


Figure 48: Feature 10 artifact classes

Feature 11

General Description

Feature 11 was uncovered in the southwest quarter of Lot 2 in EU 28. The feature was a hearth, first indicated by a definite soil color change at about 23 cm below the modern

ground surface. It came out of the south wall and extended circa 40 cm into the unit, and was circa 40 cm wide at its widest point. The hearth was somewhat oval in shape. In profile, it consisted of approximately 20 cm of charcoal-laden soil covering approximately 4 cm of reddened (burned) soils. Some fire-cracked-rock was noted in the flotation of the fill.

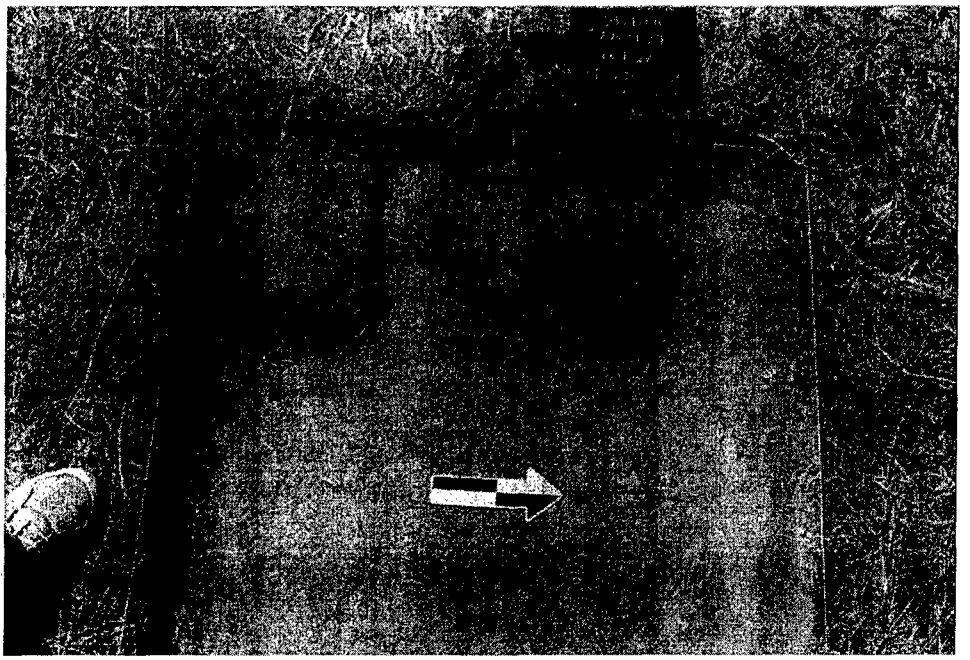


Figure 49: Feature 11, Unit 28, showing oxidized earth and fill of historic period hearth

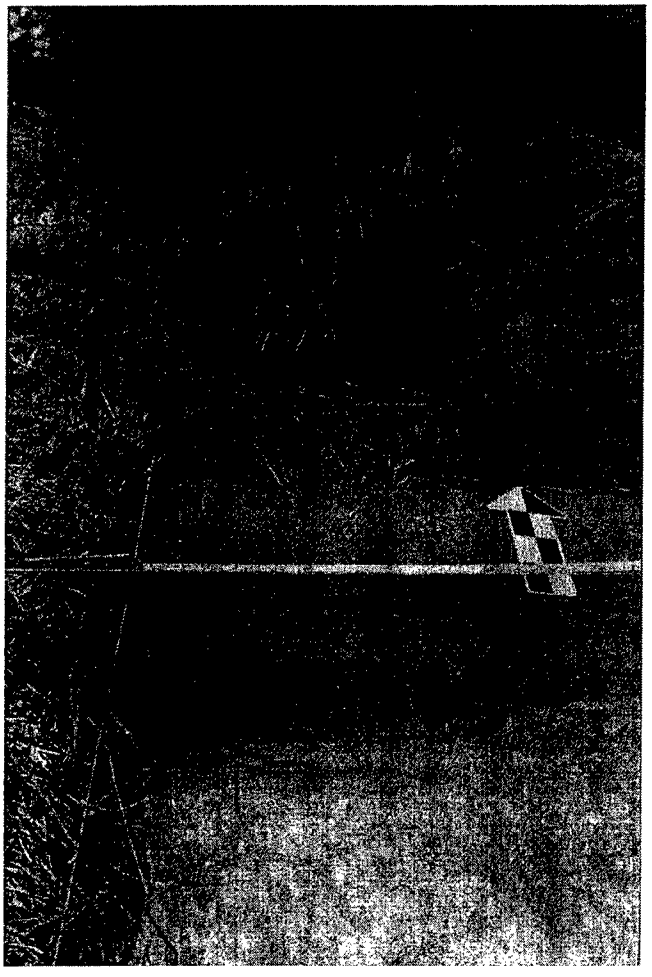
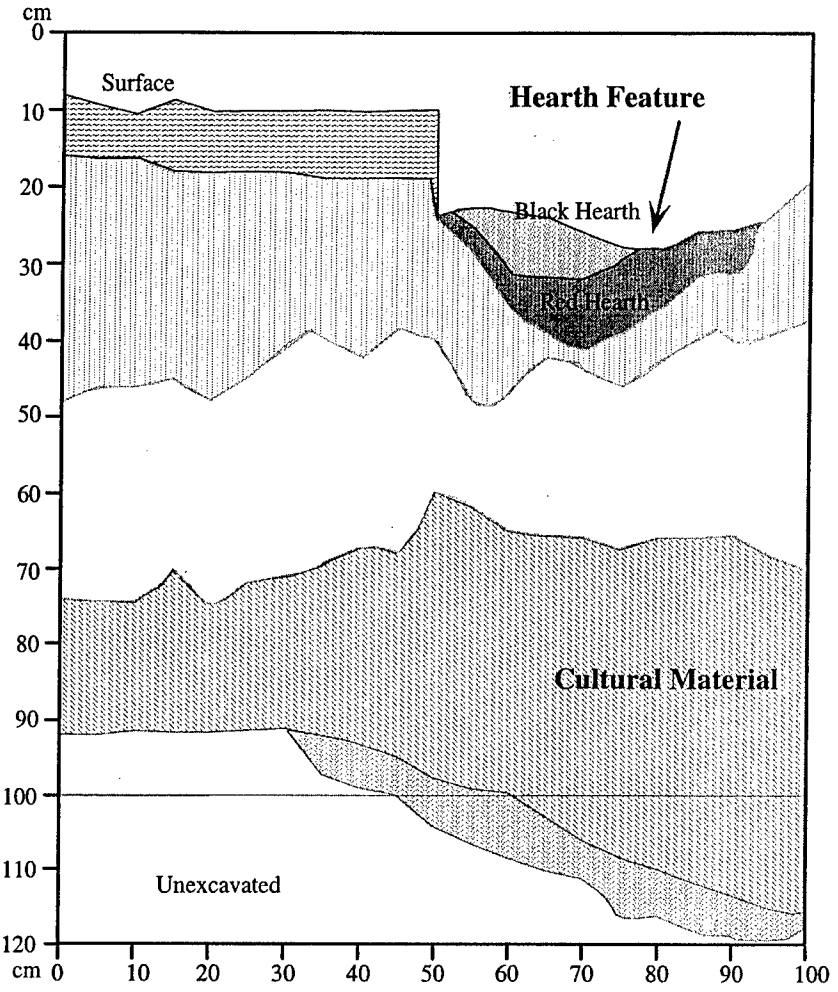


Figure 50: Feature 11, Unit 28, showing hearth sectioned to expose profile of fill

Excavation Description

In excavation, the feature fill was designated Lot 3. It was bisected, mapped, and profiled. All fill from the feature was removed for flotation in the lab, but nothing of note resulted from this processing. Some of the hearth remains unexcavated in the sidewall of the excavation unit. There was no discrete charcoal other than charcoal-stained soil, and since the hearth came from known historic period levels, none was collected.



Key	Description	Munsell #	Key	Description	Munsell #
	Root Layer; Clay Loam	10YR3/2		Clay Loam, Calcium Carbonate Bearing	10YR3/2
	Clay Loam with Gravel	10YR3/2	Unexcavated	Loam With Fire-Cracked Rock & Calcium Carbonate Toward Bottom.	10YR4/32
	Silty Clay Loam	10YR3/3		Black Hearth	
	Silty Clay Loam	10YR3/1		Red Hearth	

Figure 51: Features 11 and 15, Unit 28, west wall profile

Artifacts

Above and below the feature and to a depth of circa 25 cm below the surface, Unit 28 contained historic artifacts. Lots 5 through 11 contained lithic artifacts and fire-cracked rock, with Lots 8 through 11 recorded as Feature 15. Lot 8 began Feature 15 with a distinct soil

change from clay loam to ashy, silty clay loam (see Feature 15). The artifacts specific to the hearth were faunal, suggesting a cooking hearth, and one piece of un-diagnostic vessel glass. The bone from the hearth was in every case burned, and was mostly unidentifiable. One is from a medium-to-large mammal, and has evidence of butchering, having been cut or sawed (see Chapter 8 for more information on faunal finds).

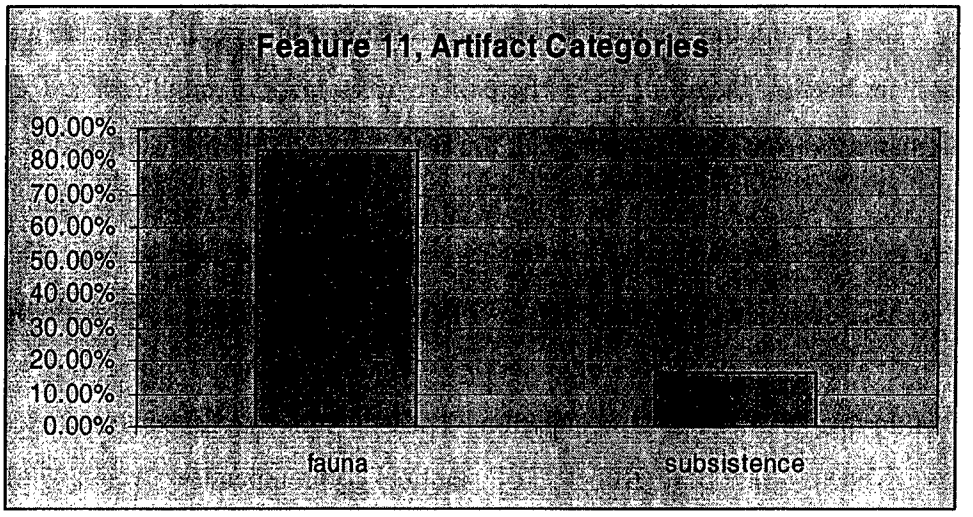


Figure 52: Feature 11 artifact categories

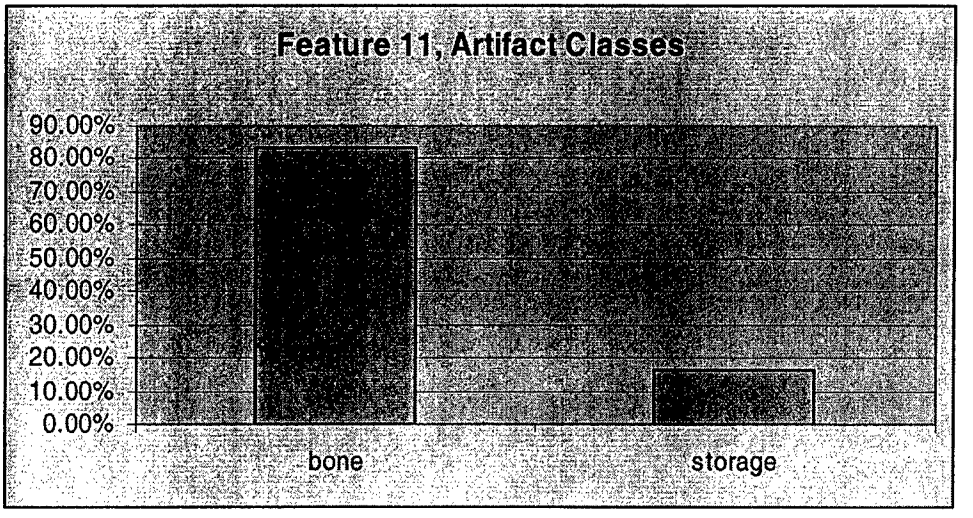


Figure 53: Feature 11 artifact classes

Feature 13

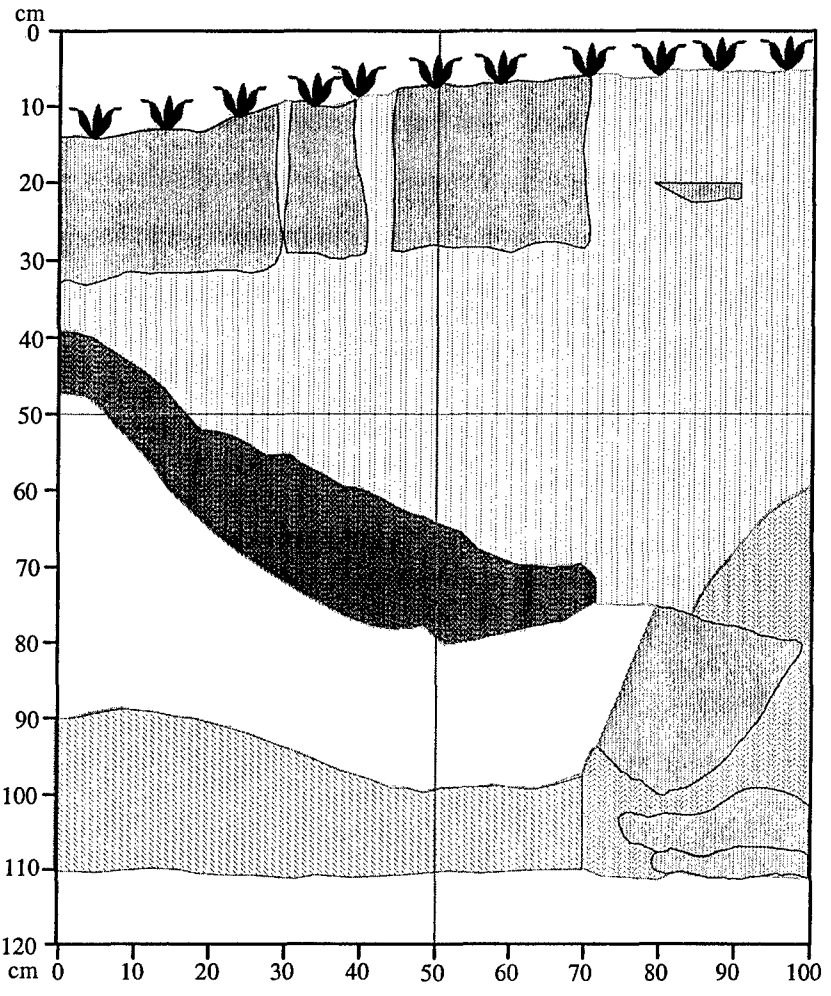
General Description

Feature 13 was located in EU 26. The feature was defined as a post-occupational pit located on the southeast corner of Feature 1, Room C. Unit 26 was placed over the southeast corner of the southernmost room in Feature 1, because that corner of the foundation seemed to be missing. The fact that the foundation had been disturbed in order to excavate a pit after site abandonment became clear in Lot 7, where there was a layer of small rocks. Cut sandstone rocks, apparently from the structure wall, but well below the extant wall, and at odd orientations, occurred at this level. A burned tree root extended under the foundation, and one early hypothesis for that was that when the tree burned and fell, its roots dislodged the stones in the foundation. However, the later exposure of the depth of the pit below this charred root suggests that the feature is in fact one of at least three, if not four, looter pits excavated in this structure, post-occupation. These pits may be associated with rumors of gold having been buried here (Robert Hill, personal communication, August 2000, see also chapter 5). If Feature 1 does represent a general store as well as a Post Office, which fits the evidence, it would not be hard to see how such a rumor might start.

Figure 54: Feature 13, Unit 26 - post-occupation pit displacing southeast foundation corner of Feature 1, Room C

Excavation Description

The soils of Feature 13 were consistently loamy sand of Munsell 10 YR 4/3-(dry). Each lot of the Feature had gravel and rocks, and the rocks became larger as excavation went deeper. The pit had a charcoal layer dipping towards the structure foundation, overlaying a layer of soil threaded with dense calcium carbonate, in turn overlying sandstone bedrock. The charcoal layer may indicate the bottom of the feature, while the layer of calcium carbonate-bearing soil over bedrock may be undisturbed.



Key	Description	Munsell #	Key	Description	Munsell #
	Clay Loam	10YR5/2		Loamy Sand With Sandstone	10YR4/2
	Charcoal Stained Soil			Loamy Sand With Calcium Carbonate	10YR5/4
	Sandy Loam	10YR4/3		Rock	

Figure 55: Feature 13, Unit 26, west wall profile

Artifacts

Artifacts from this pit were not dissimilar to those of Feature 1. It was heavy in architectural debris such as window glass, and artifacts also included unidentified vessel glass, nails, a piece of tack (a leather strap with a buckle), and a small (perhaps toy) hammer head. The one chipped stone flake may have been from a prehistoric component disturbed in the course of the excavation of this feature pit, or from Native American or Hispanic occupation in the historic period. There is no way to know which. Fauna included unidentified burned bone,

and one medium bird specimen (see Chapter 8 for more on fauna). The majority of the artifacts were from the upper levels, but some were mixed throughout, just as the displaced corner stones of the Feature 1 wall were, indicating the level of disturbance and mixing during excavation of the pit. The only datable artifact, a cut nail shank, had a TPQ of 1830.

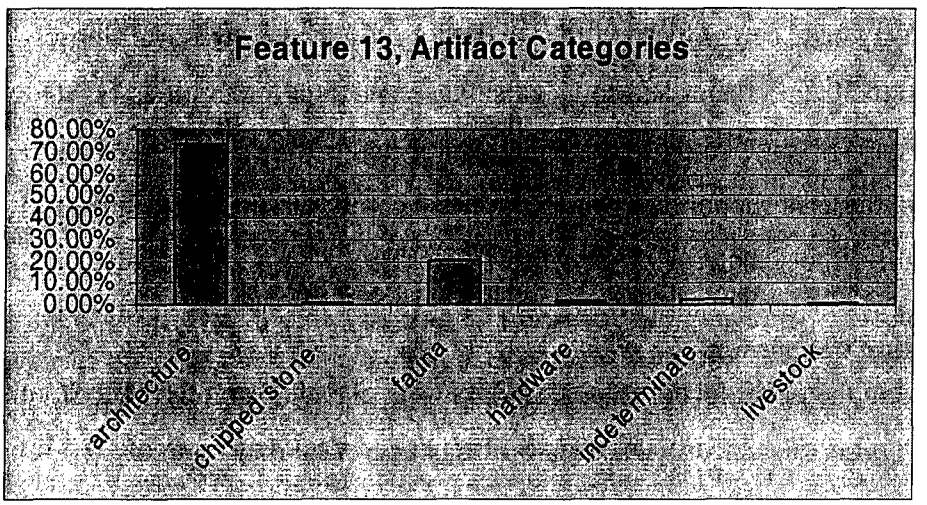


Figure 56: Feature 13 artifact categories

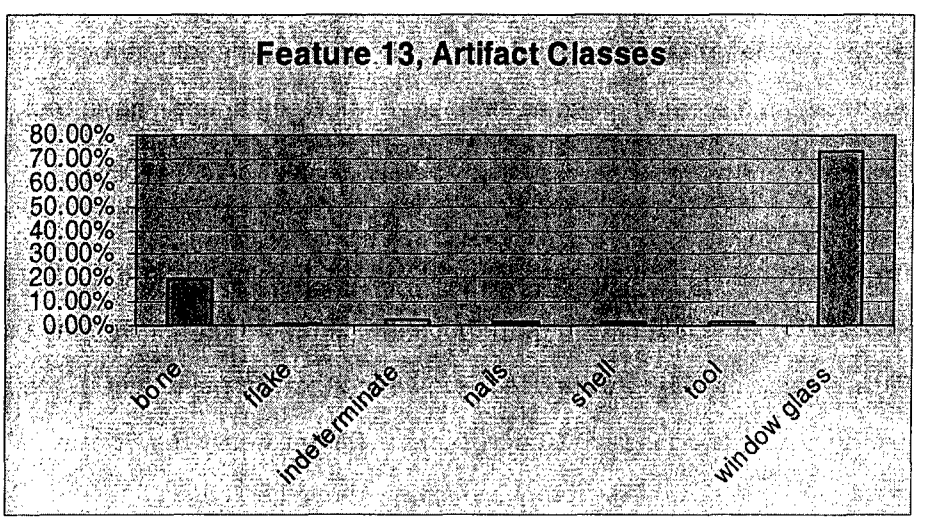


Figure 57: Feature 13 artifact classes

Feature 14

General description

Feature 14 is another post-occupation pit located east of the main doorway on the east side of Feature 1, excavated in adjacent EUs 23 and 38. The two large quarried stones of the Feature 10 walkway had been moved in order to dig this pit. The pit was later loosely filled with large (20 to 30 cm) stones and soil. This may be another looter pit associated with excavations for some kind of buried gold (see Feature 13 description, see also chapter 5). This hypothesis is supported by modern plastic comb tines in Lot 4 of Unit 23, mixed in with nineteenth-century materials well below the surface.

Excavation description

The soils in the upper lots of EUs 23 and 38 were clayey loam of 10 YR 5/3 until lot 11, when the pit is most clearly defined. Soils changed to clayey loam of 10 YR 6/2 in both units. Soils were uniformly dense and hard to trowel in Lots 1 through 5 in Unit 23, but as the pit was defined, the soils within it were much softer and easier to trowel than the soils external to it. Soils of Unit 38 were less consolidated throughout, and the pit was clearly defined by lot 3. The pit was filled with numerous loose and jumbled rocks ranging in size from 2- to 20 cm, and seemed on its western edge to extend under a large rock on the east wall of Room 1A.

Due to time constraints at the close of the field season, the entirety of this pit feature was not excavated, as to do so would have required opening another unit beneath the large displaced stones of the stoop/walkway (Feature 10). However, the vertical extent of the feature was determined; the loose and jumbled stones found in the pit were removed, and the excavation units were closed at a layer of decaying sandstone above bedrock.

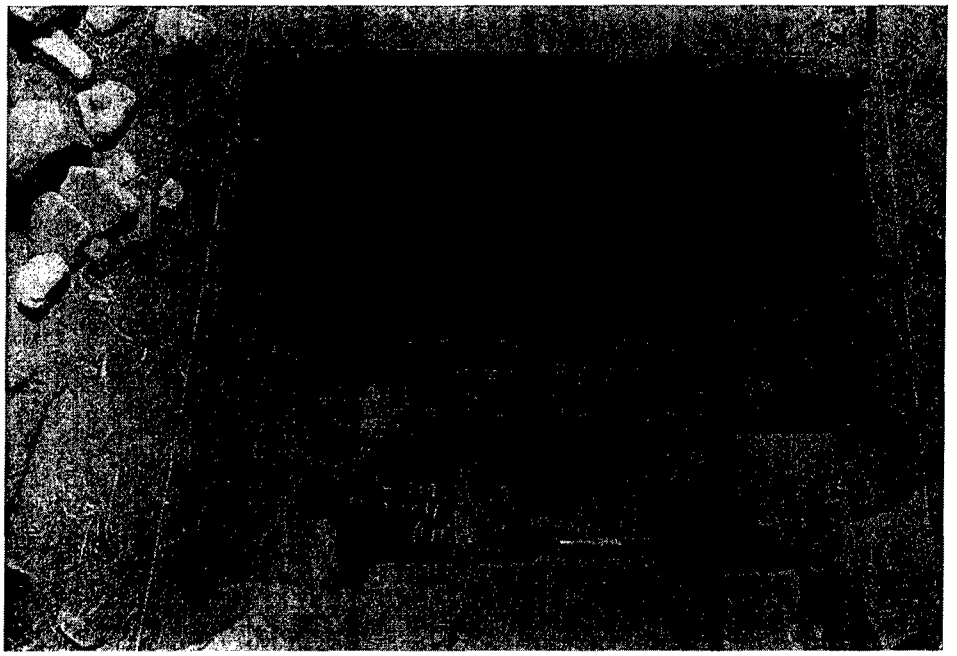


Figure 58: Feature 14, Unit 23 - post-occupation pit just east of eastern doorway of Feature 1

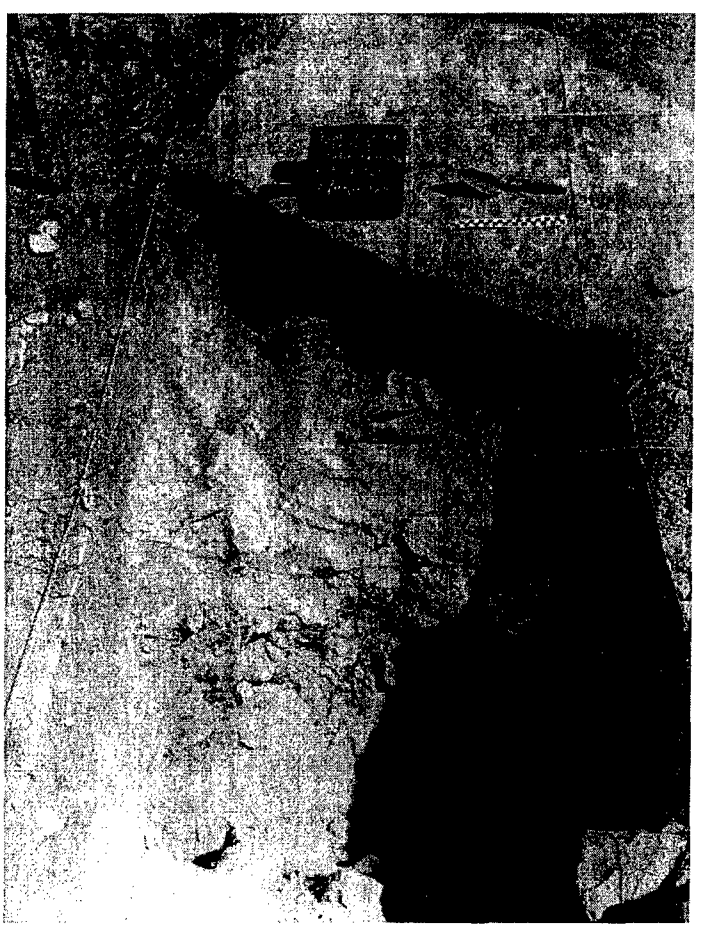
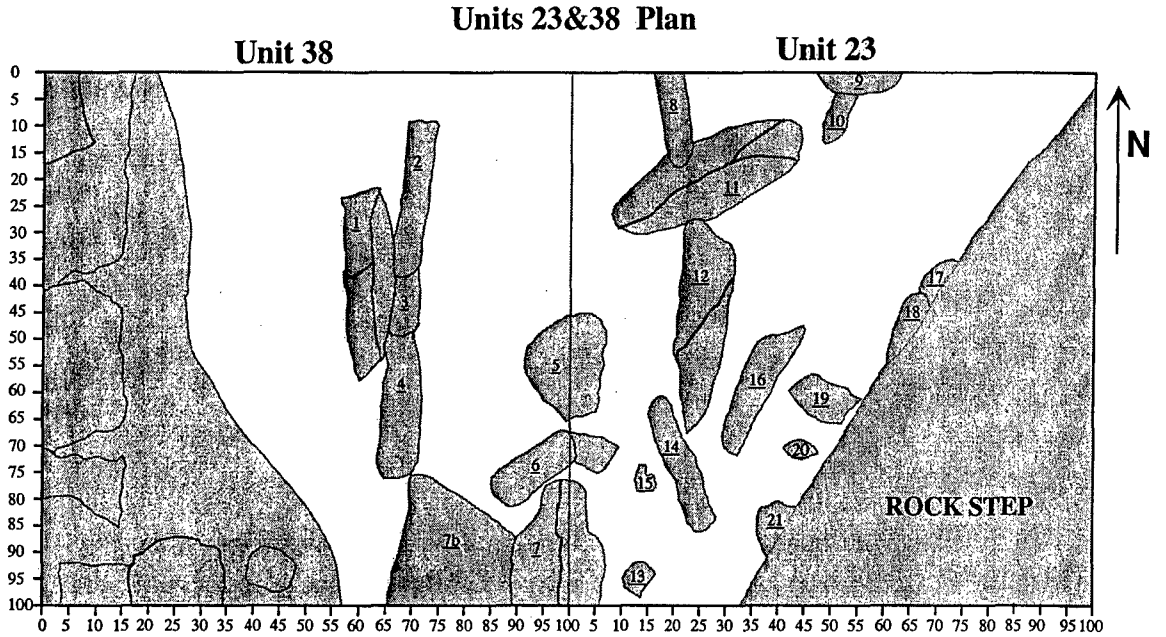


Figure 59: Feature 14, Excavation Units 23 and 28 – post-occupation pit

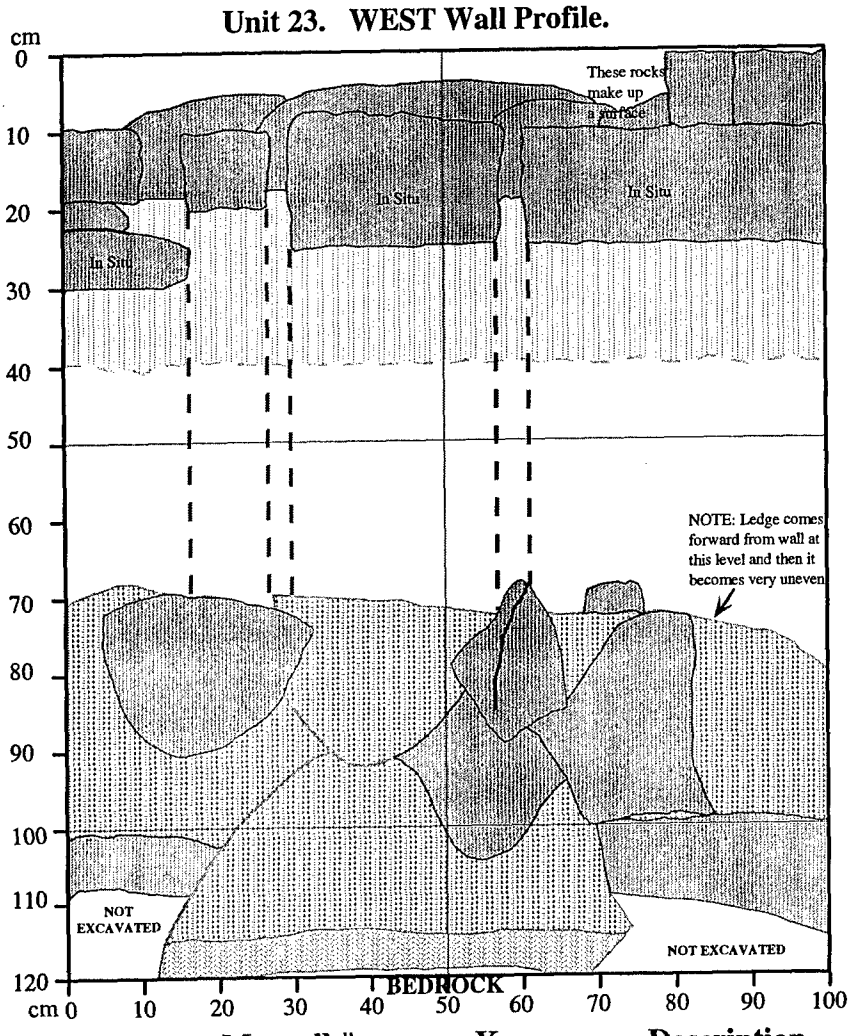


Key to elevation of top of rocks (in meters):

1.	998.42	8.	998.58	15.	998.29
2.	998.22	9.	998.50	16.	998.44
3.	998.25	10.	998.33	17.	998.40
4.	998.27	11.	998.48	18.	998.46
5.	998.34	12.	998.39	19.	998.44
6.	998.38	13.	998.37	20.	998.38
7.	998.30	14.	998.37	21.	998.38
7b.	998.36				

NOTES: Elevation for rocks 1-7b are from Datum C—999.01—(String); Rocks 8-21 from Datum I—998.81—(String).

Figure 60: Feature 14, Excavation Units 23 and 38, plan drawing

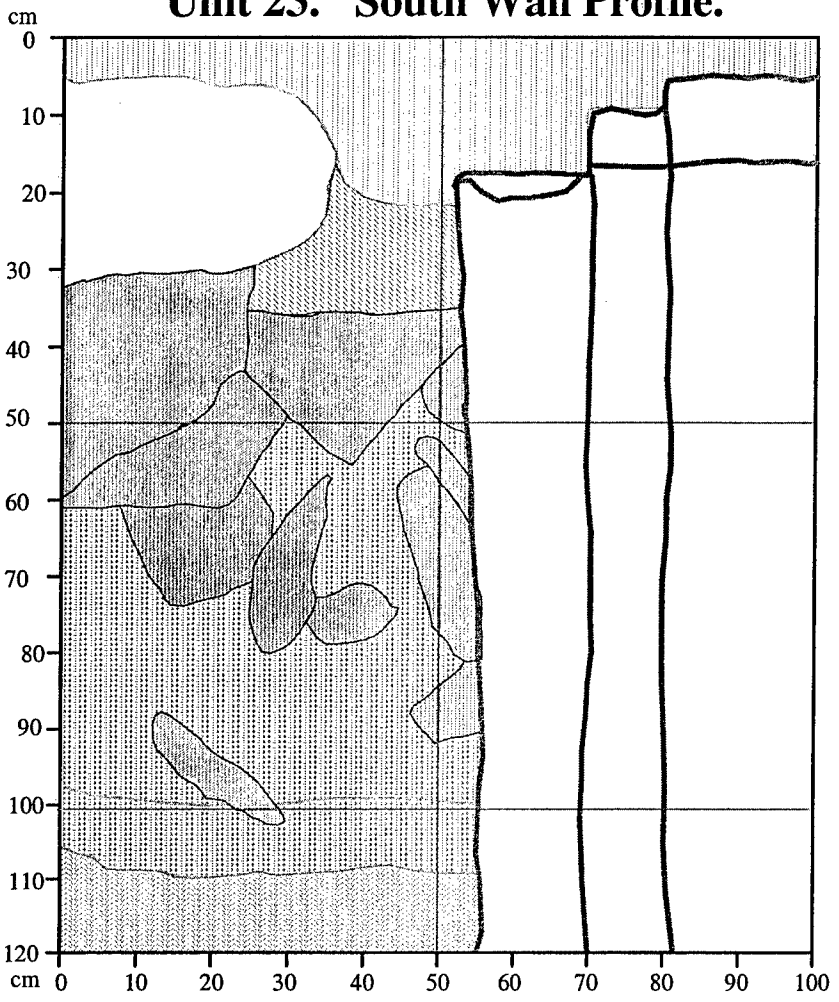


Key	Description	Munsell #
	Clay Loam; Compressed Fine Soil	10YR5/3
	Clay Loam	10YR5-6/3
	Clay Loam With Rodent disturbance	10YR5/3

Key	Description	Munsell #
	Clay Loam With Calcium Carbonate	2.5YR6/3
	Rock	

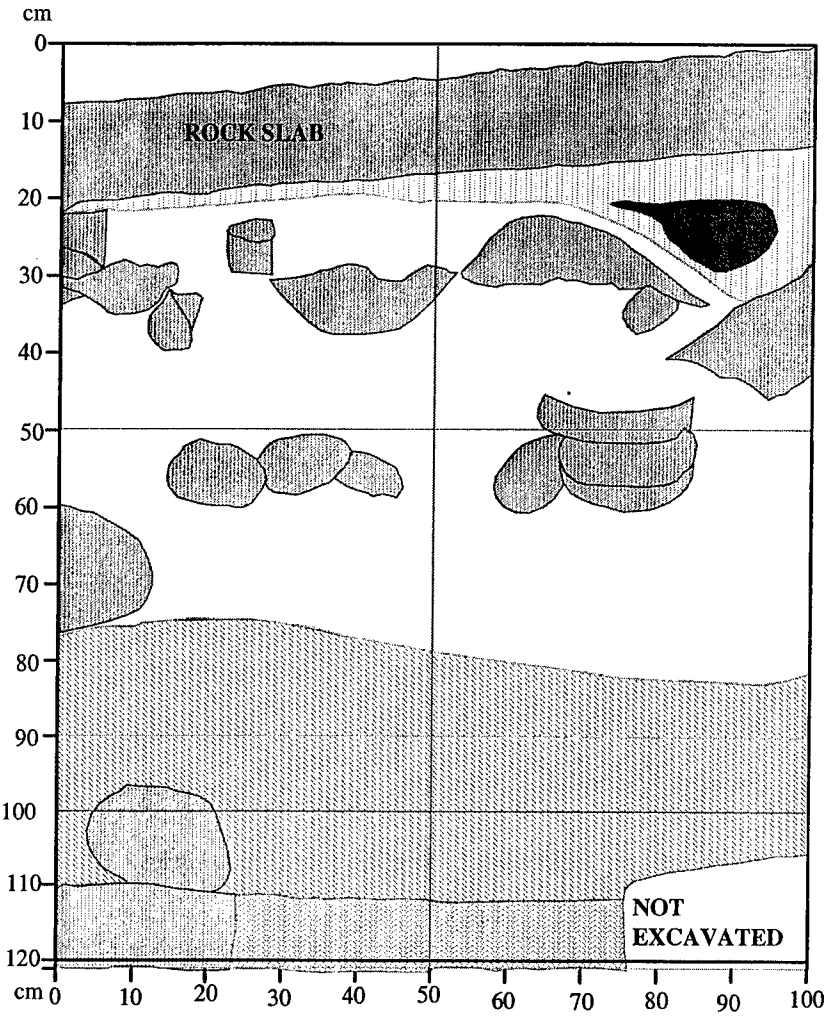
Figure 61: Feature 14, Unit 23, west wall profile

Unit 23. South Wall Profile.



Key	Description	Munsell #	Key	Description	Munsell #
	Clay Loam; Mottled	10YR5/3		Clay Loam With Rodent Disturbance	10YR5/3
	Clay Loam; Mottled	10YR4/2		Clay Loam With Calcium Carbonate	2.5YR6/3
	Clay Loam, With a Few Rocks	10YR5/3		Rock	

Figure 62: Feature 14, Unit 23, south wall profile



Key	Description	Munsell #	Key	Description	Munsell #
	Clay Loam; Small rocks, compressed earth	10YR4/2		Clay Loam	10YR5/3
	Charred Earth	10YR3/2		Calcium Carbonate Layer	2.5YR6/3
	Sandy Clay Loam	10YR6/3		Rock	

Figure 63: Feature 14, Unit 38, east wall profile

Artifacts

Artifacts in Feature 14 were most probably those that were either swept out the door of Feature 1, or were on the surface on or around the walkway (Feature 10), which got mixed into the pit, as did rocks from the foundation of Feature 1. The plastic comb teeth are modern, and point to this pit being a relatively recent looter hole. Bakelite plastic was made beginning in 1907, and this plastic looks even more modern. The artifacts were found throughout the lots. The chipped stone, as in other areas, can be explained either from the

precontact occupation at this site, or equally likely, from the historic period of use. There is no way of telling in this kind of mixed context.

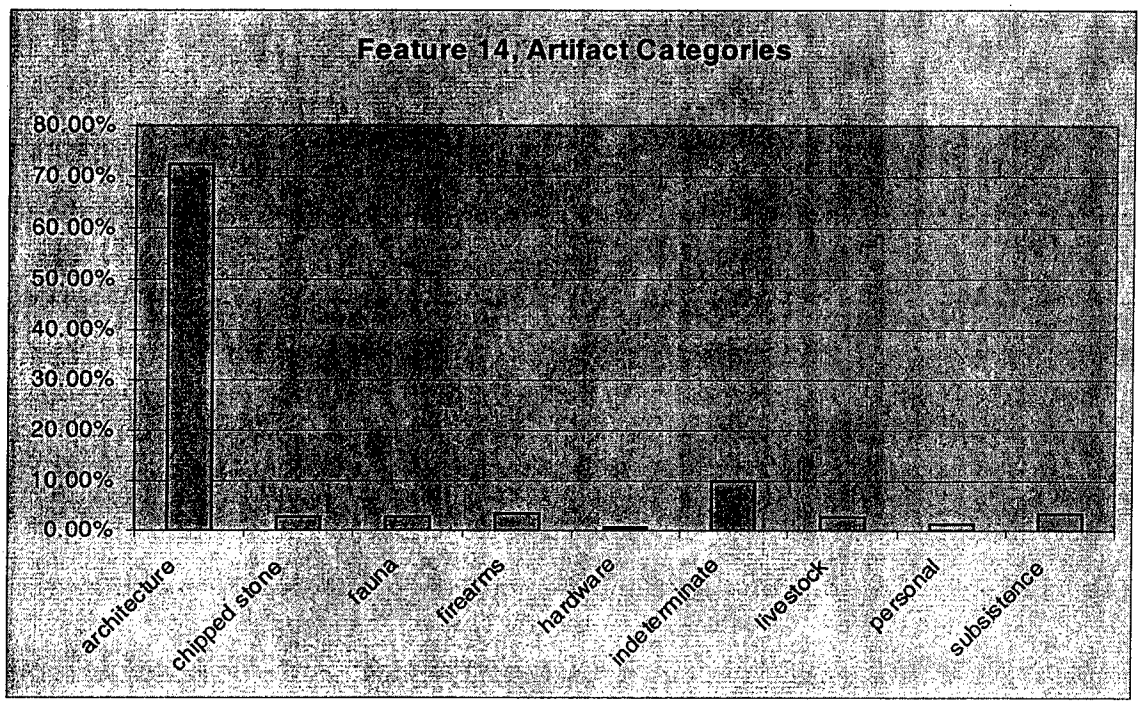


Figure 64: Feature 14 artifact categories

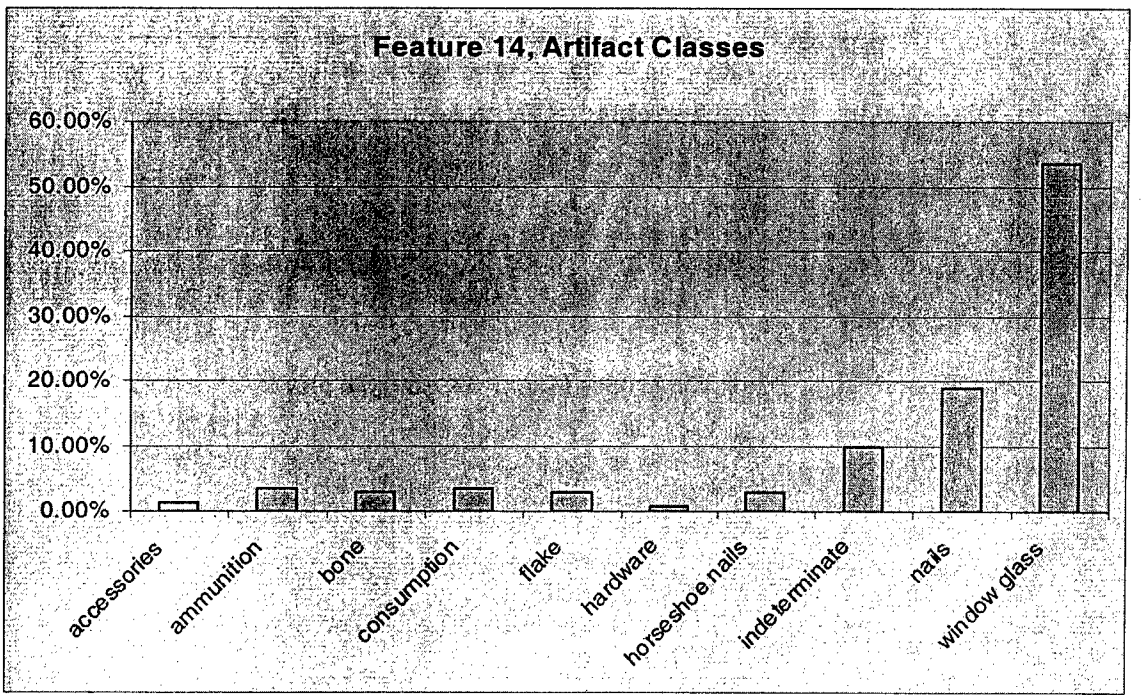


Figure 65: Feature 14 artifact classes

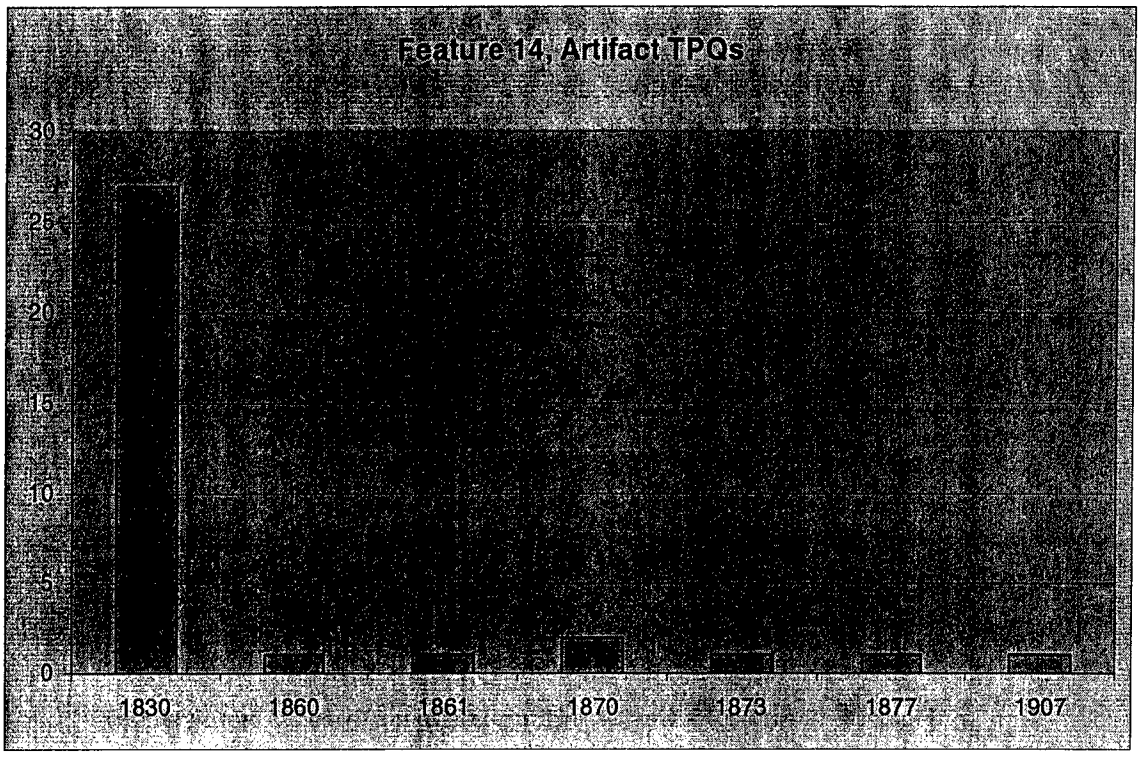


Figure 66: Feature 14 artifact TPQs

Feature 15

General description

Feature 15, a distinct, basin-shaped, prehistoric cultural level, was first defined in Lot 8 of EU 28. Initially it was thought to be the edge of a pit house, and this remains a possibility. There was a distinct soil change from the clayey loam of the previous lots to an ashy, silty clayey loam that was initially much softer to trowel. The dry soil color of 10 YR 4/2 and 10 YR 5/2 remained consistent throughout Unit 28. EUs 40 and 41 were opened north of and adjacent to Unit 28, to try to expose more of the feature, but due to time constraints (end of the season) these units were not excavated to the depth of Unit 28, Lot 8 and the soil change was not reached. Initially, excavators believed this feature might be a pithouse, and this is still a possibility, but not enough of it was excavated to be sure, and the boundaries became less distinct as excavation proceeded.

Figure 67: Feature 15, Unit 28 - cultural fill in northern 2/3 of unit (right)

Excavation description

Feature 15 was recorded as Lots 8 through 12 in Unit 28, at depths of circa 45 cm to 105 cm below surface. Notably, Feature 15 lies below the hearth identified as Feature 11 in Unit 28, Lot 3. Feature 15 was defined as a cultural stratum – possibly a midden or roasting-pit cleanout of some sort. These observations are based on the darker stained soils, lithics, and fire-cracked rock recovered in these lots. In profile, the feature is basin-shaped, but its edges were less clear beyond its uppermost manifestation, looking down on it horizontally. Lithics first appeared in Lot 5 and fire-cracked rock (FCR) first appeared in Lot 9. The initial find of FCR was a large slab, approximately 40 by 60 cm in the center of the unit in Lot 9. Lots 10 and 11 revealed smaller pieces of FCR, and small pieces were also recovered from the flotation sample taken as feature fill from Feature 11 (which was, again, Lot 3).

Artifacts

Chipped stone and bone were the only artifact types found in this feature, besides FCR. Bones included mammal teeth, both burned and unburned (see Chapter 8 for more description of faunal remains). The lithic materials included fragments of five chert and two chalcedony tertiary flakes (having no visible cortex); none were complete flakes.

Feature 16

General description

Feature 16 is yet another post-occupation pit excavated perhaps by looters looking for gold after the site was abandoned (see Chapter 5). This particular pit was excavated in Unit 7 and the southwest corner of Unit 4. The pit was clearest in profile in Unit 4, and since these units were excavated before we had dug any of the other pits, we did not recognize it as such, but thought it was rodent disturbance. It was as we went deeper in Unit 7 that we began to suspect we were in a pit. This pit was clearly excavated quite a long time after abandonment, as in profile it begins at the very surface, just under the root zone. There was a bit of aluminum foil in Lot 8, near the bottom of the pit, which was manufactured starting in 1947. Otherwise, the distribution of artifacts is not different from that of Room A in general, except that they were mixed throughout the pit.

Figure 68: Feature 16, Unit 7 - post-occupation pit in Feature 1, Room A

Artifacts

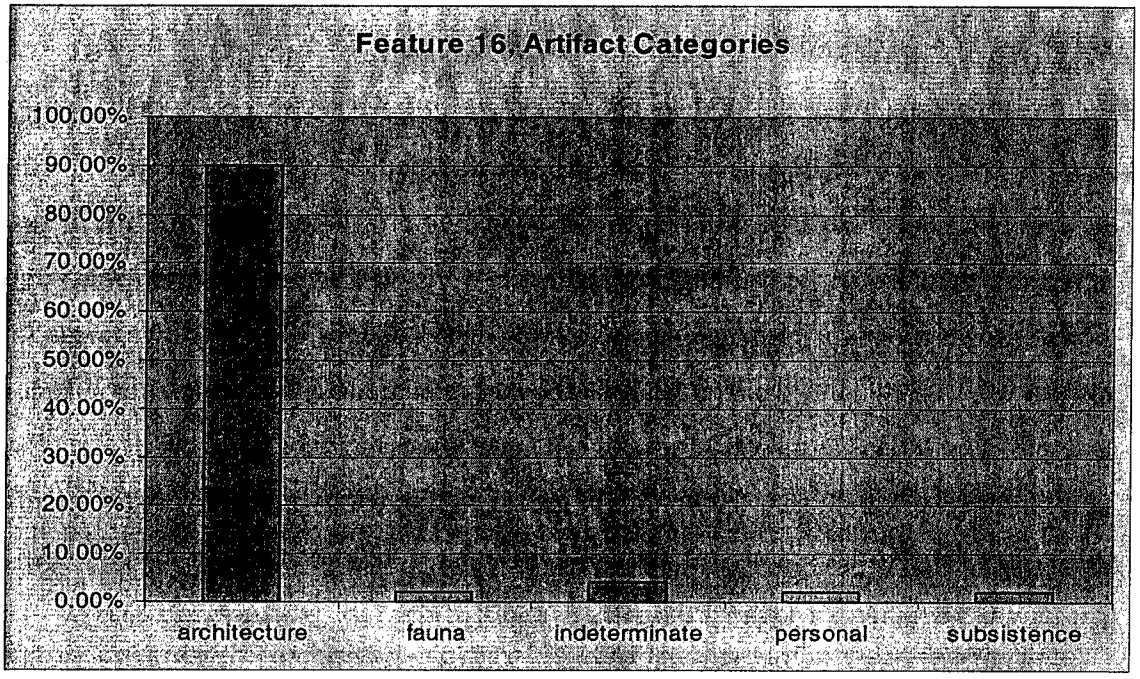


Figure 69: Feature 16 artifact categories

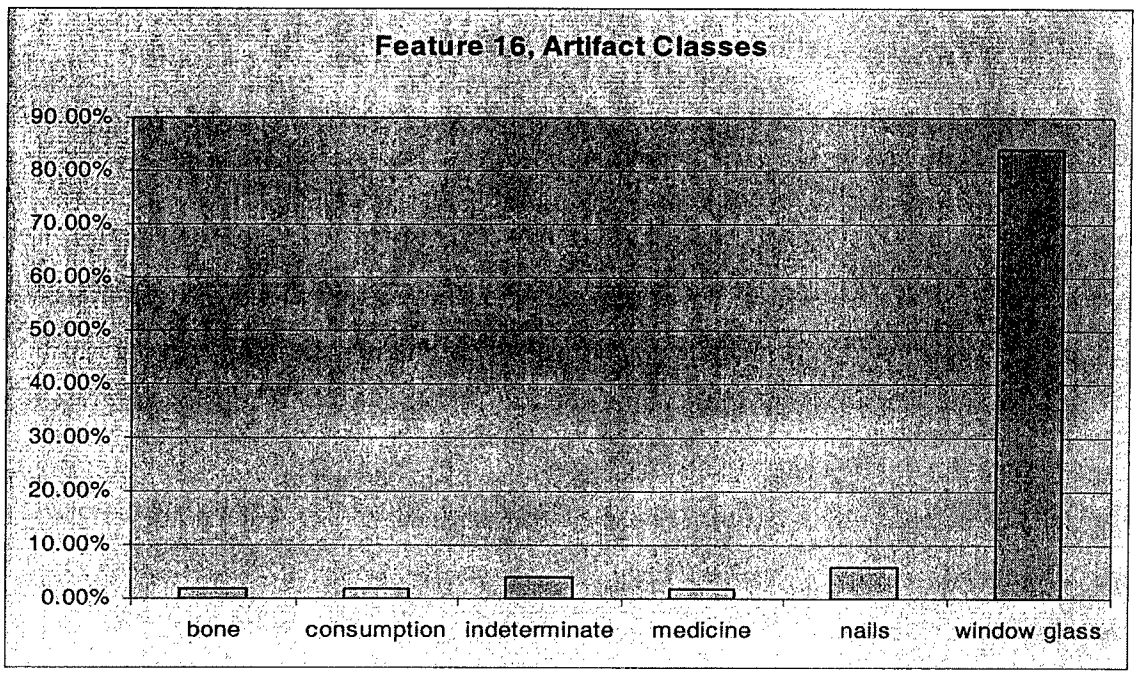


Figure 70: Feature 16 artifact classes

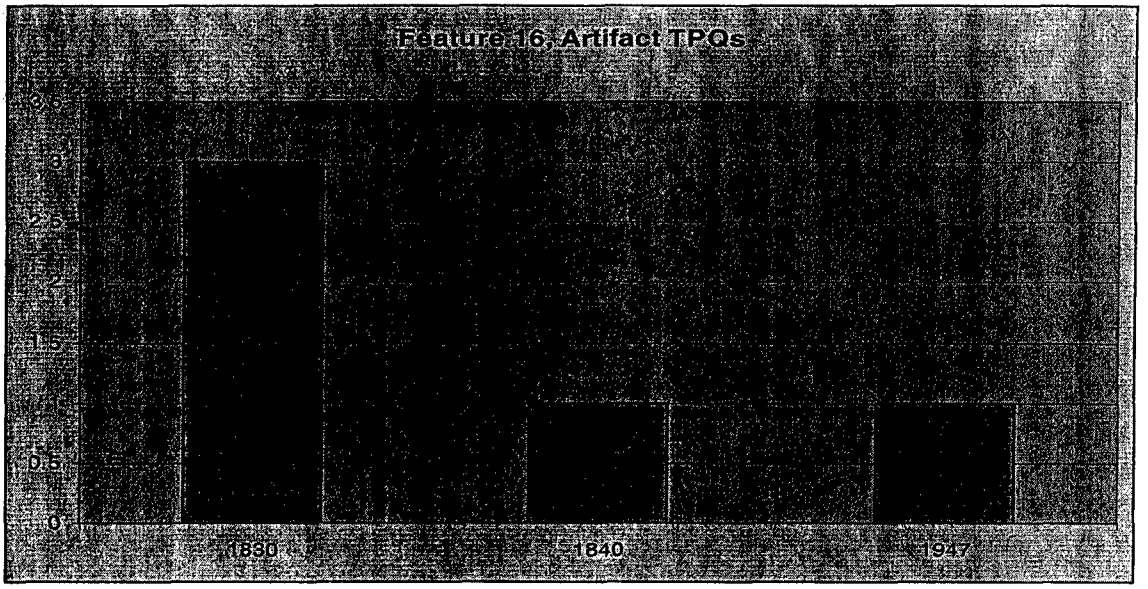


Figure 71: Feature 16 artifact TPQs

Feature 17

General description

Feature 17 is a bedrock metate that may well be prehistoric in origin. In the year 1866, however, someone carved the date, as well as the following verse into the face of the metate: "As you pass by remember me / [illegible] miles apart we may be." The illegible word is most likely "though." This verse may simply have been carved by someone who passed through, but it is similar to a verse carved on grave stones all over the United States and England in the mid-nineteenth century, often accompanied by an urn and willow motif, and it is possible that there is a historic burial somewhere nearby (Deetz 1977). This site was a ranch for longer than it was a stage station, and in the nineteenth century many rural agriculturalists buried family members on their own property, rather than in cemeteries. It is also possible the inscription memorializes someone buried elsewhere. A similar verse adorns a headstone in rural Michigan: "As you are now, so once was I / As I am now, so you must be / Prepare for death, and follow me."

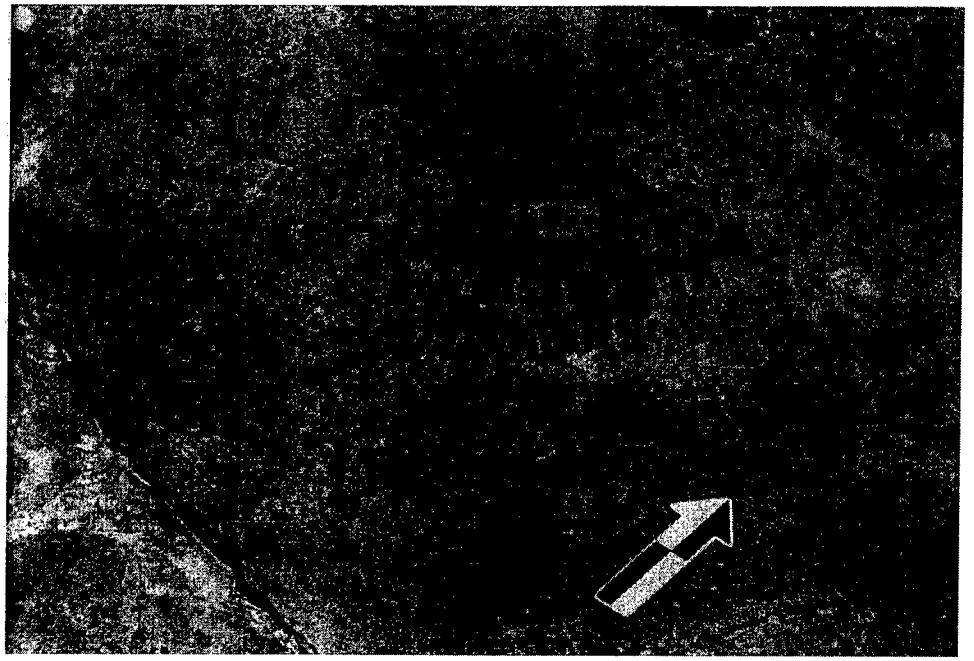


Figure 72: Feature 17 - bedrock metate and 1866 inscription

Feature 18

General description

This feature was not included on the 1983 site form, and is located on the bench across the arroyo to the east. It consists of an overhang with an enclosing wall built beneath it, and a wall along the top and adjacent rimrock, which would have served to control livestock circulation on the site. A historic road bed runs up the slope to the east. Whether the enclosure was also used or partially built prehistorically is not known, as we did not test this feature, which was not impacted by tracked vehicles.

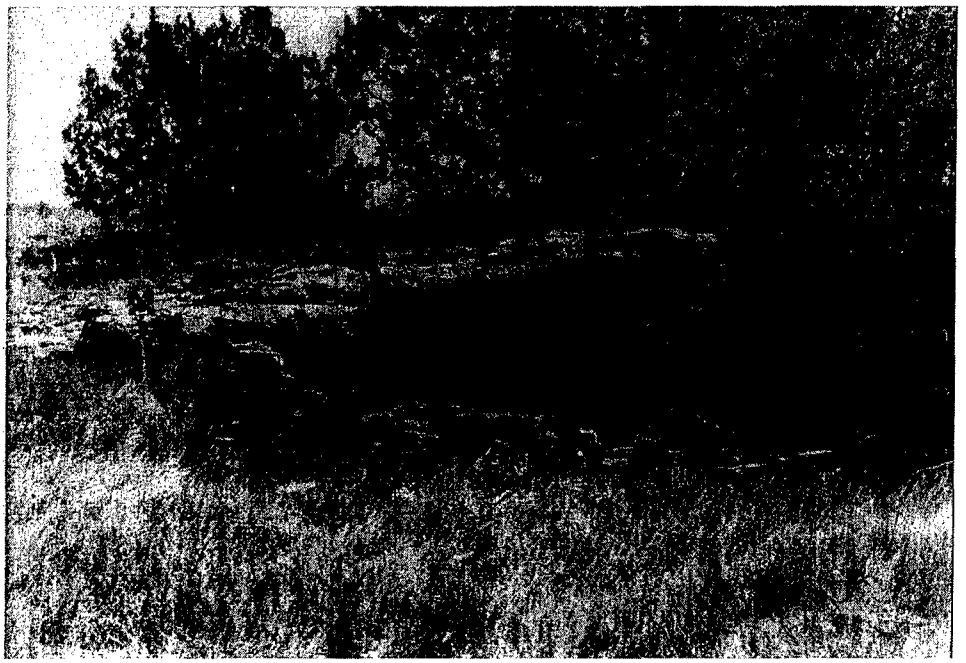


Figure 73: Feature 18 rockshelter and enclosure on east side of arroyo

Figure 74: Feature 18 rockshelter and enclosure detail

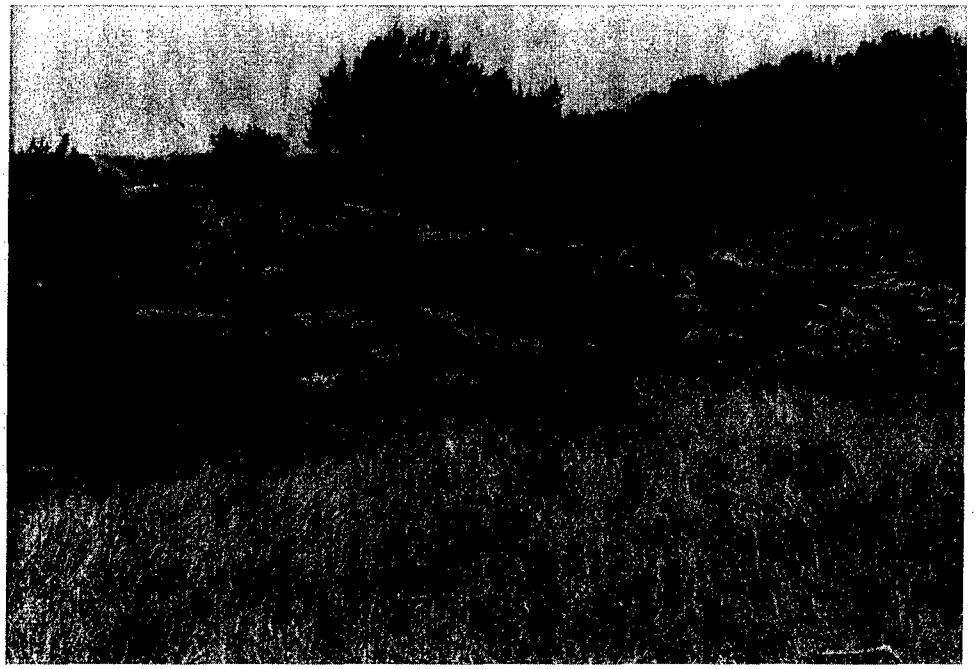


Figure 75: Feature 18 wall running south from rockshelter and enclosure

Subsurface and Surface Collection – Upper and Lower Benches

General description

The eastward sloping upper bench of the site, where Features 1 and 2 sit, is a deflationary erosional setting, and there were a lot of artifacts sitting on the surface. Furthermore, water action had moved several of these items around, some undoubtedly funneled down through a gap in the exposed caprock directly east of Feature 1. The lower bench has the majority of the buildings, including those that were likely to be affiliated with the short-lived staging era of the site, as well as with ranching activities that pre- and post-dated the stage station years. On this lower bench, the erosion is mostly along the arroyo edge. Elsewhere it varies as to erosional and depositional settings, especially where extant structure foundations trap colluvial and alluvial soils washing down-slope from the upper bench.

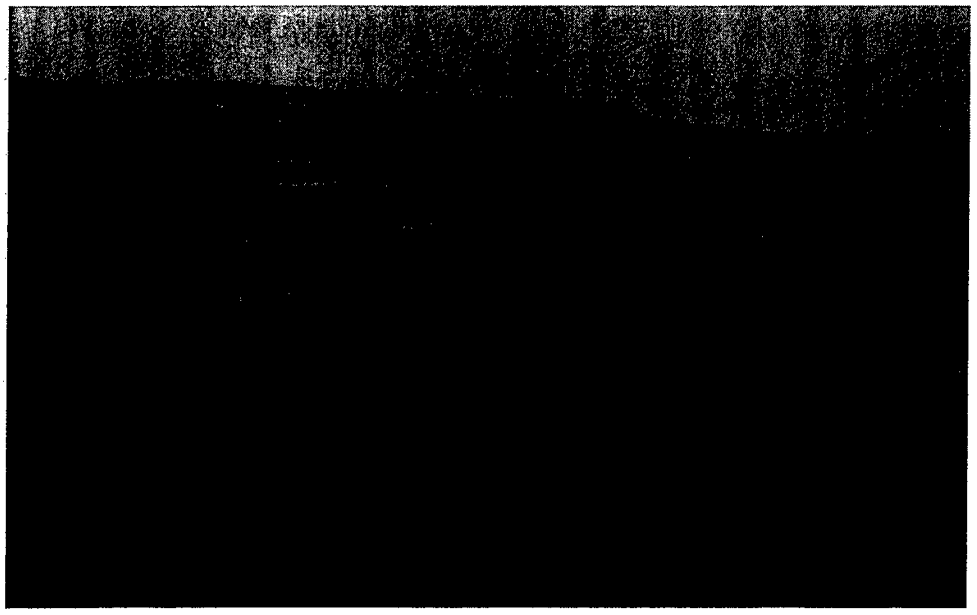


Figure 76: Site overview from northeast showing upper and lower benches and eroding tracked vehicle track damage

Artifacts

In the excavation units that were external to features on the upper and lower benches, artifacts might be expected to pattern differently, given that the upper bench and Feature 1 were associated with the possible general store and Post Office, and the lower bench with the stage station and ranch buildings. Surface artifacts on both benches moved around quite a bit between colluvial and alluvial processes and trampling, so they are considered separately from subsurface artifacts in the tables below. The presence of artifacts with a TPQ date of 1948 on the surface (these are recent soda pop bottle fragments) point to the mixed context. The dates of artifacts from subsurface contexts on both benches match the general site dates, but do not refine the dates of occupation for either portion of the site. There is a greater diversity of early manufacture dates for the lower bench, which suggests that perhaps this lower bench was used for a more extended period, but again, none of the dates change the overall date range for the site: from early in the 1870s to around 1909.

The differences in assemblage composition between the benches are suggestive to a limited degree. In general, there is a wider variety of artifacts, functionally, on and in the lower bench. This is to be expected, as there are more features spanning a longer period of use. The most individual difference is in architectural materials: there is significantly more

window glass from the upper bench, and more nails on the lower bench. This may be a result of having excavated closer to Feature 1 on the upper bench, whereas the non-feature EUs on the lower bench were for the most part further from structures. But it may also relate to the proposed function of Feature 1 as a general store and Post Office. Even after the railroad's appearance, window glass would have been relatively expensive to buy and transport, and a luxury more easily justified and capitalized in a general store than in a ranch building, even a domestic one. Aside from architectural artifacts, specifically window glass, virtually every other category and class of artifacts is more frequent on and in the lower bench. Lithic artifacts reflect the deeper sediments and precontact period sites at lower levels in parts of the lower bench. Livestock (e.g., tack buckles, horseshoe nails, fencing nails, etc.), recreation (e.g., alcohol bottle glass, tobacco tins, toys, etc.), medicine (e.g., bottles), indeterminate (mostly vessel glass), firearms (e.g., ammunition and/or gun parts), and subsistence (e.g., ceramic vessels and tin cans) artifacts are all more common in the lower bench, near the ranch/stage related structures. Domestic artifacts are few and far between, but equivalently sparse, on both benches.

The caveat regarding these comparisons is, again, that our units on the lower bench were further from structures, as the tracked vehicle damage ran further away from structures (with the notable exception of Feature 9).

Prehistoric component

In terms of the chipped stone and groundstone assemblage, every EU except 18, 19, 33, 34, 38, 40, and 41 had some kind of lithic artifact content. Of this majority, many had flakes at upper levels in reasonably good context with historic items. In those EUs where deeper excavation activity occurred historically, such as the possible looter pits in EUs 4 and 7 (Feature 16), 23 and 38 (Feature 14), 26 (Feature 13), and in Feature 9 (EUs 29, 42, and 44), we would expect, and indeed found, both lithics and manufactured goods in historic contexts extending to deep levels. In units where there was no deep excavation activity during the historic period, there is a clearly separate precontact component. Results of our testing show that such a component is clearest in the lower bench EUs, specifically in Units 20, 25, and 28. In Unit 28 we also have Feature 15, the precontact feature consisting of a layer of dark organic fill containing and overlying fire cracked rock. All of these latter units lie in the T2

terrace defined by D. Kuehn (personal communication, August 2000), near the eroding edge of the arroyo, east of the masonry structures. If there is to be future testing of this site for a clearly prehistoric component, this data suggests that the north end of the lower bench would be the best place to excavate to find such a component that is not too disturbed due to deep historic period excavations.

Figure 77: Unit 20

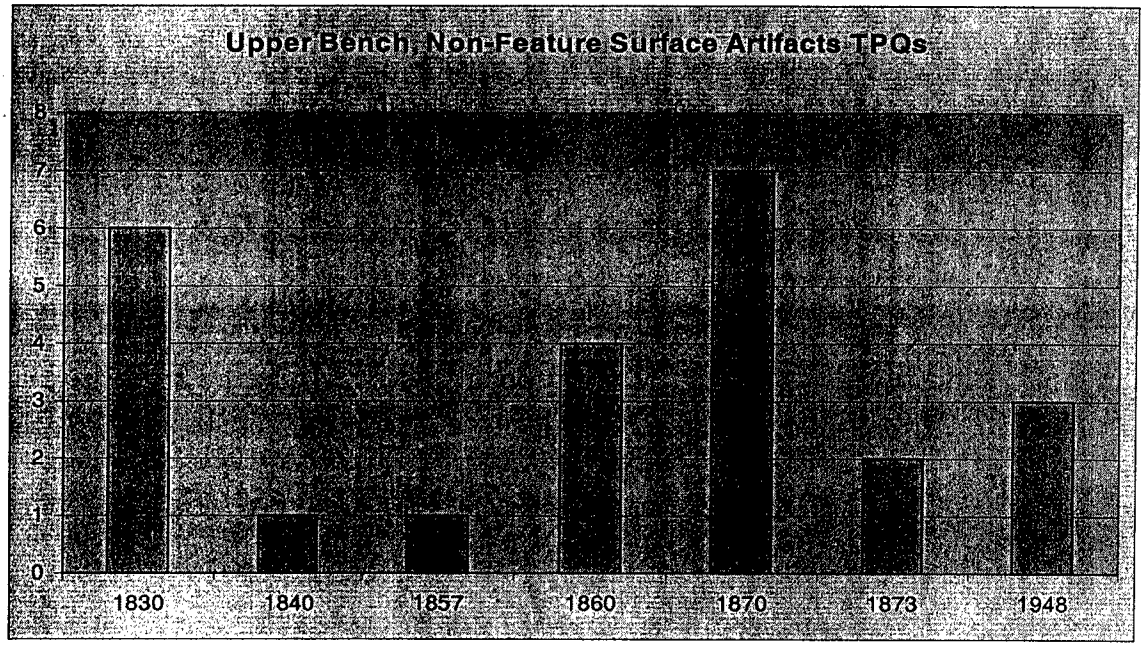


Figure 78: Upper bench, non-feature, surface artifact TPQs

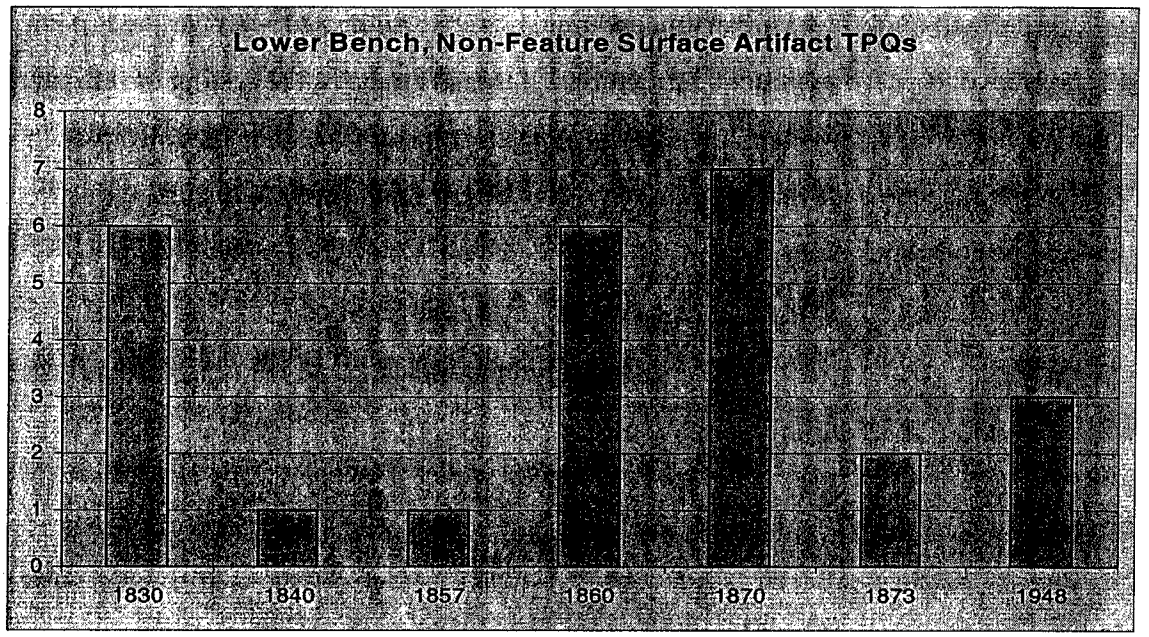


Figure 79: Lower bench, non-feature, surface artifact TPQs

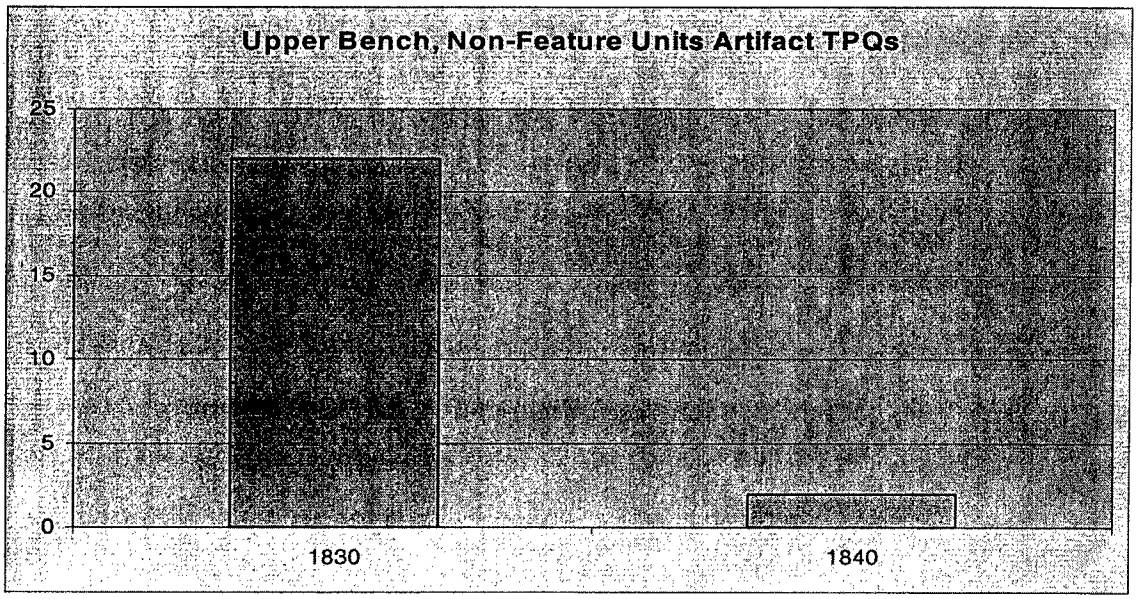


Figure 80: Upper bench, non-feature, sub-surface artifact TPQs

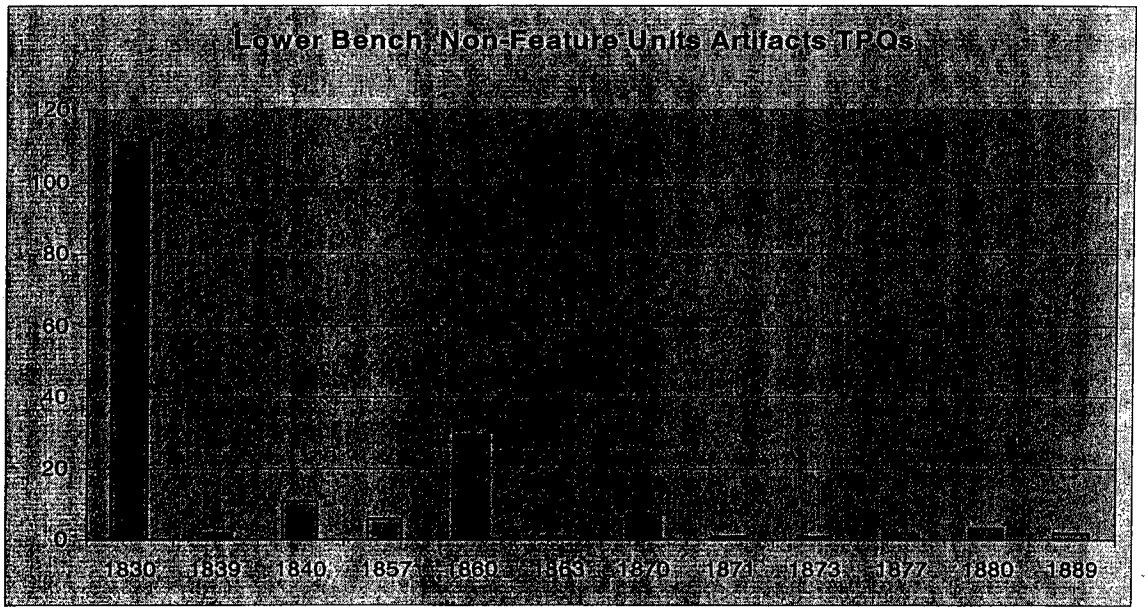


Figure 81: Lower bench, non-feature, sub-surface artifact TPQs

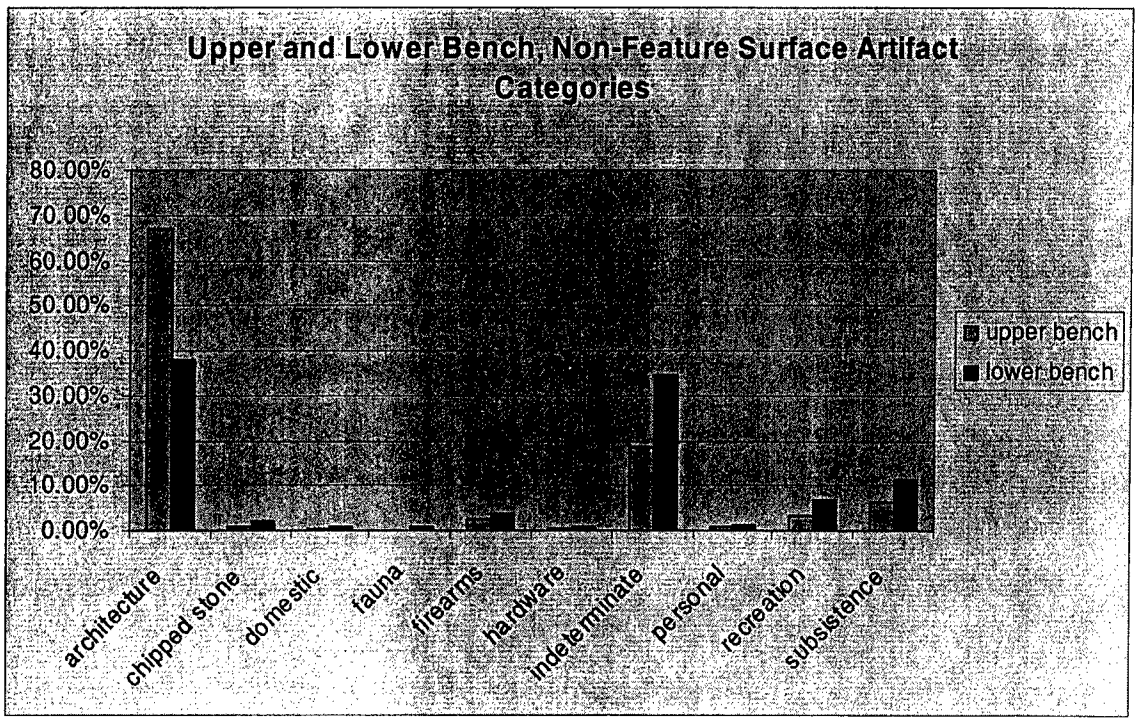


Figure 82: Upper and lower bench, non-feature, surface artifact categories

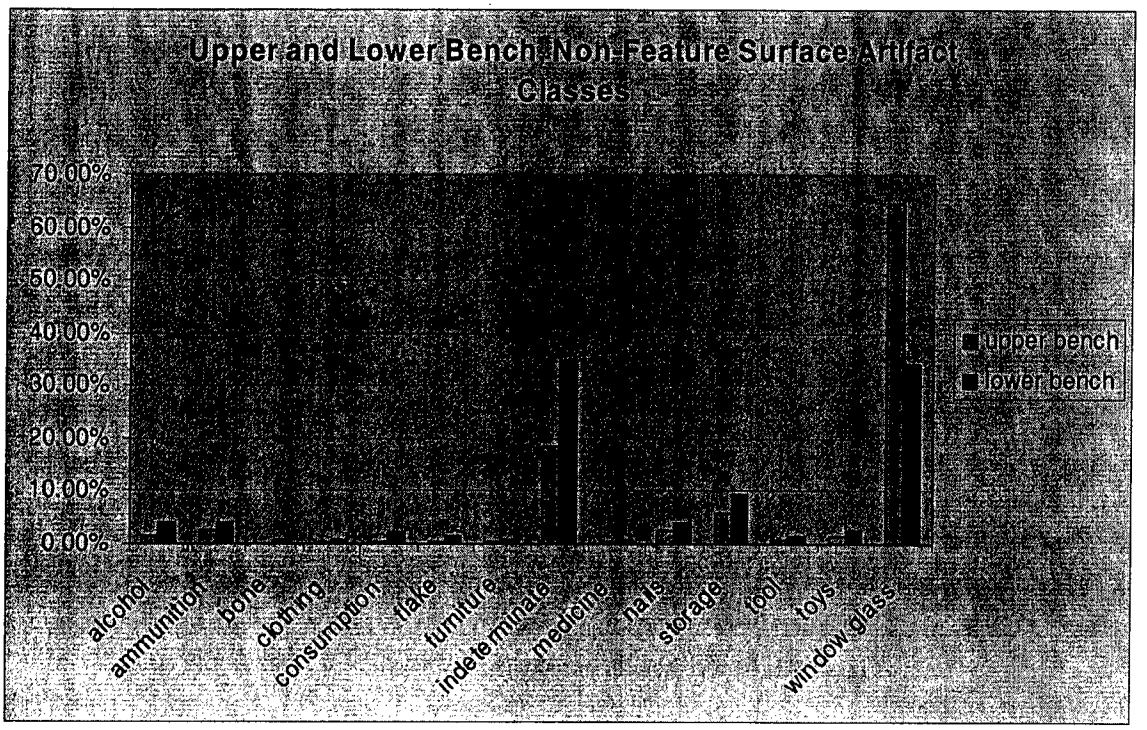


Figure 83: Upper and lower bench, non-feature, surface artifact classes

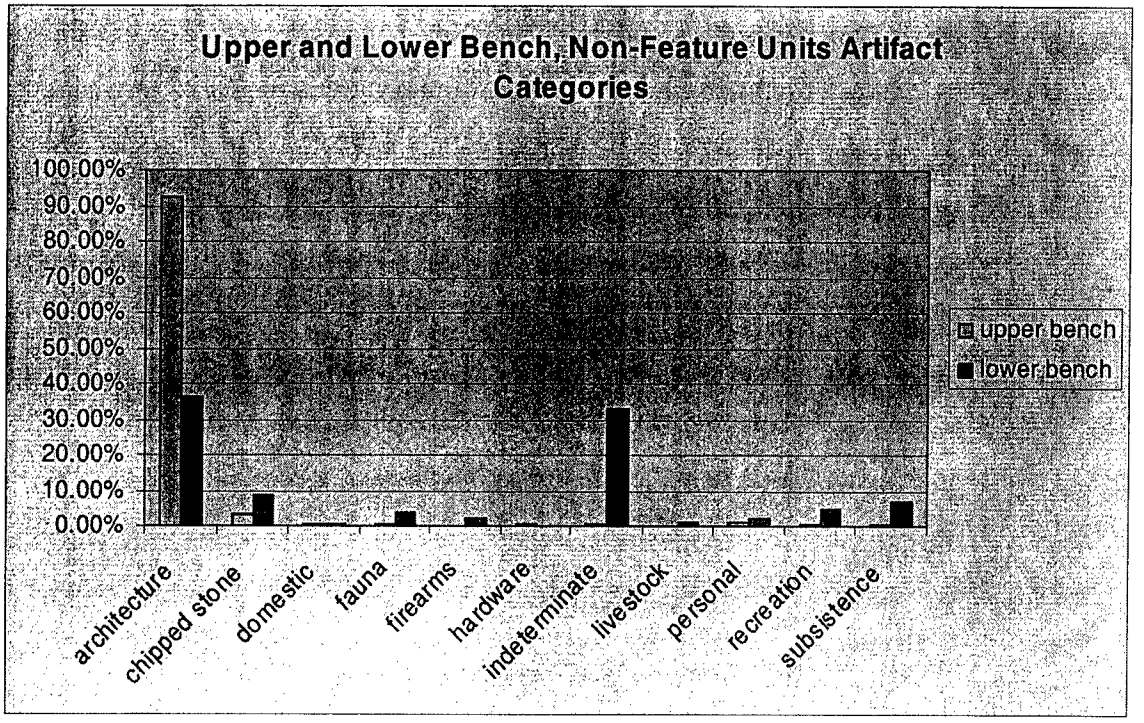


Figure 84: Upper and lower bench, non-feature, sub-surface artifact categories

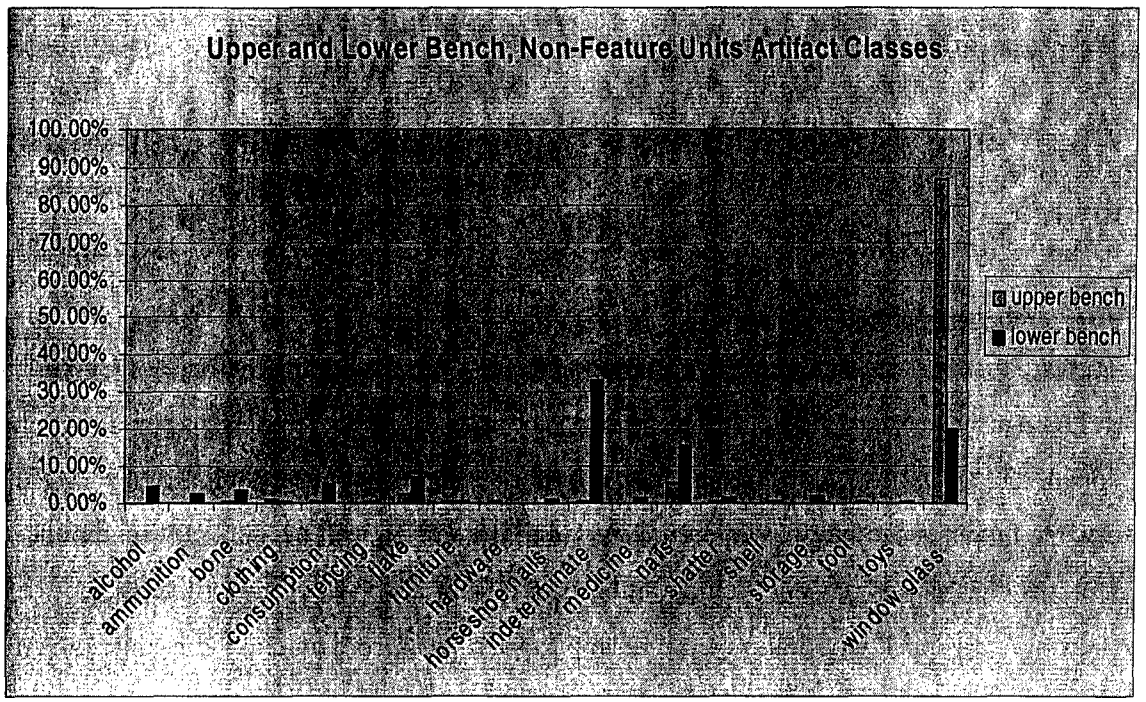


Figure 85: Upper and lower bench, non-feature, sub-surface artifact classes

Chapter 9

Analysis of Faunal Materials from 5LA3179, 2000 Field Season

(by Erica Hill)

Introduction

The late historic site of Bent Stage Station (5LA3179) is located at the base of Bent Canyon in Las Animas County, Colorado. The site is composed of sandstone structures, a probable corral, and an unlined well. Excavations of the well in 1998 yielded a large (n = 2375) and diverse faunal assemblage, which included amphibians, as well as abundant mammal remains. Mammals present included rabbits (Sylvilagus spp.), white-footed mice (Peromyscus spp.), woodrats (Neotoma spp.), gray fox (Urocyon cinereoargenteus), striped skunk (Mephitis mephitis), and deer (Odocoileus spp.). Abundant cut marks on the skulls of the skunk and fox specimens suggest that the animals were skinned, probably for their fur.

The 2000 excavations also yielded faunal remains. Vertebrate specimens totaled 234; eggshell fragments were present in the sample, as well as one complete gastropod, and shell fragments from a second invertebrate. The bulk of the faunal assemblage was concentrated in Feature 9 (n = 178). Materials were also recovered from Features 11, 13, and 15 as well as from Structure 1 (n = 16), which was excavated as Features 1A, 1B, and 1C.

The entire assemblage was highly fragmented, probably due to trampling and compression by heavy equipment. Only five (5) specimens (approximately 2% of the total assemblage) were identified to the level of genus; the majority of remaining materials were either unidentified, or identified only to the level of class. One Odocoileus element was present in the sample—the proximal portion of the radius. Four Sylvilagus elements were identified: a maxilla fragment, a left ulna fragment, a right ulna fragment, and a portion of the proximal right radius. All of the rabbit elements were recovered from Feature 9, and may represent a single individual.

Materials and Methods

Materials were recovered using quarter-inch screens. Water-screening through one-sixteenth-inch window screen was conducted for selected excavation units.

All taxonomic identifications were made using the analyst's collections; however, some identifications were confirmed using the collections of the Center for Archaeological Investigations at Southern Illinois University, Carbondale. Identifications were made to the most precise taxonomic level possible; however, given the fragmentary nature of the assemblage, minimal genus-level identifications were possible.

Fragmentary specimens were assigned to class (i.e., Aves) and size categories. For example, when possible, fragmentary mammal specimens were identified as small, small to medium, medium, medium to large, and large size classes. Small mammals are those mammals that are the size of Sylvilagus (cottontail) or smaller. Medium mammals are those that are larger than Sylvilagus, but smaller than artiodactyls such as Odocoileus (deer). The medium mammal size class includes the canids, dog- and fox-like carnivores such as the coyote, wolf, and gray fox. This category also includes raccoons (Procyon lotor) and the striped skunk (Mephitis mephitis). Large mammals are those the size of Odocoileus or larger. This size class includes deer, pronghorns, bear, and most bovids.

In addition to taxon identification, all specimens were examined for burning, cut marks, and mineral deposition. Fusion was noted on those specimens with articular surfaces, and right or left side designations were recorded when possible. A complete list of faunal taxa recovered from the 2000 excavations at 5LA3179 is presented in Table 3.

Table 3: Faunal taxa recovered

Taxon	Count	Totals
Gastropod	1	1
Invertebrate	shell frags	
Aves	shell frags	
Medium bird	2	
Total bird		2
Herpetofauna	3	
Total Herpetofauna		3
Sylvilagus spp.	4	
Odocoileus spp.	1	
Bovidae	1	
Small-medium mammal	7	
Medium mammal	3	
Medium to large mammal	39	
Large mammal	86	
Mammal	4	
Total Mammals		145
UNID	84	84
TOTAL		**235**

Basic information on the habitat and distribution of the two genera of mammals identified from 5LA3179 are presented below, followed by a discussion of the site by feature and Excavation Unit.

Distribution and Habitat

Class Mammalia

Order Lagomorpha (Hares, Rabbits and Pikas)

Family Leporidae (Rabbits and Hares)

Sylvilagus spp. (Cottontails and Allies)

Three species of Sylvilagus are presently found in Colorado; however, only one species, S. audubonii (desert cottontail), inhabits the study area (Fitzgerald et al. 1994:139-145). S. audubonii is found throughout eastern Colorado at elevations below 2135 meters (7000 feet)

(Chapman and Willner 1978). The three cottontail species are impossible to distinguish on the basis of post-cranial skeletal remains. However, based on present distributions, it is likely that the specimens identified in this assemblage represent S. audubonii. S. audubonii displays a preference for desert, semi-desert and montane shrubland regions of the western U.S. (Chapman, et al. 1982, p. 83) (Chapman et al. 1982:83), and is particularly common in areas dominated by piñon-juniper (Chapman and Willner 1978; Findley 1987, p. 57). One of the larger members of the genus Sylvilagus, S. audubonii prefers dense coverage of the landscape. Average lifespan of this species is less than two years (Chapman and Willner 1978).

Order Artiodactyla
Family Cervidae (Deer and Allies)
Odocoileus spp.

Two species of the genus Odocoileus inhabit southeastern Colorado: O. hemionus (mule deer) and O. virginianus (white-tailed deer). Both are medium-sized cervids. O. hemionus is broadly adapted throughout the western U.S., however this species is found most frequently in semi-arid brush or shrubland, preferring abundant browse and cover. O. hemionus is also known to inhabit prairies and mountainous areas in several different altitudes and latitudes. O. virginianus is an extremely wide-ranging species, and inhabits riparian woodlands and associated agricultural lands in Colorado today (Fitzgerald, et al. 1994).

Discussion by Feature and Excavation Unit

FEATURES 9 (EXCAVATION UNITS 29, 42 AND 44) and 12 (EXCAVATION UNITS 30 and 31):

Feature 9, composed of a series of stone walls connected to a sandstone formation, and Feature 12, a fence enclosure extending from the northeastern portion of Feature 9 south around the spring, yielded faunal remains from all five excavated units. This feature has been interpreted as a possible corral. The faunal materials, comparatively numerous for this feature (n = 178), are composed primarily of large- and medium-size mammals. Of the total specimens, nineteen were recovered using water-screening, including three of the four

cottontail (Sylvilagus spp.) elements. Twelve specimens out of the total 178 exhibited cut or saw marks, which are suggestive of butchering activity. Fragmentation, small sample size, and lack of articular surfaces precluded the identification of specific butchery patterns within the Feature 9 assemblage.

EU 29, located near the sandstone formation, yielded seventy-three (73) specimens, eighteen (18) of which were recovered through water screening. The only identified deer (Odocoileus spp.) specimen, the proximal portion of the left radius, was recovered from Excavation Unit 29. No cut marks were observed on this specimen. Three (3) specimens of the cottontail rabbit (Sylvilagus spp.) were recovered from this unit by water screening. Addition specimens included large mammals (n = 29), medium to large mammals (n = 19), and twenty-one unidentified specimens. The large and medium-to-large size mammal categories may include Odocoileus elements; however, fragmentation and loss of diagnostic osteological features made positive identification impossible. Charcoal was present in this unit, although no burning was observed on the associated faunal remains.

EU 30 yielded four (4) large mammal specimens, three of which exhibited cut marks. No evidence of burning was observed on the bone, although charcoal was present in the unit.

A single large mammal diaphysis fragment was recovered from EU 31. This specimen exhibited cut or saw marks across the horizontal axis of the diaphysis.

EU 42 yielded forty-five (45) vertebrate specimens, including large mammal (n = 29), medium to large mammal (n = 9) and medium mammal (n = 2). Five specimens remain unidentified. Two of the large mammal specimens exhibited cut or saw marks. Although charcoal was present in this unit, only one medium-to-large mammal specimen exhibited burning.

Fifty-five (55) faunal specimens were recovered from EU 44, which was placed in a disturbed area covered by tracked vehicle track marks. A bovid molar fragment was identified, and probably represents either the domesticated cow (Bos taurus) or bison (Bison

bison). Additional materials represented herpetofauna (i.e., reptiles and/or amphibians (n = 2) and medium and large mammals (n = 23). Two of the large mammal specimens exhibited cut marks; one medium to large size mammal specimen exhibited such marks. A single cottontail (Sylvilagus spp.) right maxilla fragment was recovered. This unit also yielded twenty-eight (28) unidentified specimens. No burning was observed on faunal materials recovered from EU 44.

The high level of fragmentation of materials in this unit may be due to disturbance and compaction of sediment overburden by heavy equipment. Crushing and the resulting fragmentation of faunal remains may result in the analytical absence of the affected materials. In other words, as fragment size decreases through taphonomic processes, the probability of identification of a specimen also decreases as anatomical landmarks are damaged or destroyed (Lyman 1994:426).

FEATURE 11: EXCAVATION UNIT 28

EU 28 of Feature 11 yielded a total of four (4) vertebrate specimens, all of which exhibited evidence of burning. Three of the burned specimens were otherwise unidentified. A fourth burned specimen, a medium-to-large size mammal, also had evidence of being either cut or sawed completely through.

Feature 11 has been identified as a hearth measuring approximately 40 cm across. The feature was composed of about 8 cm of charcoal-laden soil over 4 cm of soil that appeared reddened or burned. The burned vertebrate specimens are consistent with their association with a thermal feature; however, the limited number of specimens and their high degree of fragmentation preclude attempts to identify behavioral patterning.

FEATURE 13: EXCAVATION UNIT 26

EU 26 yielded four (4) vertebrate specimens: three burned unidentified fragments, and one medium bird specimen.

FEATURE 15: EXCAVATION UNIT 28

Two (2) vertebrate specimens were recovered from EU 28: one burned tooth fragment of a mammal (size indeterminate), and one unburned tooth fragment of a medium-to-large mammal. Feature 15 lies below the hearth defined as Feature 11, EU 28. Feature 15 also yielded lithics and fire-cracked rock, the latter indicative of a burn event that may also have produced the burning evident on one of the mammal tooth fragments.

STRUCTURE 1: FEATURES 1A, 1B, and 1C

Structure 1 was identified on the basis of a sandstone foundation, and was excavated as three features: 1A, 1B, 1C. The Structure contained two interior rooms and one external room walled on three sides. The larger interior room was defined as Feature 1A, the smaller as Feature 1C, and the external room as Feature 1B. A total of sixteen (16) vertebrate specimens were recovered from Structure 1, none of which could be identified to a taxonomic level more specific than class.

Feature 1A yielded seven (7) vertebrate specimens, none of which exhibited evidence of burning, although charcoal was recovered in several excavation units of this feature. Identified specimens were: medium bird (n = 1); large mammal (n = 1); mammal (n = 2) and three (3) unidentified specimens.

One otherwise unidentified vertebrate specimen was recovered from Feature 1B, Excavation Unit 6. No burning was evident on this specimen.

Feature 1C yielded eight (8) vertebrate specimens: one (1) large mammal fragment from Excavation Unit 9; three (3) medium-to-large mammal specimens from EU 27 and four (4) unidentified specimens from EU 27.

OTHER EXCAVATION UNITS

Several additional units (EUs 11, 14, 16, 17, 20, 23, 25, 26, 32, 35) yielded a total of thirty-one (31) faunal specimens, including one complete gastropod. Eggshell fragments were recovered from EU 26. For a complete listing of these materials by unit, see the appendix.

CONCLUSIONS

The 2000 PCMS field season yielded a total of 235 faunal specimens, most of which were in highly fragmentary condition, making identification impossible on the basis of osteological markers alone. Medium-to-large and large mammals (including the Odocoileus and bovid specimens) comprised 52.8% (124/235) of the total assemblage. The presence of cut or saw marks on 11.3% (14/124) of these specimens suggests that large animals were being processed, most likely through butchery. Due to fragmentation, the portion of the body displaying cut or saw marks cannot be determined osteologically. Excavation of a well context at 5LA3179 in 1998 yielded the remains of a sub-adult deer with clear evidence for butchery: cut, chop, and hack marks were observed on epiphyses, a pattern to be expected if the animal was dismembered for consumption (Binford 1981:116-117).

Available evidence, though minimal, supports the hypothesis that the inhabitants of 5LA3179 exploited large mammals for subsistence purposes. Deer appear to have been on the menu—most likely the mule deer (Odocoileus hemionus). Bovids, either domestic cattle (Bos taurus) or the wild bison (Bison bison) may also have been exploited; however, there is no conclusive evidence to that effect. A single bovid molar fragment was identified. No bovid remains were identified at 5LA3179 during the 1998 field season. The otherwise unidentified large mammal remains may include bovid elements, but this cannot be confirmed osteologically.

In contrast to the abundant evidence for the skinning of striped skunk (Mephitis mephitis) and gray fox (Urocyon cinereoargenteus) recovered from the well context in 1998, no evidence of skinning activities was observed in the 2000 faunal assemblage. Given the degree of fragmentation, in contrast to the excellent preservation of the well materials, the absence of evidence is not surprising.

In sum, excavation of surface features at 5LA3179 in 2000 yielded a much less diverse and more fragmentary fauna than excavation of the well context in 1998. Fragmentation and the resultant loss of osteological data may be a direct result of trampling and compression of soils by heavy equipment. Only two genus-level identifications were possible: Odocoileus

spp., most likely the mule deer, and Sylvilagus spp., cottontail rabbit. Cut marks on the deer elements suggest butchery—possibly dismemberment of the individual to obtain usable portions.

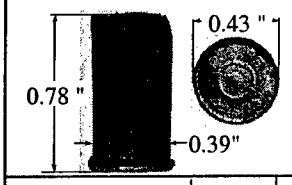
No cut marks or evidence of burning was observed on the rabbit specimens; however certain cooking methods, such as roasting or boiling, may not leave any osteological markers. Rabbit remains were recovered from the well context in 1998, and appear consistently at prehistoric archaeological sites from southeastern Colorado.

Although materials from the 2000 season are suggestive of a large mammal subsistence economy, possibly supplemented by harvesting wild resources, a more intact faunal assemblage would be needed to support this interpretation. While the well context yielded an abundant and diverse fauna, it probably does not provide a complete view of consumption patterns at 5LA3179, despite its being fascinating evidence for the period exploitation of the fur trade.

Chapter 10

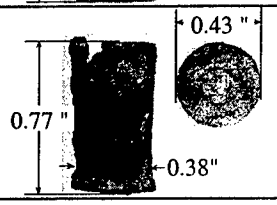
Cartridges, Ammunition, and Firearms (By Ken West)

NOTE: Archaeological specimens are pictured to the left. The complete cartridge is illustrated by specimens from a private collection to the right.



Cat: 303
Unit 14, Lot 1,
Headstamp:
Peters
.38 S&W

This well-preserved surface find is post 1877.



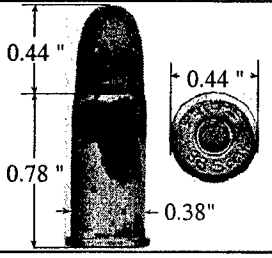
Cat: 513
Unit 23, Lot 5
No Headstamp or unreadable

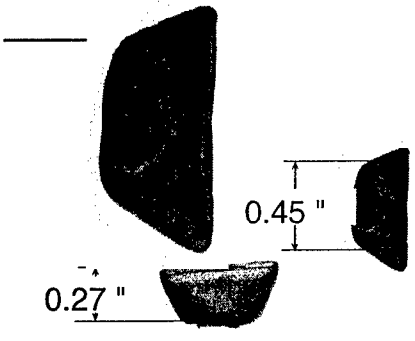
Center-fire pistol Cartridge, Probably a .38 S&W.

This S&W pistol cartridge was introduced about 1877. Underpowered and smallest of the .38 cartridges, it was not popular.

.38 S&W

Headstamp:
Peters
.38 S&W

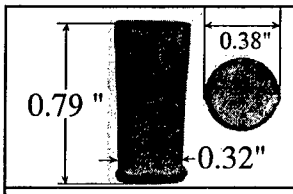




Cat: 580
Unit 28, Lot 1

No headstamp.

This may be the remains of a .38 center-fire which disintegrated when it exploded outside a firearm (say in a campfire). See indications of a rim (arrow).

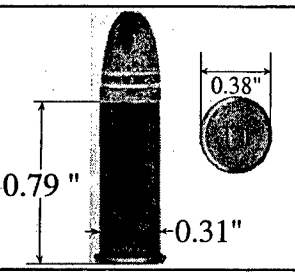


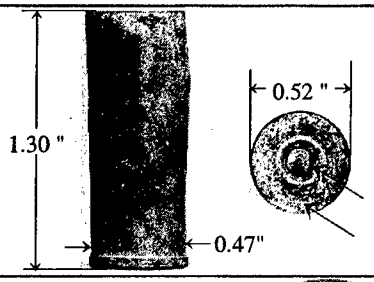
Cat: 523
Unit 23 sidewall
No Headstamp.

0.32 Rim-fire cartridge for pistols. Probably the .32 Colt Long shown below. Note impression of wedge-shaped firing pin (arrow).

Introduced for the S&W New Model #2 revolver in 1861,[1] the cartridge at the right was replaced by the center-fire version in 1875.[2]

.32 Colt long
Headstamp:
"U"—(Union Metallic Cartridge Co.)

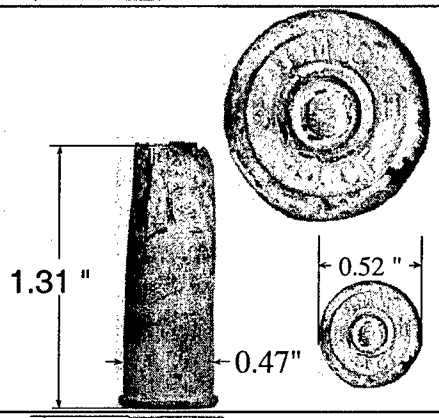




Cat: 872
Surface find

Point plot 864.
No Headstamp!

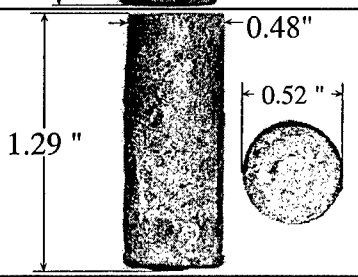
.44-40 Winchester round, introduced in 1873.[3] This specimen has no headstamp or tool marks indicating that it was reloaded. The small diameter deep indentation in the percussion cap is typical of pistol.



Cat: 900
Surface find

Point plot 929.
Headstamp!
U.M.C.
S H
.44 CF

The .44-40 Winchester round was used in both pistol and rifle, many manufacturers made guns which fired it. The shallow, rounded firing pin indentation on this specimen is typical of a rifle.



Cat: 490
Unit 23, Lot 4

Headstamp
Unreadable

This center-fire .44-40, Winchester design cartridge case is too encrusted to recognize details.

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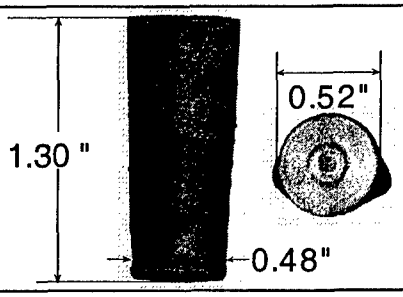
1 Frank C. Barnes, Cartridges of the World, 7th Edition, Mike Bussard, ed., (Northbrook, Ill.: DBI Books, 1993), p. 373
2 Ibid., p226.
3 Ibid., p. 245.

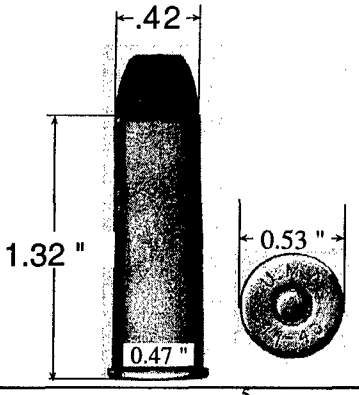


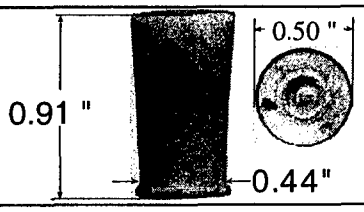
Cat: 705
Unit 36, Lot 2
Headstamp
Unreadable

This center-fire .44-40, Winchester design cartridge case is too encrusted to recognize details. The material is copper. The small-diameter firing pin indentation is typical of a revolver

The stopping-power and interchangeability of this cartridge made it the most popular in the old west.[4] The four specimens above, from the Bent Canyon Stage Station may be copper-case black powder examples.

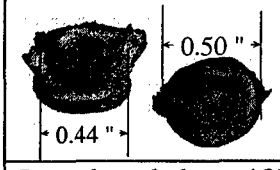
.44-40 UMC
CENTER-FIRE
(for pistol or
rifle)





Cat: 889
Surface find
No Headstamp.

.44 Smith & Wesson American.[5] One of the earliest center-fire cartridges. Ca. 1870.



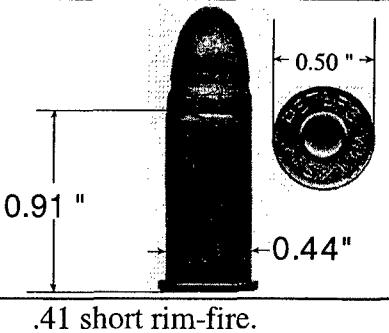
Unit 28, Lot 2
Cat: 594
Headstamp
Unreadable

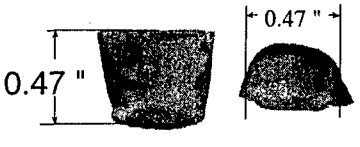
This center-fire .44 cartridge case is too encrusted and damaged to recognize details. Probably a .44 S&W American. The small-diameter firing pin indentation is typical of a revolver

Introduced about 1870, this center-fire cartridge was used by the U.S. Army between 1871 and 1873.

.44 Smith & Wesson American

Headstamp:
Peters
.44 S.&W. AM.





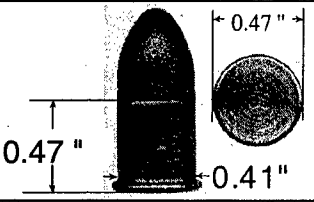
Cat: 404
Unit 20, Lot 1
No headstamp.

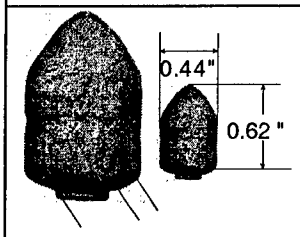
.41 short rim-fire.
The short wedge firing pin mark is typical of the Second model National derringer of this period.

4 Ibid., p. 88.
5 Ibid., p. 243.

The .41 short, or derringer, rim-fire was introduced in 1863. Loaded with 13 grains of black powder, it will bounce off a tree at 15 Yards.[6]

0.41 short rim-fire
Headstamp: US





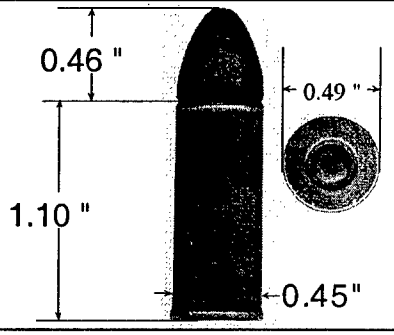
Cat. 952
Feature 1A, N. 1/2 of E. wall

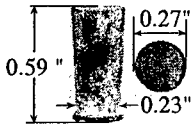
This 217 grain 0.44 caliber bullet is probably a 0.44 Colt whose diameter is .443[7] an weight 210-225 grains[8] The black powder cartridge was used by the military from 1871-1873. This bullet has been fired—marks of the lands and grooves impressed by a gun barrel indicated by arrows. The lack of distortion indicates that it did not hit anything solid.

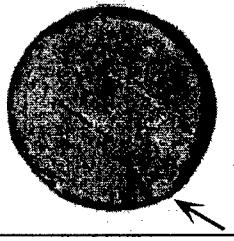
Used by the U.S. Army between 1871 and 1873, the conversion of the 1860 percussion Colt also used this round.

.44 Colt

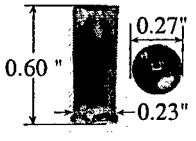
No Headstamp.

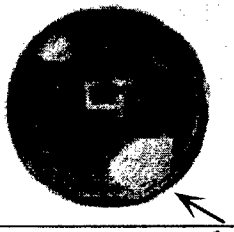




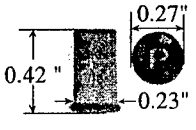


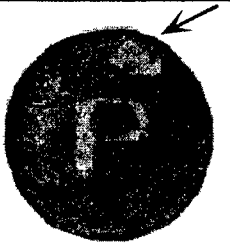
Cat 327.01, Unit 15, Lot 2
.22 long or long rifle
Diamond Headstamp
Note deep rectangular mark of firing pin (at arrow).





Cat 726, Unit 37, Lot 2
.22 long or long rifle
"H" Headstamp
Note shallow round mark of firing pin (at arrow).





Cat 250, Unit 12, Surface Outside Features
.22 Short
Broad "P" Headstamp
Note shallow round mark of firing pin (at arrow).

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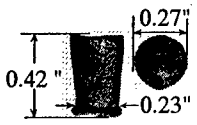
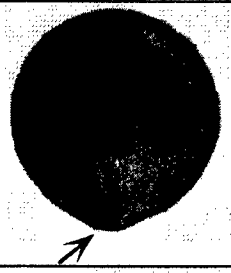
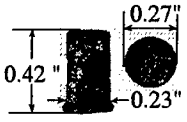
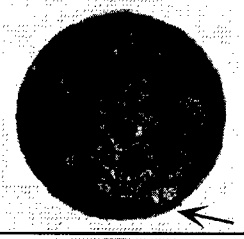
6 Ibid., p. 375
7 Ibid., p. 258.
8 Ibid., p. 246.



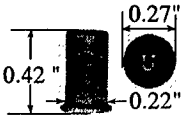


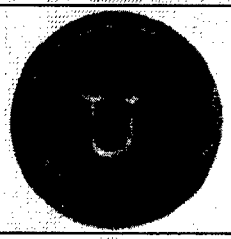
Cat 528, Unit 24, Lot 1
.22 Short
Narrow "P" Headstamp
Note deep rectangular mark of firing pin (at arrow).



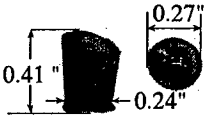


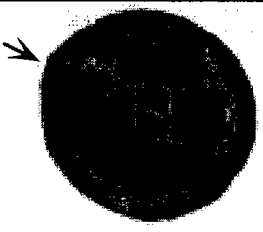
Cat 786, Unit 42, Lot 2
.22 Short
"U" Headstamp
Note deep, rectangular mark of firing pin (at arrow).



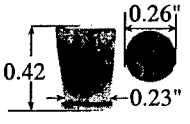


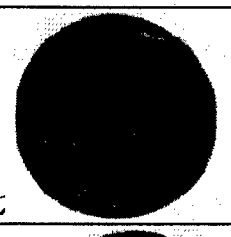
Cat 327, Unit 15, Level 2
.22 Short
"U" Headstamp
No visible mark of firing pin.



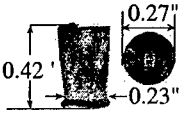


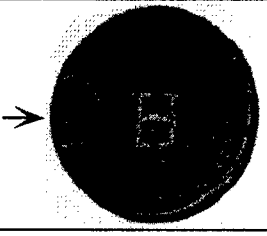
Cat 709, Unit 37, Lot 0,
.22 Short
"H" Headstamp
Note deep, rectangular mark of firing pin (at arrow).



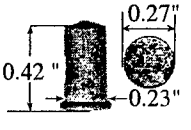


Cat 302, Unit 14, Lot 1
.22 Short
"H" Headstamp
Note shallow, round mark of firing pin (at arrow).

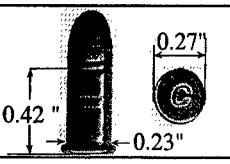




Cat 391, Unit 19, Lot 1
.22 Short
"H" Headstamp
Note shallow, round mark of firing pin (at arrow).



Cat 671, Unit 32, Lot 1
.22 Short
Headstamp: "SUPER" in Lozenge, "X" behind
Note deep, rectangular mark of firing pin (at arrow).
This is a Western "Super-X" brand.

Introduced in 1857, this round is ideal for small game—like the numerous rabbits at the site.	.22 Short Headstamp: "C"	

Guns which might have fired some of the cartridges.

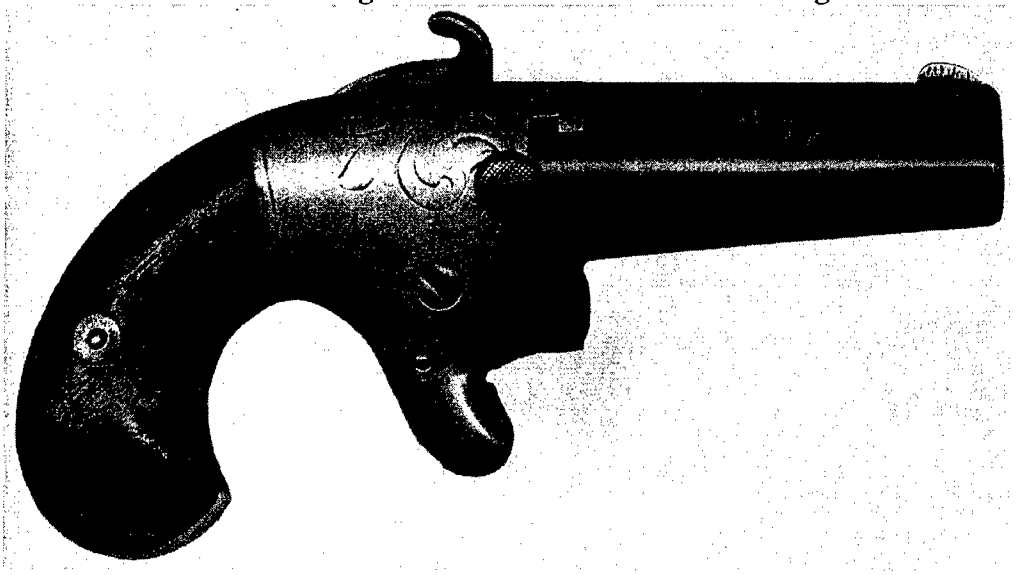


Figure 86: Second model National Derringer, SN 209, (identical to first model Colt, shown actual size).

This .41 short rim-fire derringer was made in 1865 or 1866 (no records exist of dates of manufacture of specific serial numbers). It would have been in popular use at the time that the Bent Canyon stage stop was in use.

The firing pin mark of this single-shot second model National derringer, made in 1865, is very similar to that on the cartridge found at the Bent Canyon stage station.

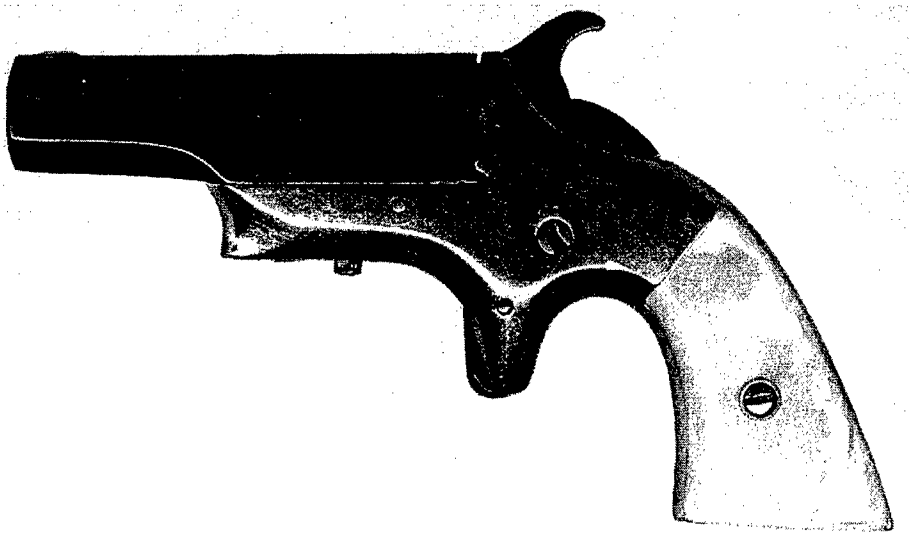


Figure 87: Brown-Southern Derringer, SN. #1492, actual size. Manufactured late in 1869 or 1870. The least expensive of the guns shown, it was manufactured without a safety.

The mark of the firing pin of this derringer is also similar to find Cat. # 404.

Figure 88: Remington double derringer SN #L98462, actual size, manufactured 1866-1935

Also in use during the time of the Bent Canyon stage station operation.
The .32 Long Rim-fire cartridge case (Cat. 523) is another artifact which seems out of place. The very inexpensive Whitney "Defender", manufactured between 1871 and 1879, shown actual size below, was chambered for this round. Other, larger, more accurate pistols were also chambered for the .32 long.

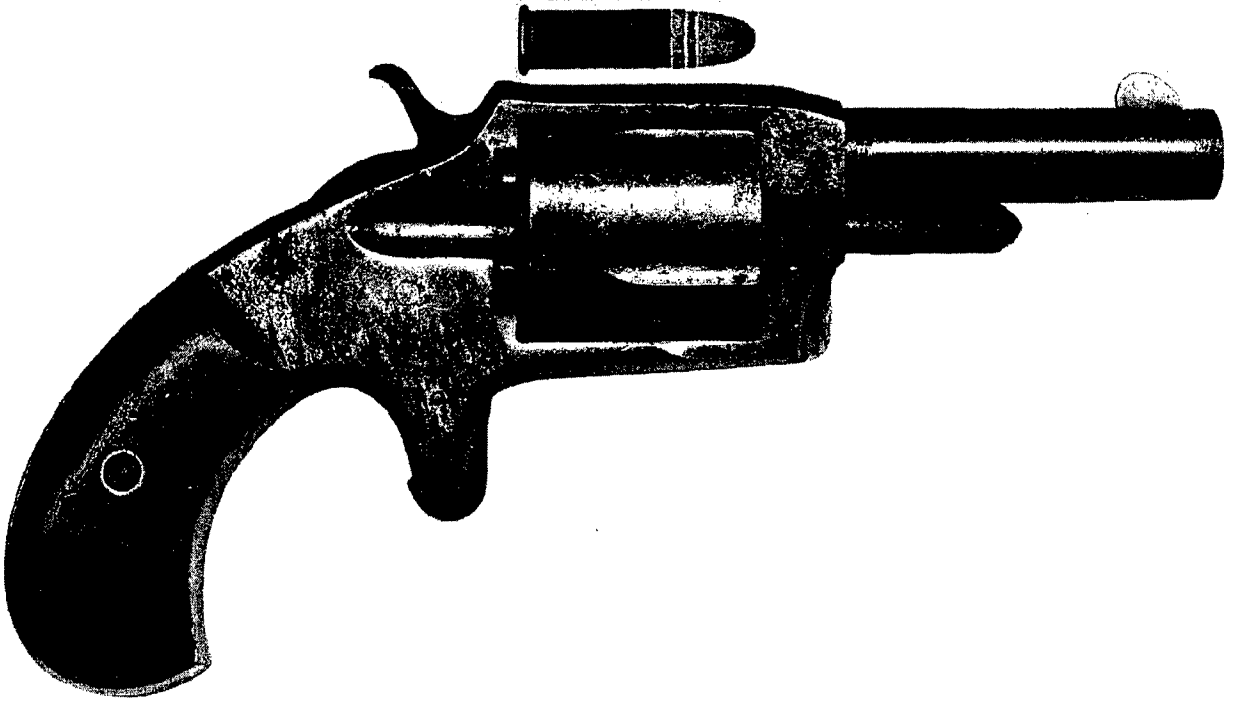


Figure 89: Allen & Wheelock derringer SN #388, actual size, manufactured 1865.

This 1865 Allen & Wheelock derringer, also chambered for the .32 rim-fire, is a less probable find in the Purgatoire valley, though it might have been carried by a stage passenger.

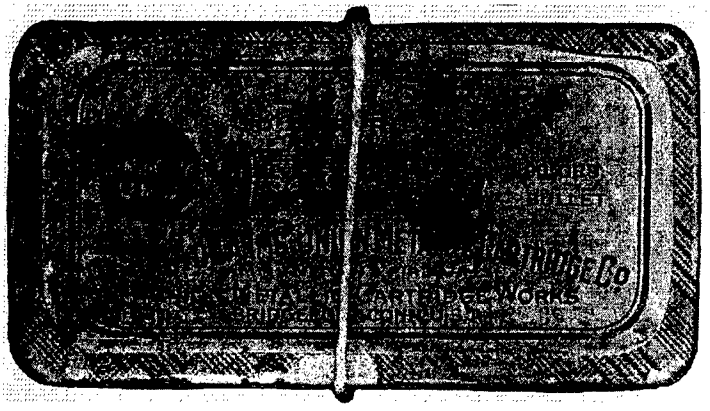


Figure 90: packet of .32 long rim-fire cartridges, actual size, manufactured 1910

The rifling in the .22 Whitney "Defender", manufactured between 1871 and 1879, is so poor that it does not stabilize the bullet, which subsequently tumbles and is wildly inaccurate.

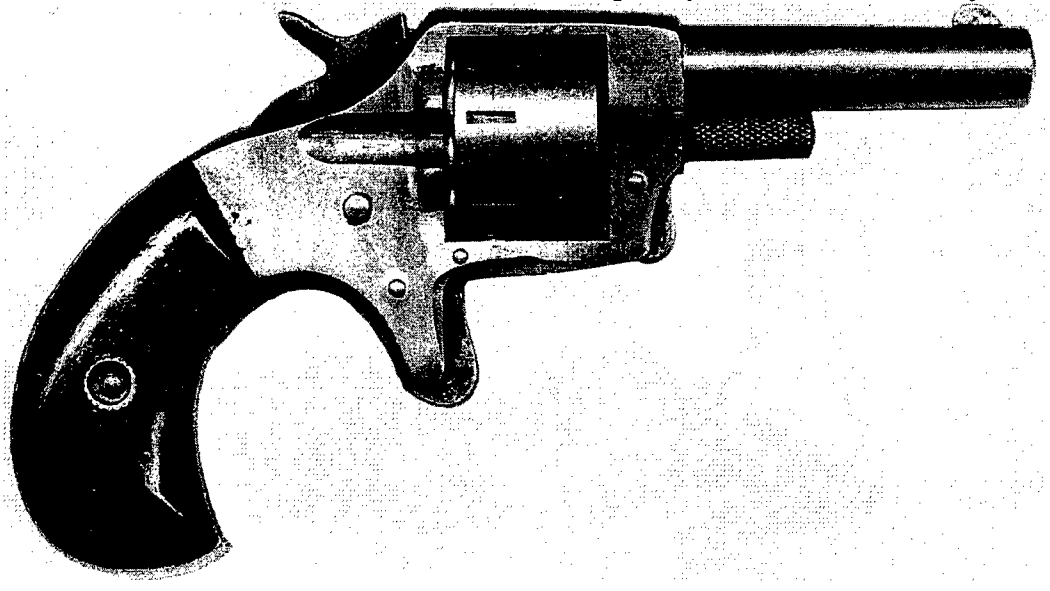


Figure 91: Whitney "Defender", actual size, manufactured 1871-79.

Table 4: Cartridges - Dimensions are all in inches, Data is from: Frank C. Barnes, Cartridges of the World, 7th Edition

Name	Year Intro'd.	Base dia.	Rim dia.	Case length
.38 S&W (.38 short)	1877	.386	.433	.78
Cat: 303 — .38 S&W, Peters (Remington)	1877	.39	.43	.78
Cat: 513 — .38 S&W	1877	.38	.43	.77
Cat: 580 — May be a .38	1877	~	.45	~
.32 Long, Black Powder, Rim-fire	1861	.318	.377	.791
Cat: 523 — .32 Black Powder Rim-fire	1861	.32	.38	.79
.44-40 Winchester	1873	.471	.525	1.31
Cat: 872 — .44-40 Winchester	1873	.47	.52	1.30
Cat: 900 — .44-40 Winchester, U.M.C.	1873	.47	.52	1.31
Cat: 490 — .44-40 Winchester	1873	.48	.52	1.29
Cat: 705 — .44-40 Winchester	1873	.48	.52	1.30
.44 S&W American	1870	.440	.506	.91
Cat: 889 — .44 S&W American	1870	.44	.50	.91
Cat: 594 — .44 S&W American	1870	.44	.50	~
.41 Short (Black Powder Rim-fire)	1863	.406	.486	.467
Cat: 404 — .41 Short, Rim-fire	1863	~	.47	.47
.22 Long	1871	.225	.275	.595
Cat 327.01 — .22 Long, Diamond	1871	.23	.27	.59
Cat 726 — .22 Long, Winchester	1871	.23	.27	.60
.22 Short	1857	.225	.273	.423
Cat 250 — .22 Short, Peters (Remington)	1857	.23	.27	.42
Cat 528 — .22 Short, Peters (Remington)	1857	.23	.27	.42
Cat 786 — .22 Short, U.M.C.	1857	.23	.27	.42
Cat 327 — .22 Short, U.M.C.	1857	.22	.27	.42
Cat 709 — .22 Short, Winchester	1857	.24	.27	.41
Cat 302 — .22 Short, Winchester	1857	.23	.26	.42
Cat 391 — .22 Short, Winchester	1857	.23	.27	.42
Cat 671 — .22 Short, Western, Super X	1857	.23	.27	.42

NOTE: U.M.C. is the Union Metallic Cartridge Company, which was purchased by Remington in 1911. U.M.C. Headstamps cease after 1911.

Analysis:

The **.41 short** derringer which fired this find in EU 20 would have been an expensive luxury for the ranchers and farmers who lived in the area. The round is of the period and would have probably been fired by a stagecoach passenger. Why the derringer was fired at the Bent Canyon Stage Stop would make an interesting subject for a novel.

The four **.44-40 Winchester** rounds are the interchangeable, practical rounds that you would expect local farmers and ranchers to use. This cartridge, used in both pistols and rifles, had the stopping power to bring down the deer and antelope found in the area and any troublesome human beings. The firing pin impressions on the specimens found indicate that they were fired by both pistol and rifle.

The **.22 short** rim-fire cartridge cases are the most common finds. They are ideal (low cost, adequate stopping power) to harvest the jackrabbits in the area for the cooking pot. These are surface, or near surface finds; both on the eroded plateau around Feature 1 and on the bench below—of which the surface has been raised by significant silt deposition after some of the structures on it had lost their structural integrity and tumbled down. This indicates that the .22 short rounds were used for a significant part of the occupation period of the site—and after. The rectangular firing pin impressions are typical of a new gun. Rounded, flattened firing pin impressions may be the result of a broken firing pin being replaced with a home-made copy , which was typically created from a nail.

The **.44 Colt** and **.44 S&W American** rounds were generally military, but would have also been used by civilians.

The **.32 Long Rim-fire** is a marginal round for this area. It may have been adequate to bring down antelope at very short range.

(Barnes 1993)

Chapter 11

Magnetic Susceptibility Investigations at Bent Canyon Stage Station (5LA3179), Piñon Canyon Maneuver Site, Las Animas County, Colorado (by Steven L. DeVore, National Park Service, Midwest Archaeological Center, Lincoln, NE)

Introduction

Magnetic susceptibility measures the degree to which a material can be magnetized. It is defined in a material as the ratio of the induced magnetic field to the applied magnetic field. It can be expressed as volume susceptibility (K) where the measurement is normalized by volume or as mass susceptibility (X) where the measurement is normalized by mass. The low field mass susceptibility (X^{lf}) is equal to the volume susceptibility (K) divided by the bulk density of the sample (ρ in units of kg cm^{-3}).

Magnetic susceptibility may be one of the most important but least utilized geophysical investigative techniques in archaeological landscape studies. In general, the technique is extremely sensitive to environmental change and is widely used in environmental studies (Thompson and Oldfield 1986). The techniques for the measurement and interpretation of magnetic susceptibility are derived from the fields of rock magnetism and paleomagnetism (Banerjee 1981; Nagata 1961; Tarling 1983).

Iron oxides are present in most of the earth's soils. The iron is present and magnetically detectable in grains of magnetite, maghemite, and hematite. The iron minerals in the soil are "susceptible" to becoming magnetized in the presence of a magnetic field (Ellwood et al. 1998). This fundamental property can be quickly and easily measured on small samples.

The application of magnetic susceptibility to archaeological investigations centers around two factors: 1) typically, greater susceptibility is found in the topsoil than in underlying subsoil, and, 2) human activities associated with site occupation enhance the susceptibility of the topsoil (Clark 1996). The method has been developed to detect evidence of human occupation and to define site limits in the topsoil even when no distinctive features have survived. It can be applied to research questions concerning the following topics: 1) site limits, activity areas, or features; 2) morphology or function of sites, activity areas, and features and their formation processes; 3) the effects of sedimentation and erosion upon the archaeological record; 4) establishment and expansion of stratigraphic sequences; and, 5) climatic regimes and other information on soil-forming factors (Dalan and Banerjee 1998:13). Dalan and Banerjee (1998) provide an overview of the historic and present applications of the techniques to archaeological investigations.

While many of the past applications have centered on the areal prospection of the surface, the present project is concerned with the magnetostratigraphy (Clark 1996). This type of project is the magnetic study of the accumulated deposits, which may provide information about the intensity of the occupational level (Yates 1989). The techniques can also be used to correlate stratigraphy across a site as well as to identify buried soils or paleosols (Dalan and Banerjee 1999).

Methods

The Bartington MS2 magnetic susceptibility meter (Bartington 1989) was used with a MS2B dual-frequency laboratory sensor to collect both low and high frequency readings of the sample. The ability of the laboratory sensor to operate at two different frequencies provides for the study of the frequency dependency of low and high frequency susceptibility measurements of the samples. Soil samples were collected by students of the 2000 CU-The Springs archaeological field school at the Bent Canyon Stage Station (5LA3179) (Figure 92). Soil samples from each susceptibility column were collected at five cm increments and placed in plastic zippered bags. The low field mass susceptibility (X^{lf}) samples were

collected from the profiles of five excavation units: EUs 3, 20, 26, 42, and 44. EU 3 was located in the interior of Feature 1, Room A. The feature consisted of the stone foundation of a structure on the upper bench of the site. The X^{lf} samples from EU 3 extended from the surface to a depth of 55 cm below the surface datum line(BSDL). EU 20 was located on the interior portion of tracked vehicle tracks on the lower portion of the site. The X^{lf} samples from EU 20 extended from the surface to 90 cm BSDL. EU 26 was located in the southeast corner of Feature 13, at the east foundation wall near the southeast corner of Feature 1. X^{lf} samples from EU 26 were collected along the west wall, on the interior side of the foundation wall to a depth of 85 cm BSDL. EUs 42 and 44 were adjoining units in the middle of tracked vehicle tracks that crossed over Feature 9, a stone foundation wall at the base of the bedrock outcrop. The units were located on the lower portion of the site. One X^{lf} sample was collected from the interior of Feature 9 in EU 42. The sample from this unit was the uppermost 5-cm of Feature 9. The remaining X^{lf} samples in the profile were from EU 44 beginning at 5 cm BSDL to a depth of 70 cm BSDL.

The soil from each magnetic susceptibility sample was packed into a 23-mm cubic plastic box. The samples were labeled with the provenience information and the lid was sealed with masking tape. They were also weighed so that the mass-specific susceptibility could be calculated. The Bartington MS2 system was set up in a low traffic area within the Midwest Archaeological Center. The system was also placed on a wooden table away from metal chairs, tables, electrical outlets, etc. This was an attempt to minimize any magnetic effects from other materials or from electromagnetic current. The meter was also connected to a laptop computer operating the Multisus for Windows software (Bartington Instruments 1998). The software provided the system with a means to record both the Low Frequency (X_{LF}) and the High Frequency (X_{HF}) susceptibility readings with the LF measurements taken first. Samples were measured in the 0.1 range of the Bartington MS2 meter. The software also performed mass-specific susceptibility corrections to the samples and calculated the frequency dependent susceptibility ($X_{fd\%}$). Prior to the processing of the susceptibility samples, an empty cube was placed in the sensor to obtain the susceptibility value of the plastic container, which was used by the Multisus software program to correct the mass susceptibility of the sample.

Initially, the meter was set to zero before a sample was inserted into the MS2B sensor. The sample was measured and the result recorded in the Multisus software program on the laptop computer. The sample was removed from the sensor and a second reading was taken of the empty sensor. The low-field mass susceptibility value (X^{lf}) was corrected and recorded in the software program. These steps were repeated for each sample in the Low Frequency range (X_{LF}) and then in the High Frequency range (X_{HF}). To adjust the Bartington readings to the International System's units of measurement for mass-specific susceptibility ($m^3\ kg^{-1}$), the readings are multiplied by 10^{-8}. An empty plastic cube was also weighed (3 g) and measured (-0.40 Bartington reading) to establish the correction coefficient for the container. Formulas for the calculation of the mass-specific susceptibility ($X^{lf} = K/\rho$) and frequency-dependent susceptibility ($X_{fd\%} = ((X_{LF} - X_{HF})/ X_{LF}) * 100$) are found in Dearing (1994:18). An error in the Multisus software formula for frequency dependency ($X_{fd\%}$) was noted and corrected. The values in the software program were given as negative values. They were multiplied by –1 to provide the correct frequency dependency value. The results of the corrected X^{lf} values for the X_{LF}, the X_{HF}, and the $X_{fd\%}$ for the EU 3 samples are in Table 5. Table 6 contains the corrected X^{lf} values of X_{LF} and X_{HF} values along with the $X_{fd\%}$ values for EU 20. Table 7 contains the corrected X^{lf} values of X_{LF} and X_{HF} along with the $X_{fd\%}$ values for the west wall of EU 26. The corrected X_{LF} and X_{HF} values for the X^{lf} along with the $X_{fd\%}$ values for EUs 42 and 44 are contained in Tables 4 and 5, respectively. The resulting data from the susceptibility measurements were placed in Golden Software's GRAPHER software (Keckler et al. 1994) for plotting.

Results of the Low Field Mass Susceptibility

The magnetic susceptibility of soils has a high correlation with the mineralogy of the parent material and with the local geology (Dearing 1994:48). Soils developed in strongly magnetic basalts have higher X^{lf} values than soils developed in limestone or sandstone. Soils generally have higher X^{lf} values in the topsoils as compared with the subsoils. Magnetic enhancement of the topsoil results from the resistance to weathering of the primary minerals

found in the parent material (Dearing 1994:48-51), and from the formation of secondary minerals by burning of soil in the presence of organic matter (Dearing 1994:51), by the addition of dust from industrial combustion processes or volcanic eruptions (Dearing 1994:51), and/or by organic and inorganic chemical processes in the soil (Dearing 1994:51-52). The degree of the magnetic enhancement in the topsoil is controlled by the local geology, the climatic conditions, vegetation and organic matter, soil organisms (i.e., bacteria), and time (Dearing 1994:55-61). Human activity also has an effect on the susceptibility through heating effects from fires and chemical and bacterial effects on garbage decomposition (Dearing 1994:88-91). Magnetic enhancement also allows the identification of buried soils, the characterization of sediments, and the identification of source locations.

Feature 1, Room A – Excavation Unit 3

Analysis of the data (Table 5) from EU 3 in Feature 1, Room A revealed a slight increase to an X_{LF} value of 72.1 and an X_{HF} value of 70.3 at 10 to 15 cm BSDL, and a larger increase in the susceptibility values (X_{LF} of 84 and X_{HF} of 82.1) at 25 to 30 cm BSDL (Figure 93). The susceptibility values then decreased to an X_{LF} of 71.2 and an X_{HF} of 69.8 to a depth of 40 to 45 cm BSDL where the values began to increase to the base of the excavation at 55 cm BSDL The X_{LF} values range from 67.9 to 84.0 with a mean of 74.19 and a standard deviation of 4.975. The X_{HF} values range from 66.5 to 82.1 with a mean of 72.57 and a standard deviation of 4.991.

Excavation Unit 20

Analysis of the data (Table 6) from EU 20 indicates a decrease of the susceptibility in the upper 10 cm of the topsoil (Figure 94). The susceptibility then gradually increases through the upper part of the subsoil until it actually peaks at an X_{LF} of 118.8 and an X_{HF} of 115.7 at 45 cm BSDL; however, there is a slight drop at 40 cm BSDL before increasing to its maximum value. Although there is a small rise in the susceptibility value at 60 cm BSDL,

the susceptibility values steadily decrease to the base of the excavation at a depth of 90 cm BSDL. The X_{LF} values range from 76.8 to 118.8 with a mean of 97.917 and a standard deviation of 13.121. The X_{HF} values range from 75.4 to 115.7 with a mean of 95.522 and a standard deviation of 12.603.

Feature 13 – Excavation Unit 26, west wall

Analysis of the data (Table 7) from the west wall of EU 26 in Feature 13 indicates a slight decrease in the magnetic susceptibility in the upper 10 cm of the magnetostratigraphic profile (Figure 95). The susceptibility increases to its X_{LF} of 86.8 and an X_{HF} of 84.9 between 15 and 20 cm BSDL. From there, the susceptibility decreases until a depth of 30 to 35 cm BSDL, where it increases slightly between 40 and 45 cm BSDL and again between 55 and 60 cm BSDL. From that depth, the susceptibility values steadily decrease to the base of excavations at 85 cm bs. The susceptibility values beginning at a depth of 70-75 cm BSDL indicate that the samples collected at this depth and below are weak samples. At these levels, the samples are prone to large errors and may not provide useful dual-frequency data (Note: It is necessary to conduct a series of ten or more measurements on weak samples and then use the mean values to obtain essential dual-frequency data (Dearing 1994:18). The X_{LF} values range from 2.9 to 86.8 with a mean of 54.24 and a standard deviation of 23.1. The X_{HF} values range from 3.0 to 84.9 with a mean of 52.94 and a standard deviation of 22.52.

Feature 9 – Excavation Units 42 and 44

In the upper 10 cm of the magnetostratigraphic profile (Figure 96) from EUs 42 and 44 in Feature 9, the susceptibility values decrease (Tables 4 and 5). Between 10 and 15 cm BSDL, the susceptibility values jump to over 75 for both X_{LF} and X_{HF} ranges. The susceptibility values decrease until a depth of 20 to 25 cm BSDL. At 25 to 30 cm BSDL, there is a slight increase in the susceptibility values. From there they drop to minimum

values of an X_{LF} of 69.9 and an X_{HF} of 68.3 at 50 to 55 cm BSDL; however, there is a slight increase at 40 to 45 cm BSDL. From this depth, the susceptibility values increase to the base of the excavations at 70 cm BSDL. The X_{LF} values range from 68.7 to 79.4 with a mean of 74.42 and a standard deviation of 3.75. The X_{HF} values range from 67.0 to 77.7 with a mean of 72.94 and a standard deviation of 3.685.

Results of the Frequency Dependency Susceptibility

Frequency dependency susceptibility measurements are useful in detecting the presence of ultrafine (<0.03μm) superparamagnetic ferrimagnetic minerals resulting from bacterial or chemical processes in the soil (Dearing 1994:17-18). The concentration of superparamagnetic grains provides information on the origins of magnetite and on the domain size in primary and secondary minerals associated with environmental magnetism studies. Primary minerals (e.g., ferrimagnetic iron oxides and sulphides such as magnetite, maghemite, titanomagnetite, titanomaghemite, etc.) are minerals formed in igneous rocks and contain an extremely high percentage of their original magnetic properties. Secondary minerals (e.g., other ferrimagnetic iron oxides and sulphides) represent minerals formed by processes associated with burning, fossil fuel combustion, diagenesis, authigenesis, soil formation, and bacterial origination (Dearing 1994:42). Domain state and crystal size give clues to the formation processes of magnetite. These tend to fall into three categories. The multidomain size category contains primary rock minerals and products of fossil fuel combustion. Stable single domain size ranges contain primary rock minerals and secondary minerals formed by fossil fuel combustion, burning, pedogenesis, and bacterial causes. Burning, pedogenesis, and bacterial synthesis produce superparamagnetic behavior in the mineral domain (Dearing 1994:42).

Samples with superparamagnetic ferrimagnetic minerals typically show as slightly lower values when measured in the high frequency range compared to their low frequency measurements. With low $X_{fd\%}$ values of less than 2 per cent, virtually no superparamagnetic grains (< 10%) are present in the sample (Dearing 1994:43). $X_{fd\%}$ values of 2 per cent to 10

per cent indicate that samples consists of an admixture of less than approximately 10 per cent superparamagnetic grains with other coarser stable single domain size and multidomain size ferrimagnetic iron oxides and sulphides. A $X_{fd\%}$ value of 8 per cent is equivalent to a superparamagnetic grain concentration of 50 per cent. Samples with $X_{fd\%}$ values of 10 per cent contain virtually all superparamagnetic domain sized grains, greater than 75 per cent. Very high $X_{fd\%}$ values greater than 12 to 14 per cent are extremely rare, and may indicate an erroneous measurement, metal contamination, anisotrophy, or a weak sample (Dearing 1994:43). This simple mixing model provides an estimate of the contribution of the sample's magnetite by superparamagnetic grains.

The magnetostratigraphic profiles from EU 3 (Figure 93), EU 20 (Figure 94), and Unites 42 and 44 (Figure 96) exhibit this relationship throughout the susceptibility sample column. This also holds true throughout most of the profile from EU 26(Figure 95), however, at a depth of 80 to 85 cm BSDL, the X_{HF} value is higher than the X_{LF} value resulting in a negative $X_{fd\%}$ value. Although care should be taken in the interpretation of this reading due to the weak nature of the sample which has a fairly small K of less than 30 (Dearing 1994:15-16), multiple readings (i.e., approximately 10 readings) can be averaged if the dual-frequency data on weak samples are needed (Dearing 1994:18).

Feature 1, Room A – Excavation Unit 3

The $X_{fd\%}$ values increase in the upper 20 cm of the profile from 1.91 per cent to 2.84 per cent (Figure 97). The $X_{fd\%}$ values then decrease throughout the lower portion of the profile to 1.39 per cent. This implies that the difference between the X_{LF} and X_{HF} values increased in the upper part of the profile and then decreased in the lower portion of the profile. The $X_{fd\%}$ values ranged from 1.39 per cent to 2.84 per cent with a mean of 2.192 per cent and a standard deviation of 0.4186 per cent.

Excavation Unit 20

The $X_{fd\%}$ values remain fairly constant value of 2.5 per cent until a depth of 70 cm BSDL (Figure 97); however, there is a slight increase to 2.91 per cent at 35 cm BSDL. The $X_{fd\%}$ values then decrease to approximately 2 per cent throughout the lower portion of the profile with slight fluctuations between 1.77 and 2.15 per cent. This implies that the difference between the X_{LF} and X_{HF} values increased in the upper part of the profile and then decreased in the lower portion of the profile. The $X_{fd\%}$ values ranged from 1.14 to 2.91 per cent with a mean of 2.421 per cent and a standard deviation of 0.3314 per cent.

Feature 13 – Excavation Unit 26, west wall

The $X_{fd\%}$ values are fairly consistent through the upper portion of the profile (Figure 97). The $X_{fd\%}$ values increase from 1.71 per cent at the surface to approximately 2.25 per cent at 65 to 70 cm BSDL with slight deviations of 3.88 per cent between 20 and 25 cm BSDL, 3.1 per cent between 40 and 45 cm BSDL and 4.11 per cent between 50 and 55 cm BSDL. The increases at 40-45 cm and 50-55 cm correspond to slight increases in the mass-specific values at these depths. The $X_{fd\%}$ values between 70 and 80 cm BSDL vary from 0.93 to 2.78 per cent. The final reading between 80 and 85 cm BSDL is negative. The $X_{fd\%}$ values ranged from –3.45 to 4.11 per cent with a mean of 2.024 per cent and a standard deviation of 1.606 per cent.

Feature 9 – Excavation Units 42 and 44

The $X_{fd\%}$ values increase in the upper 10 cm of the profile from 1.98 per cent at the surface to 2.47 per cent at 5 to 10 cm BSDL (Figure 97). The $X_{fd\%}$ values then decrease to approximately 2 per cent, ranging between 1.76 to 2.15 per cent throughout the remaining portion of the profile. The $X_{fd\%}$ values ranged from 1.76 to 2.47 per cent with a mean of 1.987 per cent and a standard deviation of 0.1826 per cent.

Conclusions

During the summer of 2000, CU-The Springs archaeological field school students conducted excavations at the Bent Canyon Stage Station, site 5LA3179. Excavations were conducted on the upper bench of the site in Feature 1, a stone foundation associated with a late-nineteenth-century building. Excavations were also conducted on the lower portion of the site in the vicinity of Feature 9, a stone foundation, and on other areas along the drainage flowing into Bent Canyon. Their field work was designed to explore the extent of damage caused by tracked vehicle traffic within the restricted boundaries of the site. Magnetic susceptibility samples were collected from five excavation units: EUs 3, 20, 26, 42, and 44. Low frequency and high frequency responses were measured with a Bartington MS2 magnetic susceptibility system. The frequency dependency was also computed.

Increases in X^{lf} values through magnetic enhancement provide information on the accumulation of ferrimagnetic minerals in the soil through numerous mechanisms, as indicated above. In analyzing the magnetic susceptibility data from the Bent Canyon Stage Station, one needs to consider all of these factors. Noticeable increases were noted at 25-30 cm BSDL and 50-55 cm BSDL in EU 3; 45 cm BSDL in EU 20; 15-20 cm BSDL, 40-45 cm BSDL, and 50-55 cm BSDL in EU 26; and 10-15 cm BSDL, 25-30 cm BSDL, 40-45 cm BSDL, and 65-70 cm BSDL in EUs 42 and 44. While all of the data indicate human activity in the upper portions of the profiles, the data also suggest additional environmental factors may have been the cause of the magnetic enhancement found in the lower portions of the profiles. Decreases in X^{lf} values can occur through erosional activities and sediment aggregation, as well as from human disturbances.

The data resulting from the frequency-dependent susceptibility provides a view of the types of magnetic material, which is found in the soils from the five excavation units. The results indicate the types of ferrimagnetic minerals and gives a clue as to their formation, i.e., primary minerals versus secondary minerals. The measurements at the two frequencies (X_{LF} and X_{HF}) are used to detect the presence of ultrafine (<0.03 μm) superparamagnetic ferrimagnetic minerals. These minerals occur as crystals, which resulted from bacterial or

chemical processes in the soil (Dearing 1994:17). Slightly lower values are obtained in the high frequency measurement (HF) throughout all of the profiles except the magnetostratigraphic profile of EU 26 at a depth of 80 to 85 cm BSDL. Although the LF and HF values are quite low (2.9 and 3.0, respectively), the frequency dependency percentage is positive. The results were recorded as a percentage of the original LF value. The frequency-dependent data from the profiles of the five units indicated the presence of the ultrafine minerals in the soils from the units. Values over 2 per cent suggest a combination of the three types of domain sizes which suggest multiple causes for the magnetic enhancement found in the excavation units.

When combined with excavation unit stratigraphic profiles, artifact analysis, and geoarchaeological analysis, the magnetic susceptibility data provide complementary evidence that can elucidate our understanding of the human activities at the site. Disturbance of the native soils through construction activities, the discarding of artifacts, and the accumulation of human and animal waste have left their marks on the magnetostratigraphy of the site. Additional soil chemistry analyses would also be useful in the study of human activity at this nineteenth-century stage station and community center.

Table 5: Magnetic Susceptibility Samples from Feature 1, Room A, Excavation Unit 3

depth below surface (cm)	total weight of packed container (g)	corrected LF susceptibility	corrected HF susceptibility	frequency dependent susceptibility %
1-5	10.3	67.9	66.6	1.91
5-10	10.5	68.3	66.5	2.64
10-15	10.7	72.1	70.4	2.50
15-20	10.5	70.4	68.4	2.84
20-25	11.4	73.9	72.1	2.44
25-30	12.0	84.0	82.1	2.26
30-35	11.0	77.3	75.5	2.33
35-40	11.3	73.9	72.4	2.03
40-45	11.1	71.2	69.8	1.97
45-50	11.3	77.7	76.3	1.80
50-55	10.8	79.4	78.3	1.39

Sensor : MS2B

Units : SI ($m^3 kg^{-1}$) x 10^{-8}

Range : x0.1

Container weight : 3.0 g (Mass-specific)

Container susceptibility (sus): -0.4 (SI units)

Table 6: Magnetic Susceptibility Samples from Excavation Unit 20

depth below surface (cm)	total weight of packed container	corrected LF susceptibility	corrected HF susceptibility	frequency dependent susceptibility %
5	10.6	90.7	88.4	2.54
10	11.0	84.1	82.0	2.50
15	10.9	87.1	84.9	2.53
20	11.3	86.4	84.2	2.55
25	11.1	96.7	94.1	2.69
30	10.9	109.6	106.7	2.65
35	11.5	113.5	110.2	2.91
40	11.3	111.3	108.2	2.79
45	11.1	118.8	115.7	2.61
45 (rock)	3.50	2.0	8.0	-300.00
50	11.2	111.7	108.8	2.60
55	11.2	109.4	106.6	2.56
60	11.5	110.2	107.5	2.45
65	11.2	102.1	99.6	2.45
70	11.8	95.9	94.2	1.77
75	11.7	93.1	91.1	2.15
80	11.6	83.6	82.0	1.91
85	11.9	81.5	79.8	2.09
90	11.7	76.8	75.4	1.82

Sensor : MS2B

Units : SI ($m^3 kg^{-1}$) x 10^{-8}

Range : x0.1

Container weight : 3.0 g (Mass-specific)

Container sus : -.40 (SI units)

Table 7: Magnetic Susceptibility Samples from Feature 13, Excavation Unit 26, west wall

depth below surface (cm)	total weight of packed container	corrected LF susceptibility	corrected HF susceptibility	frequency dependent susceptibility %
0-5	10.9	75.9	74.6	1.71
5-10	10.8	71.9	70.5	1.95
10-15	12.0	78.9	77.4	1.90
15-20	11.5	86.8	84.9	2.19
20-25	11.3	69.6	66.9	3.88
25-30	11.3	60.5	59.4	1.82
30-35	11.4	54.4	53.2	2.21
35-40	11.3	56.7	55.3	2.47
40-45	11.4	64.6	62.6	3.10
45-50	11.5	61.8	60.5	2.10
50-55	11.2	63.2	60.6	4.11
55-60	11.7	53.2	52.0	2.26
60-65	11.9	44.7	43.7	2.24
65-70	12.0	41.0	40.1	2.20
70-75	12.1	21.5	21.3	0.93
75-80	11.9	14.4	14.0	2.78
80-58 a	11.6	2.9	3.0	-3.45
80-85 b	11.4	2.3	2.3	-0.00

Sensor : MS2B

Units : SI (m^3 kg^{-1}) x 10^{-8}

Range : x0.1

Container weight : 3.0 g (Mass-specific)

Container sus : -.40 (SI units)

Table 8: Magnetic Susceptibility Sample from Excavation Unit 42, Feature 9

depth below surface (cm)	total weight of packed container	corrected LF susceptibility	corrected HF susceptibility	frequency dependent susceptibility %
1-5	11.30	70.7	69.3	1.98

Sensor : MS2B

Units : SI (m^3 kg^{-1}) x 10^{-8}

Range : x0.1

Container weight : 3.0 g (Mass-specific)

Container sus : -.40 (SI units)

Table 9: Magnetic Susceptibility Samples from Excavation Unit 44, Feature 9

depth below surface (cm)	total weight of packed container	corrected LF susceptibility	corrected HF susceptibility	frequency dependent susceptibility %
5-10	11.6	68.7	67.0	2.47
10-15	11.6	79.3	77.7	2.02
15-20	11.7	79.1	77.5	2.02
20-25	11.4	77.3	75.7	2.07
25-30	11.8	79.4	77.7	2.14
30-35	11.3	75.3	73.9	1.86
35-40	11.2	75.7	74.3	1.85
40-45	11.3	76.6	75.2	1.83
45-50	11.7	71.3	69.9	1.96
50-55	11.4	69.6	68.3	1.87

55-60	11.6	70.3	69.0	1.85
60-65	11.4	73.9	72.6	1.76
65-70	11.6	74.7	73.1	2.14

Sensor : MS2B

Units : SI (m^3 kg^{-1}) x 10^{-8}

Range : x0.1

Container weight : 3.0 g (Mass-specific)

Container sus : -.40 (SI units)

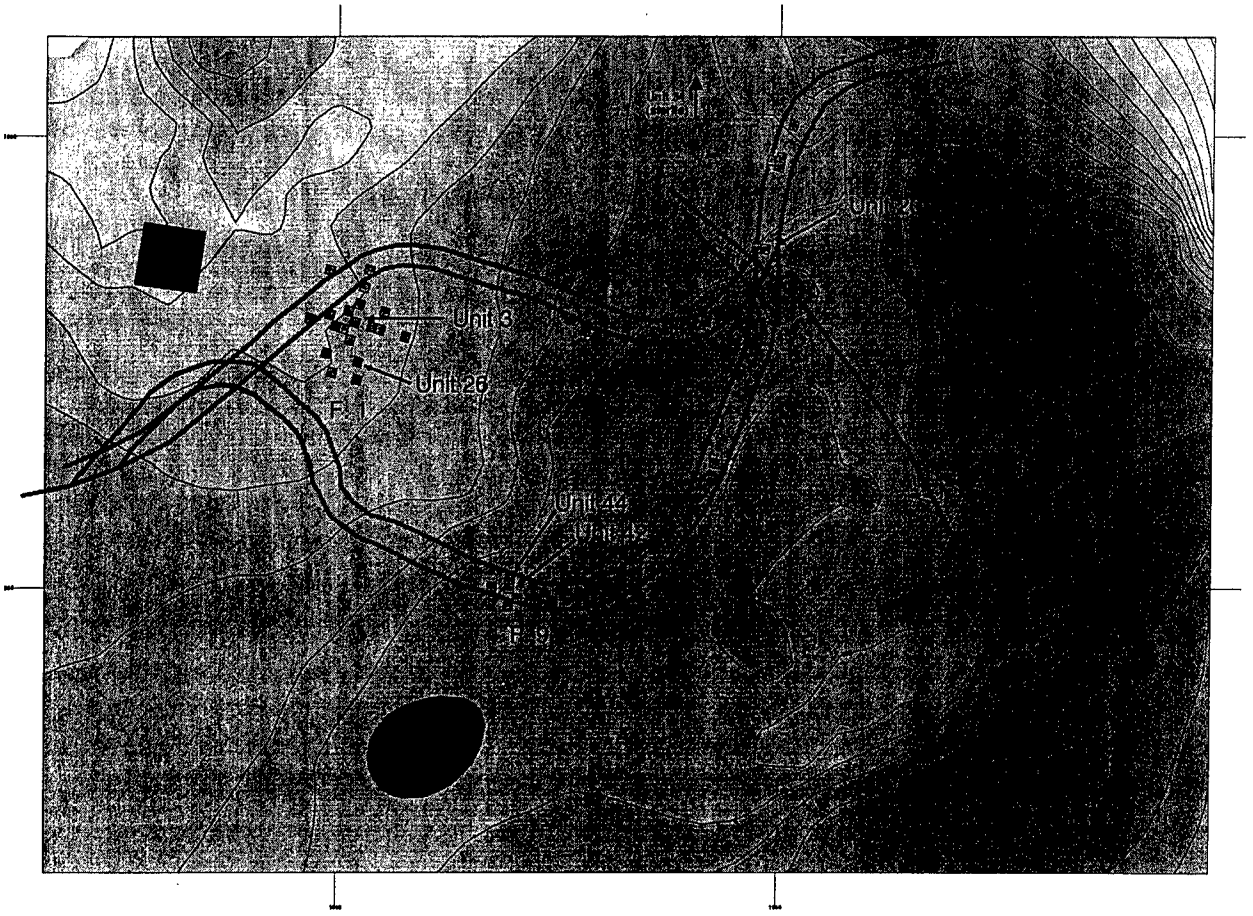


Figure 92: Location of Excavation Units from which Magnetic Susceptibility Samples were collected at 5LA3179

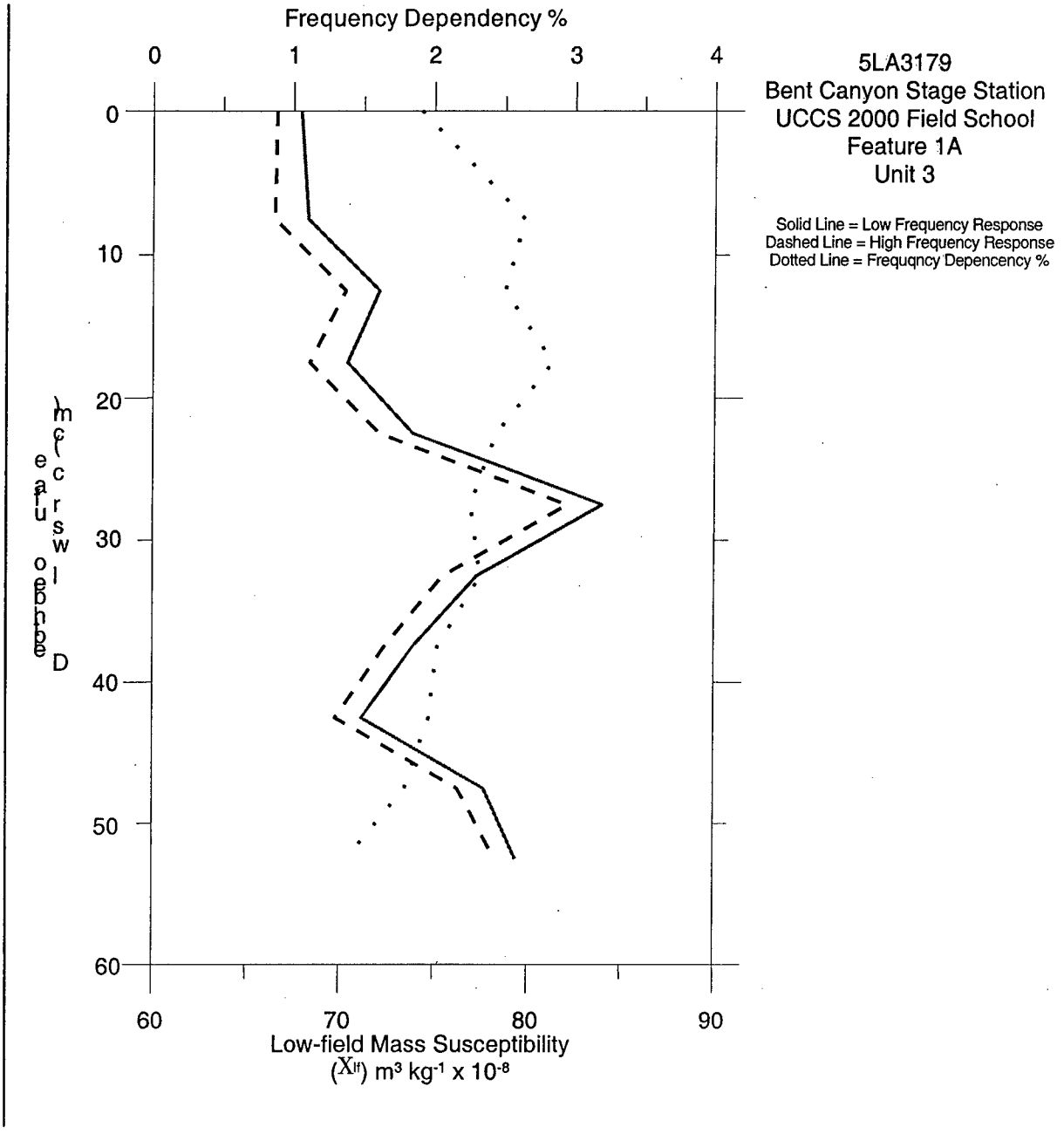


Figure 93: Magnetostratigraphic profile from Feature 1, Room A, Excavation Unit 3

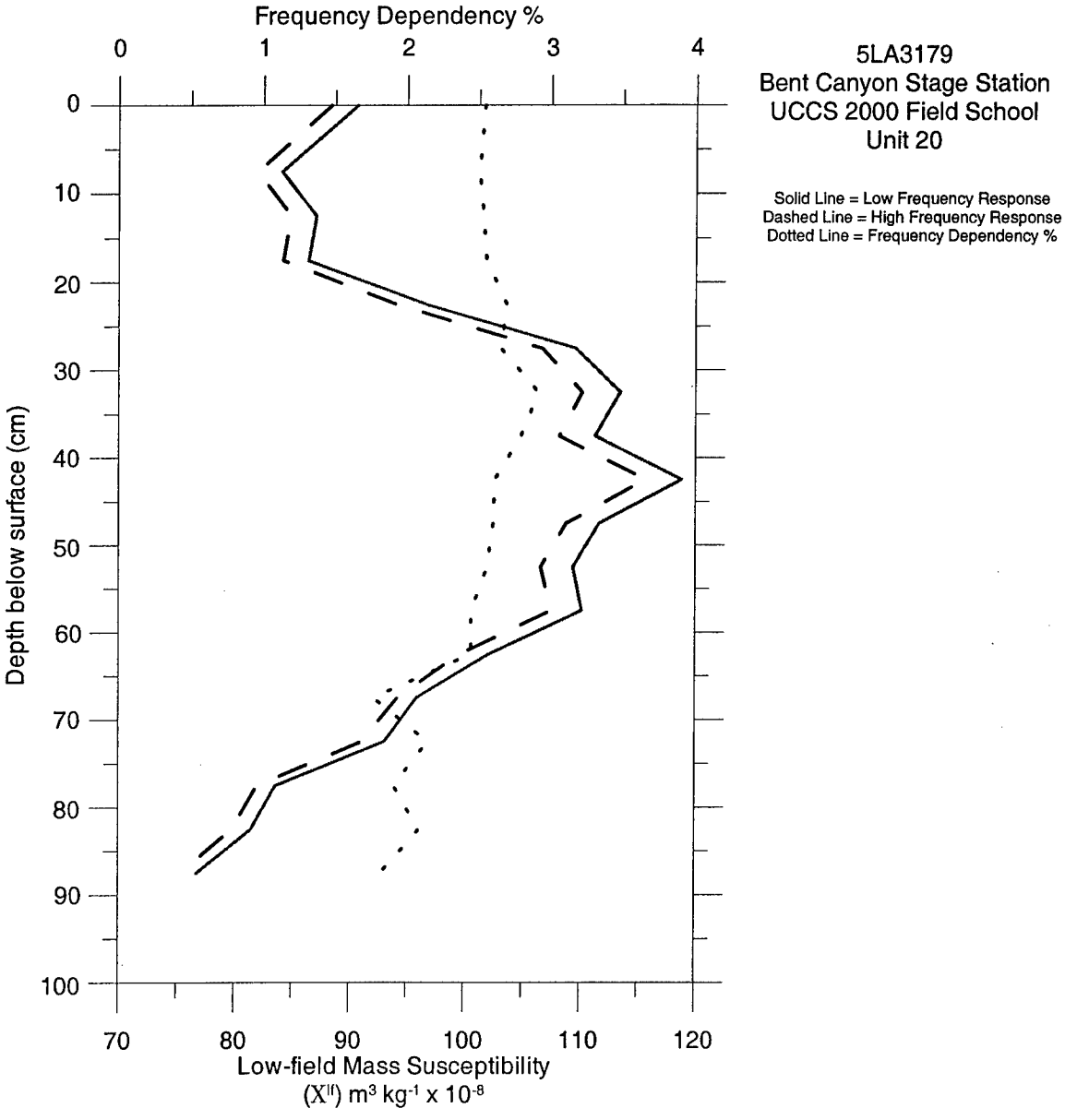


Figure 94: Magnetostratigraphic profile from Excavation Unit 20

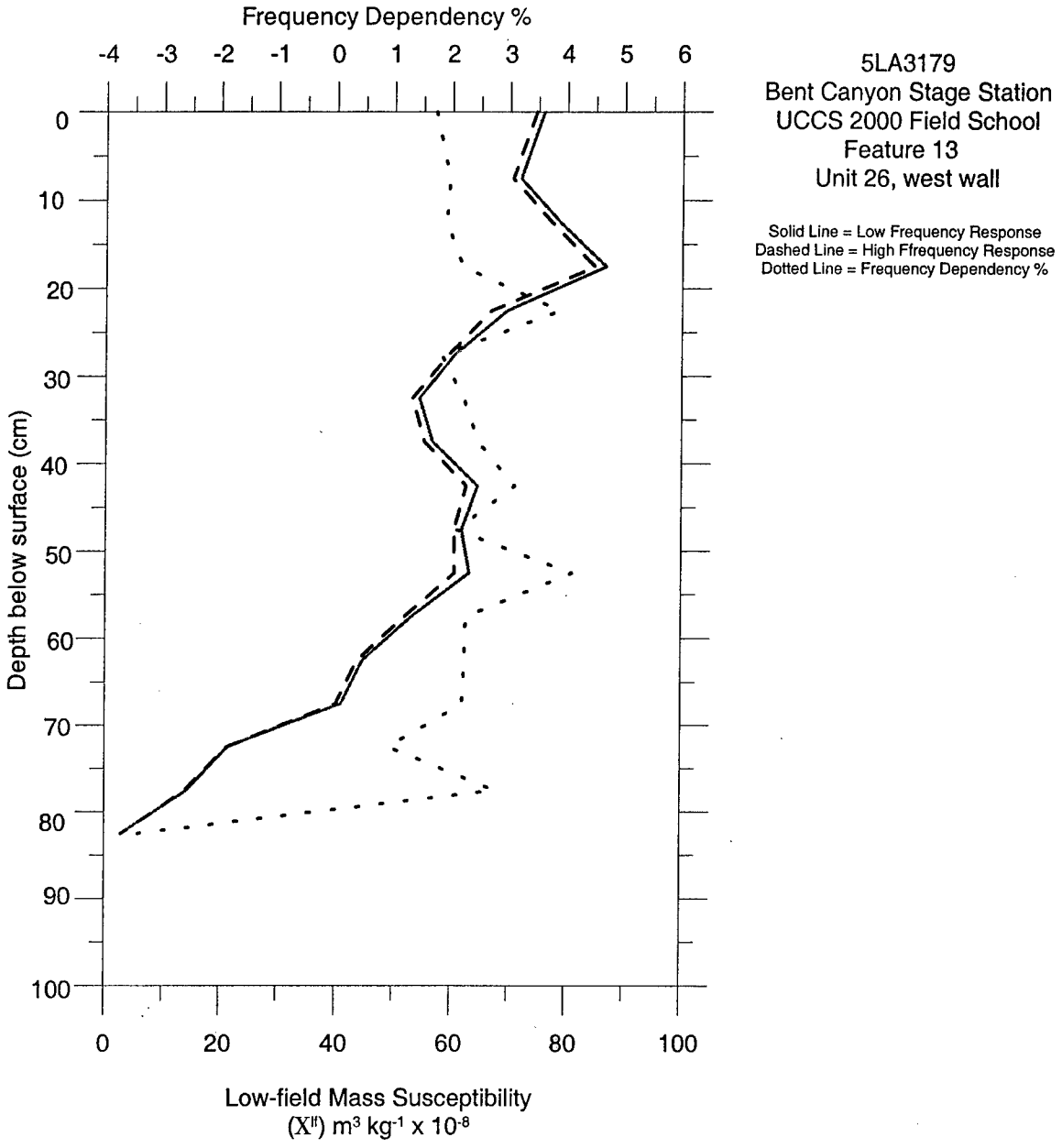


Figure 95: Magnetostratigraphic profile from Feature 13, Excavation Unit 26, west wall

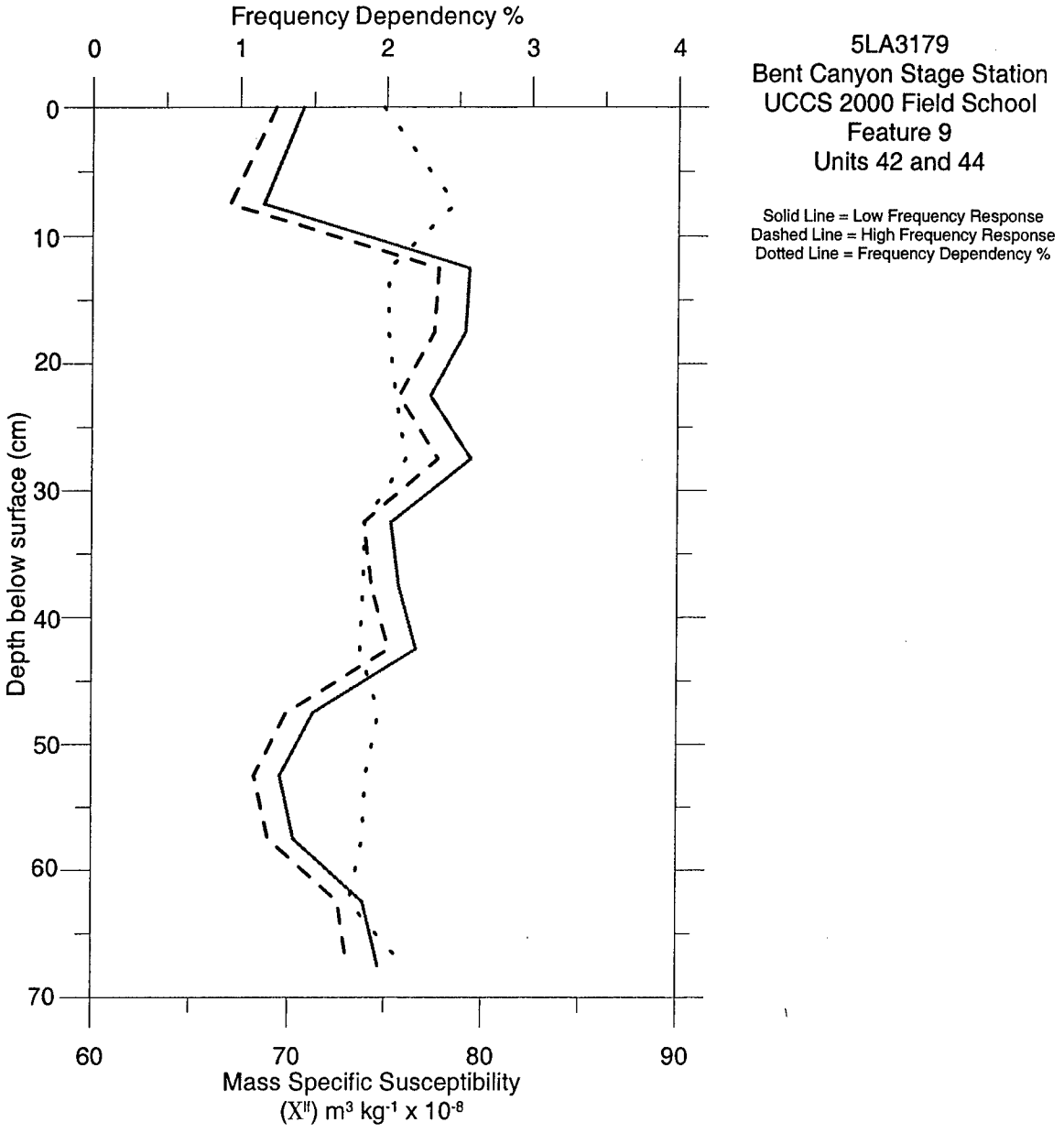


Figure 96: Magnetostratigraphic profile from Feature 9, Excavation Units 42 and 44

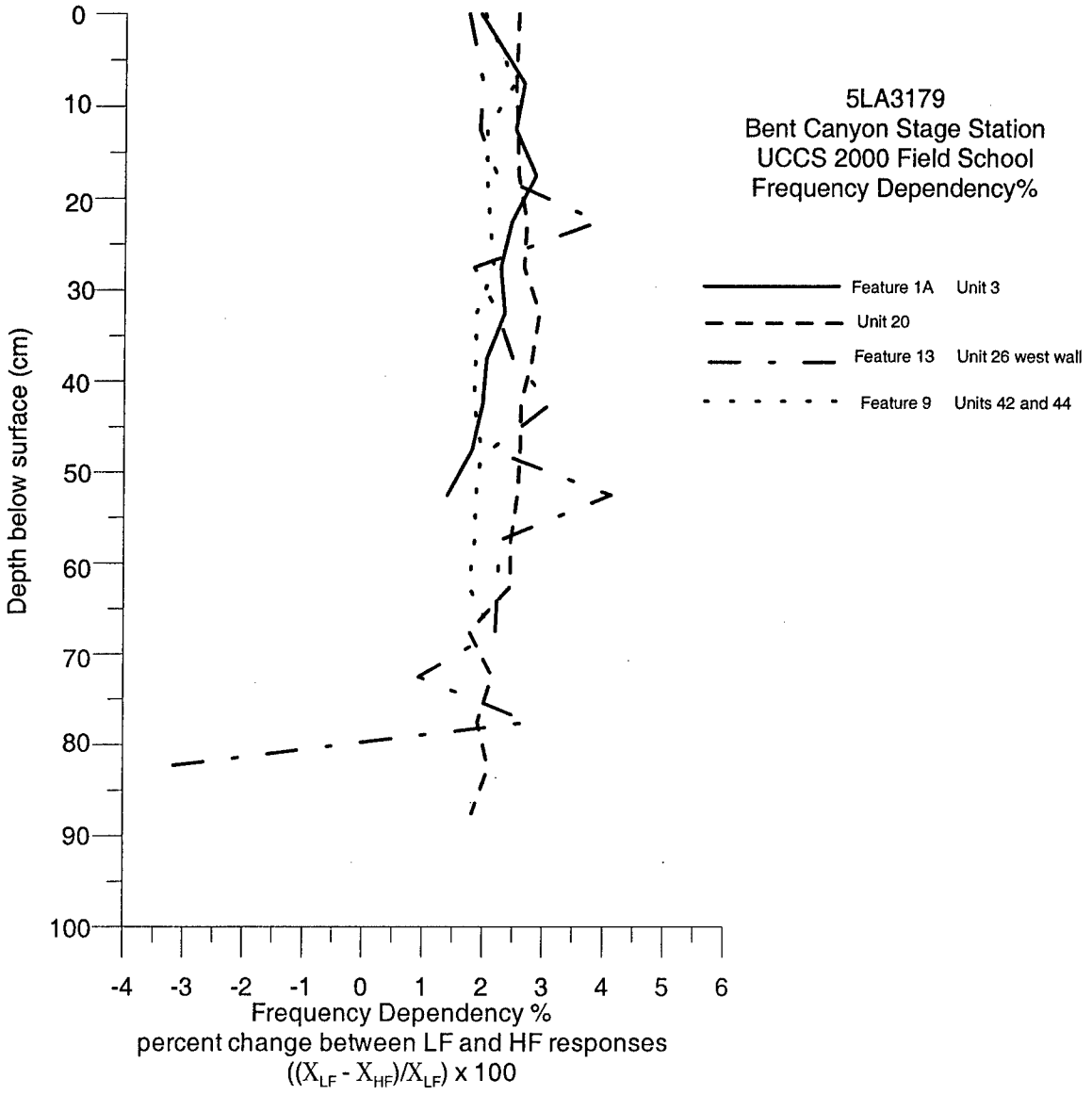


Figure 97: Frequency dependency percentages of the five excavation units

Chapter 12

Results and Conclusions

The largest contribution of this project, aside from determining the level of site damage, was the proposed interpretation of Feature 1 as the location of a general store and Post Office, the former of which is not documented in the written records. While this site is known most popularly as the "Bent Canyon Stage Station," we were able to explore very little of that particular function of the site. We were largely confined to areas of tracked vehicle damage, and the structures most likely to be associated with the stage and ranching functions were, with the exception of Feature 9, missed by the tracked vehicles. We were prevented by time from excavating Feature 9 to its base, but it appears to be a deep cellar associated with processing or storing cuts of meat. Some other types of artifacts washed into this area from the bench above, by the same route that the two tracked vehicles came down over the feature. It is by far the feature most extensively damaged by tracked vehicles, with Feature 1 the next most impacted. All the units in tracked vehicle tracks displayed extremely compacted soil matrices and artifacts were undoubtedly fragmented as a result. Studies on another site in the PCMS gave statistically reliable results indicating that the effects of tracked vehicle compression, while often visible in profiles to only about 35 cm below ground surface, negatively affects both the matrix and the degree of artifact fragmentation down to at least 70 cm below ground surface (Craft 2002).

On the lower bench, where most of the stage- and ranch-related activities seem to have taken place, it is impossible to delineate these activities based on current data. Both activities involved horses, fencing, and food storage and preparation. There are more structures along

this bench than in comparably sized and dated ranches in the area, probably due to staging, but identifying which features served which function would mean digging the features themselves, which was not part of this project's excavation strategy. It has been suggested that some of the stone structures were more defensively built, having narrower window apertures, etc., than were others, and that these would be the earlier structures, built when there was still a potentially hostile Indian presence in the canyons (Steven A. Chomko, personal communication July 2000). Another explanation, which does not necessarily contradict this one, is that when window glass was expensive, window openings were smaller, and they got larger and more numerous as glass became more widely available (but still relatively expensive).

Feature 1, the proposed general store/Post Office, had tracked vehicle damage including crushing and displacement of the foundation and doorway stoop stones, and compression of soils. But it also had damage from post-occupation excavations which displaced foundation and walkway stones, probably the result of later ranchers in the area who were looking for alleged buried gold, a rumor that may have had its birth in the stories of certain of the stage's employees (see Chapter 5).

There was clearly a substantial precontact-period Native American presence on this site, especially on the lower bench, that was responsible for Feature 15 and numerous bone and lithic artifacts that occurred below the historic period levels in EUs 20 and 28. Native American historic occupation is also represented in dense and varied surface features and artifacts in upper levels. More evidence of prehistoric and perhaps historic Native

occupation occurs scattered all around this drainage, including but not limited to burned hearth areas, rock art from several periods, stone circles and other enclosures, manos, projectile points, and debitage. The erosional face of Terraces 1 and 2 display dark stains suggesting unexcavated cultural levels, and soil development consistent with dates as far back as the late Pleistocene (David Kuehne, personal communication, August 2000).

While the tracked vehicle damage was extensive in terms of both structure damage and soil and artifact compression and fragmentation (Craft 2002) - see upcoming report on 2001 work by Cowen and Church), there remains much of value that is intact at this site. Like some other sites at PCMS, it was fenced only across the head of the canyon, with the assumption that personnel in tracked vehicles which were not allowed in the canyon bottoms would not end up getting down at other access points further down-canyon, and then try to get out through the head of the drainage. However, judging from the track patterns, this seems to be what happened to at least two tracked vehicle operators. On finding themselves in the canyon, they tried to get out from down-canyon, mistakenly accessed the site from that unfenced direction, and then circled around over the site doing extensive damage as they tried to find a way around the fence. In order to protect this site in future, at the very least the fences should encircle it entirely, with extensive reflective signage. It is my understanding that army trainees, during their orientation at PCMS, receive some minimal instruction on the archaeological and historical heritage of the area. I would further suggest that there be a clear protocol in the event that they do find themselves accidentally on a site, on the wrong side of a protective fence. Specifically, they should halt immediately and call their supervisors for instruction on how to leave with the least amount of damage, rather than

risk compounding the damage to the site by driving around on top of it in a haphazard fashion while looking for a way out.

The potential of this site for answering research questions larger than those of tracked-vehicle damage remains. Of the potential research objectives listed in Chapter 6, we have some information on commerce and global market access in the area, as well as limited information on agriculture, specifically late-nineteenth- and turn-of-the-century ranching practices. If Feature 1 was a general store, as seems likely, the selection of artifacts in and around it represents a sample of the kinds of goods that would have been available to settlers in the area. However, it is no doubt a limited sample, and perhaps not entirely representative. Things purchased there would not be consumed on the site, and so would not remain there unless broken during or directly after the transaction, and many things would of course be perishable. In order to look at consumer choice and ethnic-, gender-, or class-based responses to the increasing availability of goods through the life of this site, we would have had to excavate more of the domestic structures in and around it. Neither of the structures we explored appeared to be primarily domestic. We were able to determine even less from this project specifically about ranching practices, since no ranch buildings were excavated, with the possible exception of Feature 9.

For the above reasons, and despite damage by tracked vehicles, this site remains eligible for inclusion in the National Register of Historic Places under National Register Criteria a, b, and d at the local level (36 CFR 60.4). Site integrity has been lessened with the tracked-vehicle damage, but the majority of the site remains undisturbed. More complete fencing or

some other barrier around the site is strongly recommended to keep it intact. Considered to be significant under Criterion a, the site is associated with important historical events and patterns, specifically the operation of stage coach services along the route of the Santa Fe Trail by the Barlow and Sanderson Company, a leading Colorado transportation provider during the Civil War and Reconstruction periods (1860-1876). The site's significance under Criterion b comes from its associations with the ranching careers of many important local individuals, including Conyers, the Jones Brothers of the JJ Ranch, Isaac Van Bremer, S.T. Brown, E.S. Bell, Frank Bloom, and the Cross and Hill families. The site's continued importance under Criterion d lies in the fact that it has yielded, and is likely to yield in the future, information important to both prehistoric- and historic-period research. The site served not only as a ranch, store, Post Office, and home station, but was also a hub for an extended rural community stretching from the adjacent tablelands down into the Purgatoire River Valley. There are clearly defined prehistoric levels revealed in testing and in the arroyo cutbank. With this research we have only scratched the surface and confirmed the continued research potential of this site.

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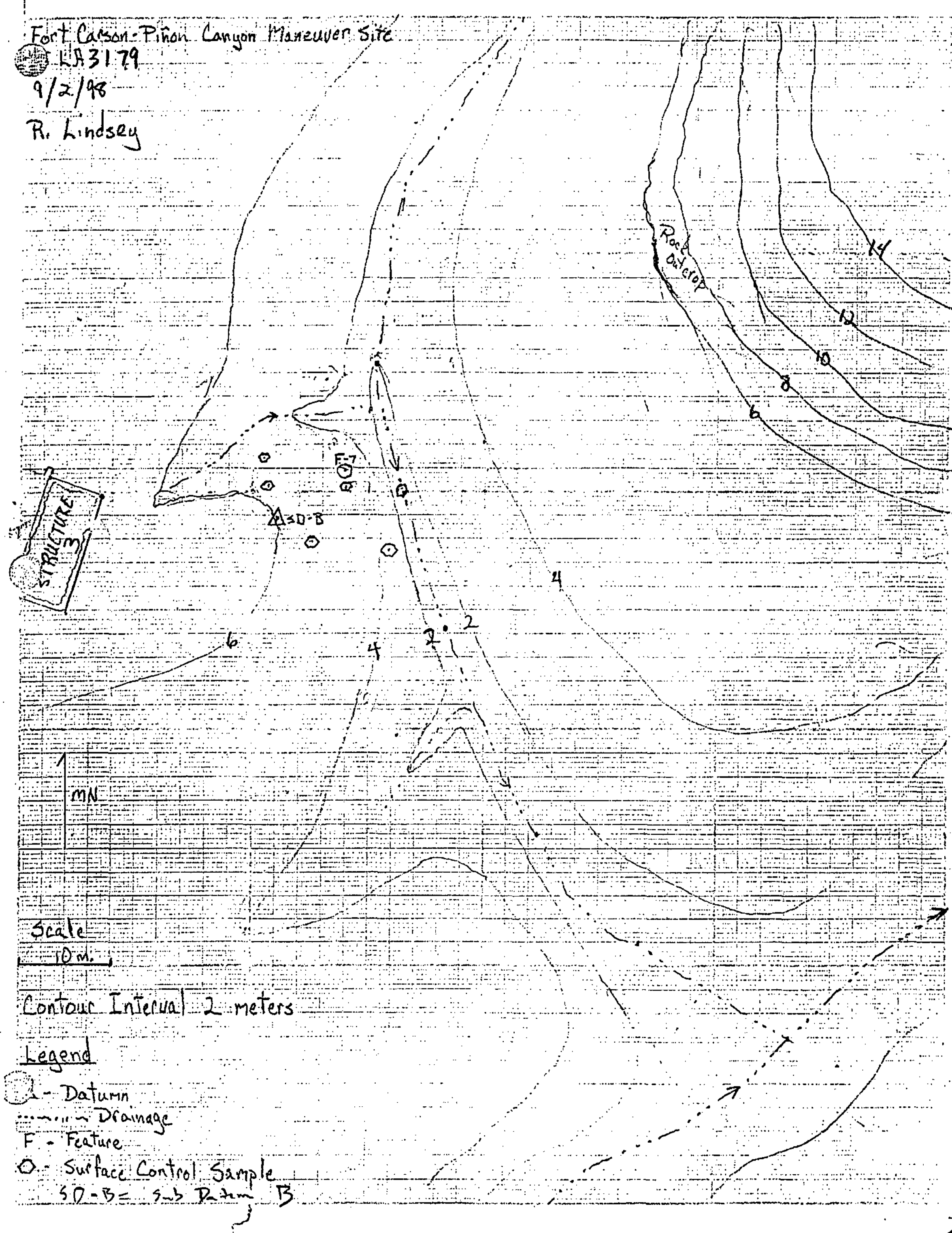
Appendix I: Feature 7 Drawings and Data

5LA 3179

UNIT 1



Fort Carson-Piñon Canyon Maneuver Site
LA3179
9/2/98
R. Lindsey
Rock Outcrop
14
12
10
8
6
F-7
SD-B
STRUCTURE 3
4
2
2
4
6
MN
Scale
10 m.
Contour Interval 2 meters
Legend
Datum
Drainage
F - Feature
O - Surface Control Sample
SD-B = Sub Datum B

PCMS-CRM-002
ACC#_____

Fort Carson-Pinon Canyon Maneuver Site

CONTINUATION FORM

Recorder: C. Loendorf

Date: 9/10/98

~~Continuation of~~ Unit Summary Notes:

Excavation of feature 7 was terminated before the base of the feature as a result of safety concerns. Consequently the initial research issues were not fully addressed, but sufficient data were collected to characterize some aspects of the feature.

Depositional History:

Sediments at the base of excavation (=2.80m BDSL) consisted of moderately compacted clay (Pass adobe) and laminated silt and sand. The clay appears to have been culturally deposited in the feature, probably to cover the faunal remains that were known in this layer of deposition was assigned analytical unit #3 and extended from roughly -2.80m BDSL to -2.50m BDSL. The base of analytical unit 3 was not determined but faunal elements at the base of level 15 suggest it continued at least 10 cm below -2.80m BDSL. Fill at the base of excavation included culturally deposited

clay and colluvially deposited laminates. A large number of faunal elements were collected from AU 3. These elements were predominatly from small carnivores, and were only partially articulated - No fully articulated individuals were collected. Bone from larger mammals (including poss. deer and coyote remains) as well as rodents and poss. amphibian bones were also collected. Diagnostic artifacts that appear to have been deposited at the same time as the faunal bone were collected from AU 3. Analysis of these artifacts should provide an estimate for the period of deposition for AU 3. Field observations of the artifacts suggest that the trash in AU 3 was deposited sometime after the late 1800's and may have occurred at the end of occupation of SCA3179 or after it was abandoned. The concentration of partially articulated small carnivores in AU 3 suggest that this material was deposited as a result of trapping, where the skins were predominatly sought. Analysis of the faunal bone (particularly evidence of damage to lower limbs caused by traps) may resolve this issue. AU 2 consisted of colluvially deposited laminated silt and sand. Some pockets of clay were present in AU 2. The clay appears to have slumped into the feature and may be adobe. All cultural material

Fort Carson-Pinon Canyon Maneuver Site

CONTINUATION FORM

Recorder: C. Loendorf

Date: 9/10/98

Continuation of: Unit Summary Notes

in AU 2 was small and appears to have been deposited by slope wash. A variety of small artifacts including, glass shards, ceramics, bone frags., metal (including square nails), a single shotgun casing, and prehistoric lithics were collected from AU 2. Level 12 in AU 2 (-2.20m BDSL to -2.35m BDSL) included a comparatively large number of nails. It is unclear why more nails were deposited in this level, and no evidence for a wooden superstructure was present in the level. AU 2 extended from -2.80m BDSL to -1.0m BDSL. AU 1 consisted of loosely compacted aeolian deposits that occured from -1.0m BDSL to -0.91m BDSL. This fill appears to have been the result of fairly recent deposition, and few artifacts were collected. Excavation Strategy: F. 7 was assigned one unit number (Unit 1) and excavated as two loci (Locus A & Locus B). The unit was roughly split in

half with locus A on the west and locus B on the east. Locus A was excavated in natural and arbitary levels. Level 1 was a natural level, the excavation of which was terminated at the contact of laminated sediments. Fill from this level was removed by trowling. Fill in AU 2 was removed in arbitary 10 cm levels to a depth of -1.6m BDSL at which point the levels were increased to 15 cm in thickness. All levels in AU 2 were removed by a combination of trowling and shoveling. As a result of the high bone density in AU 3 the two 15 cm levels (-2.5m to -2.80 m BDSL) excavated in this AU were removed by trowling and wooden implements. The thickness of the levels was increased from 10cm to 15cm in order to speed excavation and because of the low artifacts desity and the artifacts in AU 2 were secondary deposits from slope wash. Only one 65cm A level was removed from Unit 1 locus B. This fill was removed by skim shoveling & trowling, but was not screened - Artifacts were grab sampled.

Goals & Results: Most of the initial research issues were not resolved because

Fort Carson-Pinon Canyon Maneuver Site

CONTINUATION FORM

Recorder: C. Loendorf

Date: 9/10/98

Continuation of: Unit Summary Notes

excavation of feature 7 was stopped before its base. ~~of the feature~~. It appears that F. 7 was probably a well & not a cistern. The side walls were relatively straight, F. 7 was more than 2.7m deep, and no evidence for a plaster lining was present. Most of the fill removed from Unit 1 consisted of naturally deposited laminated silt & Clay. This fill extended from the base of the excavation to near the current ground surface in F. 7. Trash was thrown into F. 7 at some point after it was abandoned. This trash deposition event probably occurred after the site was abandoned but may also have occurred at the end of occupation of the site.

Analytical Unit List:

AU 1: This AU consisted of a small amount of aeolian deposits in the root

Zone. This fill was removed as Level 1.

AU 2: This sediment consisted of naturally deposited laminated silt and sand with some clay. All artifacts in this AU appear to have been deposited by slope wash. Fill from this AU was removed in levels 1 & 2-15, unit 1, Locus A.

AU 3: This AU appears to represent a trash deposition event that occurred near the base of our excavation in Unit 1, Locus A, Levels 14 & 15. Numerous faunal elements, some of which were partially articulated, and larger artifacts including a horseshoe & poss. stove parts were present in AU 3. The trash and possible culturally deposited clay of AU 3 were concentrated in the north half of of Unit 1, Locus A, levels 14 & 15. Fill in the south half of these levels consisted of the naturally deposited laminated sediments of AU 2.

Carbon Proxies: Some scattered charcoal flecks were present in most levels excavated from the feature, but only two charcoal samples were collected. These two samples (Unit 1, Locus A, level 5 FS# 7 &

Fort Carson-Pinon Canyon Maneuver Site

CONTINUATION FORM

Recorder: C Loendorf

Date: 9/10/98

Continuation of: Unit Summary notes:

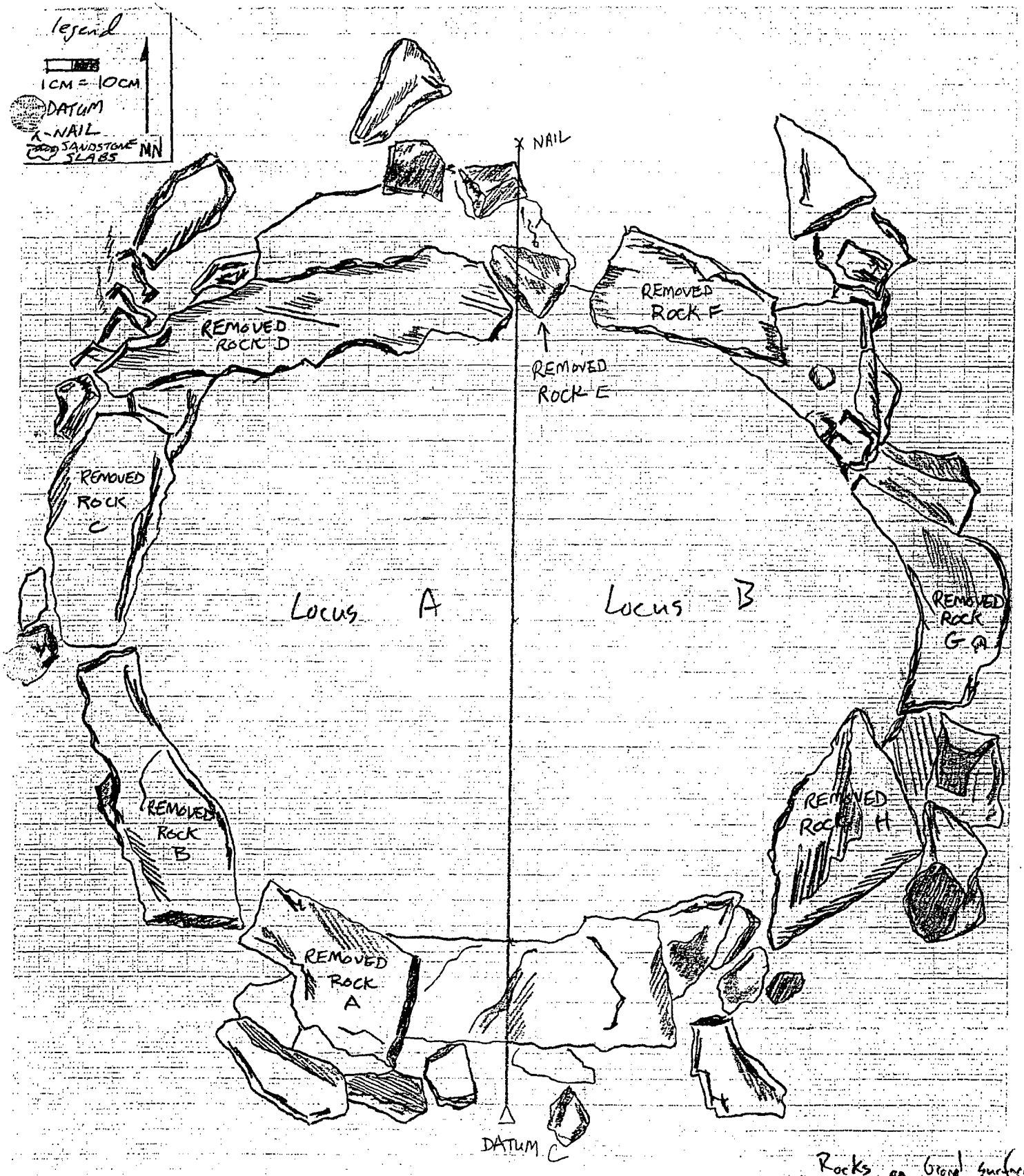
Level 14, FS#10) are both small (less than 2 grams) and are probably not worth dating because diagnostic artifacts should provide a better age estimate and the source of this charcoal is unknown.

Profiles. The east wall of unit 1, locus A was profiled in two sections. The upper portion was profiled prior to the removal of this fill as Unit 1, Locus B, Level 1.

Plan views: The most interesting plan views are those in AU 3, Unit 1, Locus A, Levels 14 & 15.

Additional Notes on the construction technique of Feature 7. Feature 7 is thought to be a well that was constructed by digging a roughly oval pit which was then lined with sandstone blocks. The

pit was roughly oval and approximately 2m by 1.6 m and at least 2.90 m deep. The well was probably considerably deeper than the base of our excavation, as the point at which excavation was stopped did not appear to be close to the water table. The bottom of the feature is probably deeper than the depth of the adjacent arroyo. The sandstone lining consisted of relatively uniform courses of stones that varied substantially in length (0.20m to 1m) and thickness (0.08m to 0.25m). The stones, however, were more uniform in width (0.15m to 0.25m). The sandstone lining appears to have extended above the modern ground surface, as substantial wall fall was present in the fill that was removed from the well. It is not possible to accurately estimate the height of this superstructure because the well was not fully excavated. The density of the wall fall rocks in the well suggests that it was at least 1m higher than the current ground surface. Wall rocks in the lower portion of the well were set back from upper courses such that the feature became wider & longer with depth.



Rocks on Ground Surface
5LA 3179
FEATURE 7
9/2/98
RICH BURLESON

PCMS-CRM-4000
ACC#_____

FORT CARSON-PINON CANYON MANEUVER SITE
PHOTOGRAPHIC/VIDEO LOG

Project: 1998 PCMS Testing Photographer: C. Lacendorf / R. Burleson / P. Lindsey

Film Type: Select Series Color Camera: A-7 Roll#: 98-36 ASA: 200

Frame/ Counter	Date	Time	Site/Subject	View	Description
1	9/2/98	9:15	5LA3179	Overhead	Roll I.D.
2		10:10		East 90° MN	Feature 7 Prior to excavation Tape set at 1m.
3		10:15		South 180° MN	
4		10:16		North 0° MN	
5		10:17		West 270° MN	Feature 7 View of F-7 and gullbank from arroyo
6		10:18		West 280 MN	View of Feature 7 from across arroyo. (R. Burleson in photo)
7		10:19		West 250° MN	Feature 7 from east edge of drainage R. Burleson in photo
8		10:22		West 270° MN	Feature 7 prior to excavation
9		10:23		East 90° MN	Feature 7 Prior to excavation no scale or photo board
10		10:24		North 0° MN	
11		11:15		West 270° MN	Surface - Unit 1 Prior to excavation

PCMS-CRM-4000
ACC#_____

FORT CARSON-PINON CANYON MANEUVER SITE
PHOTOGRAPHIC/VIDEO LOG

Project:_____ Photographer:_____

Film Type:_____ Camera:_____ Roll#: 98-36 ASA:_____

Frame/ Counter	Date	Time	Site/Subject	View	Description
12	9/2/98	11:17	5LA3179	West 270° MN	Surface - Unit 1 Prior to excavation
13	↓	1:25	↓	↓	Unit 1 / Locus A Level 1
14	↓	2:50	↓	↓	Unit 1 / Locus A Level 2
15	9/3/98	8:40	↓	↓	Unit 1 / Locus A Level 3
16	↓	10:10	↓	↓	" " Level 4
17	↓	1:15	↓	↓	" " level 5
18	↓	2:10	↓	↓	" " Level 6
19	9/4/98	7:40	↓	↓	" " level 7
20	↓	8:05	↓	east 90°	" " East wall profile
21	↓	9:55	↓	east 90° MN	Unit 1 / Locus B level 1
22	↓	1:00	↓	west 270° MN	Unit 1 / Locus A level 8
23	9/4/98	3:00	5LA3179	West 270° MN	Unit 1 Locus A level 9
24	9/5/98	8:37	↓	↓	Unit 1 Locus A Level 10
25	9/5/98	11:06	↓	↓	" " " "

PCMS-CRM-4000
ACC#_____

FORT CARSON-PINON CANYON MANEUVER SITE
PHOTOGRAPHIC/VIDEO LOG

Project: 1998 PCMS Testing Photographer: C. Lockhart, R. Burleson, R. Lindsey

Film Type: Kodachrome 64 Camera: A-2 Roll#: 98:13C ASA: 64

Frame/ Counter	Date	Time	Site/Subject	View	Description
1	9/5/98		5LA 3179	West 270°	Roll I.D.
2	1	2:10	1	1	Unit 1 Locus A Level 12
3	9/6/98	8:48	↓	West 270° MN	↓ ↓ Level 13
4	↓	2:50	↓	overhead	Unit 1 Locus A level 14 excavation in progress showing bone and glass in situ
5	9/7/98	10:15	5LA3179	Overhead	Unit 1 Locus A excavated Level 14
6	↓	1:40	↓	Overhead	Unit 1 Locus A Level 15 Excavation in progress - Showing bone & Artifacts in situ
7	↓	2:40	↓	Overhead	Unit 1 Locus A level 15 Rick excavating level
8	9/10/98	8:20	5LA3179	Overhead	Unit 1 Locus A level 15 excavated 2 Ceramics in situ - with photo board
9	↓	↓	↓	↓	Unit 1 Locus A level 15 excavated 2 ceramics in situ No photo board
10	9/10/98	10:50	1	East 90° MN	Unit 1/Locus A East Wall Profile from ground surface 1.6-2.8 m.BD.
11	9/10/98	10:50	1	1	Unit 1/Locus A North 1/2 East Wall Profile 1.6-2.8 m. B.D.

Post Shot of Unit 1 Locus A Level 13 Missing in Photo log

PCMS-CRM-4000
ACC#_____

FORT CARSON-PINON CANYON MANEUVER SITE
PHOTOGRAPHIC/VIDEO LOG

Project: 1998 PCMS Testing Photographer: RML - CRL

Film Type: Kodachrome 64 Camera: A-2 Roll#: 98:13C ASA: 64

Frame/ Counter	Date	Time	Site/Subject	View	Description
12	9/10/98	10:55	5LA3179	East 90° MN	Unit 1/Locus A South 1/2 East Wall Profile 1.6 - 2.8 m. BD
13	9/15/98	8:55 am	5LA7421	South 180° MN	Unit 1 Surface prior to excavation
14	↓	11:16 am		East 90° MN	Unit 1 Level 1
15	9/16/98	10:30 am		East 90° MN	Unit 1 Level 2
16		1:30 pm		East 90° MN	Unit 1 Level 3
17		1:30 pm		West 270° MN	West wall of Unit 1 level 3
18	↓	3:00 pm		East 90° MN	Unit 1 Level 4 Final level
19	9/17/98	7:30 am		East 90° MN	Unit 1 excavated profile of East wall
20				North 0° MN	Unit 1 excavated profile of North wall
21				West 270° MN	Unit 1 excavated profile of west wall
22	↓	↓	↓	South 180° MN	Unit 1 excavated profile of south wall
23	9/17/98	2:50pm	5LA7548	West 270° MN	Unit 1 - Surface prior to excavation
24	↓	2:55 pm	5LA7548	South 180° MN	↓ ↓ ↓ ↓ ↓
(25)					

VINCE: #13 IS 317 WEST WALL. SLA7421 SURFACE IS ACTUALLY #14 ETC.

PCMS-CRM-4000
ACC#_____

FORT CARSON-PINON CANYON MANEUVER SITE
PHOTOGRAPHIC/VIDEO LOG

Project: 1998 PCMS Testing Photographer: C. Lockhart, R. Burleson, R. Cindrey

Film Type: TMax 100 Camera: A-1 Roll#: 98:1 ASA: 100

Frame/ Counter	Date	Time	Site/Subject	View	Description
1	9/5/98		5LA3179	West 270°	Roll I.D.
2	1	2:10	〃	〃	Unit 1 Locus A Level 12
3	9/6/98	8:48	↓	↓	↓ Level 13
4	↓	2:50	↓	Overhead	Unit 1 Locus A Level 14. Excavation in progress. Showing bone and glass in situ.
5	9/7/98	10:15	5LA3179	Overhead	Unit 1 Locus A Level 14 excavated
6	↓	1:40	↓	↓	Unit 1 Locus A Level 15 excavation in progress. Showing bone & Artifacts in situ
7	↓	2:40	↓	↓	Unit 1 Locus A level 15 Rich excavating
8	9/10/98	8:20	5LA3179	Overhead	Unit 1 Locus A level 15 excavated 2 cranium in situ. With photo board
9	1	↓	〃	〃	Unit 1 Locus A level 15 excavated 2 cranium in situ. NO photo board
10	9/10/98	10:50	〃	East 90° MN	Unit 1 / Locus A East Wall Profile from ground surface 1.6-2.8 M B.D.
11	1	10:50	〃	〃	Unit 1 / Locus A East Wall Profile North 1/2 1.6 2.8 m. B.D

Poss shot of Unit 1 Locus A. Not on photo log

in situ

PCMS-CRM-4000
ACC#_____

FORT CARSON-PINON CANYON MANEUVER SITE
PHOTOGRAPHIC/VIDEO LOG

Project: 1998 PCMS Testing Photographer: KML - CRL

Film Type: TMAX 100 Camera: A-1 Roll#: 98:1 ASA: 100

Frame/ Counter	Date	Time	Site/Subject	View	Description
12	9/10/98	10:55 am	5LA5179	East 90° MN	Unit 1/Locus A East Wall Profile South 1/2 1.6-2.8 m BD
13	9/15/98	8:55 am	5LA7421	South 180° MN	Unit 1 surface prior to excavation
14	↓	11:16 am	↓	East 90° MN	Unit 1 Level 1
15	9/16/98	10:30 am	↓	East 90° MN	Unit 1 Level 2
16	↓	1:30 pm	↓	East 90° MN	Unit 1 Level 3
17	↓	1:30 pm	↓	West 270° MN	West wall at Unit 1 level 3
18	↓	3:00 pm	↓	East 90° MN	Unit 1 Level 4 Final level
19	9/17/98	7:30 am	↓	East 90° MN	Unit 1 Excavated profile of East Wall
20	↓	↓	↓	North 0° MN	Unit 1 Excavated profile of North Wall
21	↓	↓	↓	West 270° MN	Unit 1 Excavated profile of West Wall
22	↓	↓	↓	South 180° MN	Unit 1 Excavated profile of South Wall
23	9/17/98	3:50 pm	5LA7548	West 270° MN	Unit 1 surface prior to excavation
24	↓	3:55 pm	↓	South 180° MN	↓ ↓ ↓ ↓ ↓ ↓

PCMS-CRM-4000
ACC#_____

FORT CARSON-PINON CANYON MANEUVER SITE
PHOTOGRAPHIC/VIDEO LOG

Project: 1998 PCMS Testing Photographer: C. Loendorf, R. Burleson, R. Lindsey

Film Type: T-Max 400 Camera: A-1 Roll#: 98/32 ASA: _____

Frame/ Counter	Date	Time	Site/Subject	View	Description
1	9/2/98	9:15	5LA 3179	overhead	Roll I.d.
2		10:10		east 90° MN	Fea. 7 prior to excav. tape set at 1m
3		10:15		south 180° MN	↓
4		10:16		north 0° MN	↓
5		10:17		west 270° MN	view of fea. 7 and cutbank from arroyo
6		10:18		west 280° MN	Fea. 7 from across arroyo R. Burleson in photo
7		10:19		west 250° MN	fea. 7 from east edge of drainage R. Burleson in photo
8		10:22		west 270° MN	fea. 7 prior to excav.
9		10:23		east 90° MN	fea. 7 prior to excav. no scale on photo board
10		10:24		N. W. 0° MN	↓
11	↓	11:15	↓	west 270° MN	surface unit 1 prior to excav.

PCMS-CRM-4000
ACC#_____

FORT CARSON-PINON CANYON MANEUVER SITE
PHOTOGRAPHIC/VIDEO LOG

Project: 1998 PCMS Testing Photographer: C. Lambert, R. Burleson, R. Lindsey

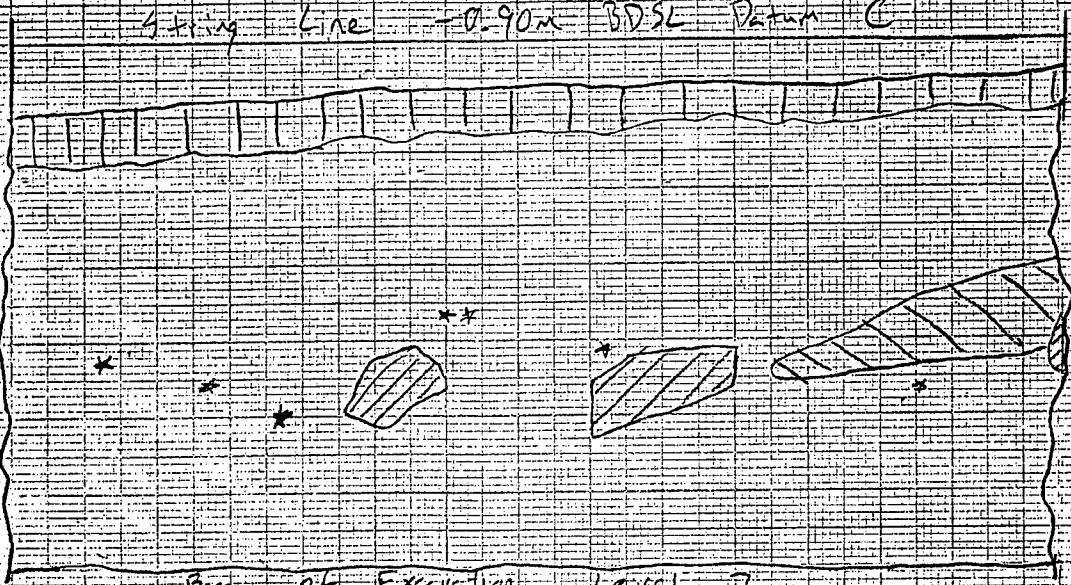
Film Type: TMax 400 Camera: A-1 Roll#: 98/32 ASA: _____

Frame/ Counter	Date	Time	Site/Subject	View	Description
12	9/2	11:17	SLA 3179	west 270° MN	surface unit 1 prior to excav.
13	9/2	11:25		west 270° MN	unit 1 - locus A - level 1
14	9/2	2:50		West 270° MN	Unit 1 locus A - Level 2
15	9/3	6:40		West 270° MN	Unit 1 - Locus A - Level 3
16		10:10			" " Level 4
17		1:15			" " level 5
18		2:10			" " level 6
19	9/4/98	7:48			" " level 7
20		8:05		east 90°	" " East Wall profile
21		9:55		east 90°	unit 1 locus B level 1
22		1:01		West 270° MN	Unit 1 Locus A level 8
23		3:00			Level 9
24	9/5/98	8:37			Level 10
25		11:06			" " Level 11

SLA31.79
Unit 1 Locus A
Profile East wall
9/4/98
C. Londorf

1cm = 10cm

String Line -0.90m BDSL Datum C



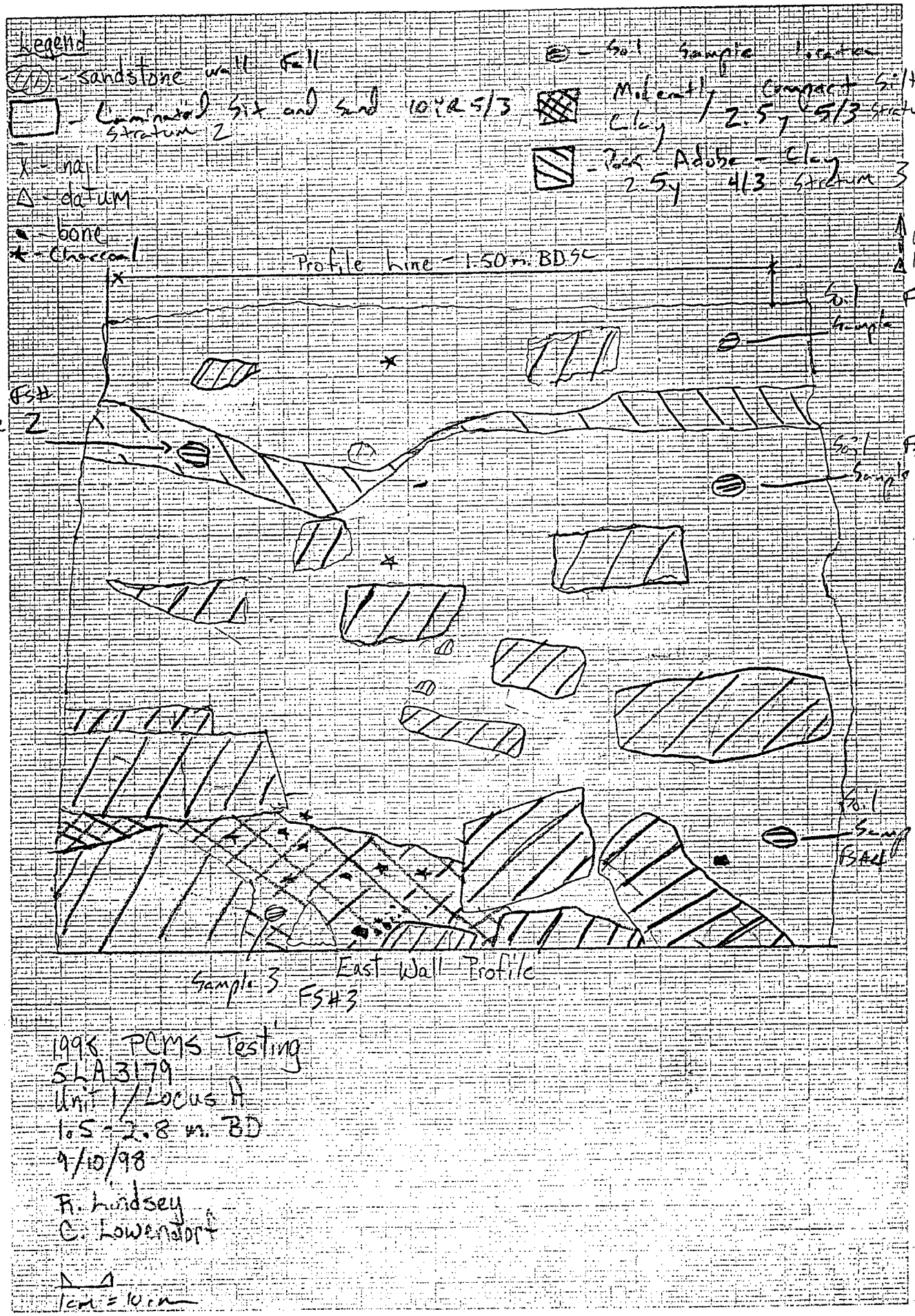
← Charcoal Flecks

Stratum 1 = Loosely consolidated silt 10YR 4/1 Dark Grey

= Sandstone wall Fall

Stratum 3 = Possible adobe - Clay 2.5Y 4/3 Olive Brown

Stratum 2 = Laminated Silt and Sand 10YR 5/3 Brown



PCMS-CRM-202
ACC# _____

PROFILE RECORDING FORM
Fort Carson-Piñon Canyon Maneuver Site

Project: 1998 PCMS Testing Stage: Testing

Site Number: 5LA3179 Unit: 1 Loci A Profile: East Wall locust

Stratum	Munsell	Texture	~~Structure~~ compactness	Boundaries	Sample Nos.
1	Wet _____ Dry X No.: 10 YR 4/1	Silt	loosely consolidated	Not distinct soil graded into stratum 2	Sample not taken

Comments:

Stratum	Munsell	Texture	~~Structure~~ compactness	Boundaries	Sample Nos.
2	Wet _____ Dry X No.: 10 YR 5/3	laminated silt and sand, some clay	Moderately to loosely consolidated	Contact between stratum 2 & 3 was distinct	FS # 1 & FS # 4

Comments: This stratum comprises the vast majority of fill in the feature, and was water deposited.

Stratum	Munsell	Texture	~~Structure~~ compactness	Boundaries	Sample Nos.
3	Wet _____ Dry X No.: 2.5 Y 4/3	Clay	Moderately compact, Blocky	Distinct	FS# 2

Comments: This stratum was discontinuous and occurred at different depths in the profile. The high clay content of this fill suggest it may be melted adobe.

W

PCMS-CRM-202
ACC# _____

PROFILE RECORDING FORM
Fort Carson-Piñon Canyon Maneuver Site

Project: 1998 PCMS Testing Stage: Testing

Site Number: 5LA3179 Unit: 1 Loci A Profile: East Wall locus A

Stratum	Munsell	Texture	Compactness	Boundaries	Sample Nos.
4	Wet _____ Dry X No.: 2.5Y 5/3	Silty Clay	Moderatly Compact	distinct but Undulating	FS# 3
Comments: This fill was probably culturally deposited in order to cover the animal remains that were drawn into the well					

Stratum	Munsell	Texture	Compactness	Boundaries	Sample Nos.
	Wet _____ Dry_____ No.:				
Comments:					

Stratum	Munsell	Texture	Compactness	Boundaries	Sample Nos.
	Wet _____ Dry_____ No.:				
Comments:					

PCMS-CRM-201
ACC# _____

UNIT INITIATION FORM

Fort Carson-Piñon Canyon Maneuver Site

LG3

Site Number: 5LA3179 Unit Number: 1 / Loci A & B Level: Surface

Datum(s): Datum C Height of datum(s)above surface: 10 cm

Average depth of surface before excavation: -- 94 cm

Date opened: 9/2/98 Excavators: C. Loendorf / R. Burleson, R. Lindsey

Reasons for excavating unit: Feature is threated by arroyo cutting. Feature may contain historic trash. The unit is also being excavated in order to determine if Feature 7 is a well of a cistern. In addition the feature is being excavated to determine if it is filled with trash and to determine how soil became deposited within.

Description of cultural deposits: None apparent on surface. Feature 7 is currently located on the edge of an arroyo. The upper three courses of sandstone on the east side have been eroded. The top of Feature 7 is currently at the arroyo edge which slopes downward to a distance of approx. 1.5 m from F. 7 at the arroyo base.

Munsell color: 10YR5/3 Brown Soil texture: Silty loam

Additional soil description: Surface fill consists of loosely compacted aeolian deposits.

B/W photographs: Camera A-1 / Roll 98-32 / Exp. 11 & 12
Color photographs: Camera A-2 / Roll 98-36 / Exp. 11 & 12

Draw a plan view of the unit and its surroundings. Use an appropriate scale that will show some of the more interesting site features and how one unit relates to any additional units excavated at the site. Also draw a 1:10 scale plan view as you would for any other level.

Take a single beginning pollen sample from about 5-6 different areas from the site surface in the general vicinity of the unit.

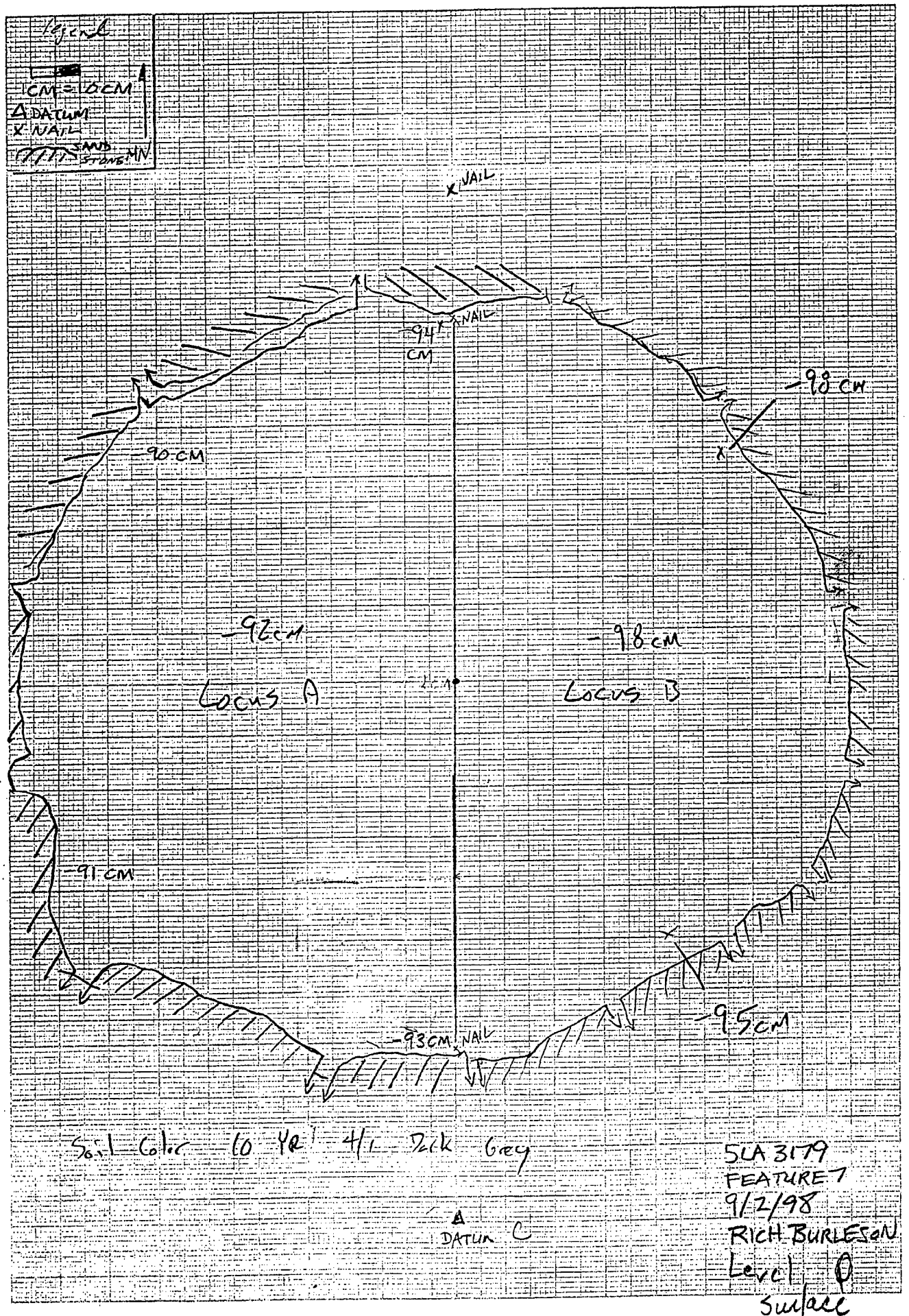
PCMS-CRM-201
ACC# _____

Site Number: 5LA3179 Unit Number: 1 / Locus A

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Surface Pollen from Unit	-92cm	Unit surface
2	Surface Pollen Control Sample	-10cm	From vicinity of unit (see plan view)

Additional comments: Some weeds growing in feature. Surface is largely covered by dead vegitation. Feature 7 is constructed of sandstone blocks that are stacked on the inside of an oval pit. The blocks varied substantially in size. They ranged in length between 0.20m & 1m. Widths varied between 0.15m and 0.25m. The blocks varied in thickness between 0.08m and 0.25m.



PCMS-CRM-201
ACC# \

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1 / Locus B Level 1 Screen size none (Grab Sample)
Datum/height (AS) C / +10cm Average starting depth (below datum) -0.95m
Average ending depth (below datum) -1.6 m

Description of cultural deposits The cultural material in this level appears to be secondary deposits that have washed into the feature! Two glass fragments, a shotgun shell (12 ga.), bone frags, a small fragment of aluminum foil, metal frags. including a horse shoe nail & wire, and ceramics including a rim sherd from a narrow necked bottle or possibly a pipe fragment were collected.

Soil color (Munsell) 10YR 5/3 Brown 10YR 4/1 Dark Gray Soil texture Silt & Sand

Additional soil description The upper 6-8 cm consisted of loosely consolidated aoelian silt (10YR 4/1). Fill below this consisted of laminated silt and sand (10YR 5/3), which appears to be colluvial deposition.

Additional comments The fill was skimmed, shoveled and trowled but no screening was conducted. All artifacts are grab sample

Features identified (describe) None identified

B/W photos Camera A1: Roll 98-32: Exp. 21
Color photos Camera A2: Roll 98-36: Exp. 21

Excavators C. Loendorf, R. Burleson, R. Lindsey Date 9/4/98

Site 5LA3179 Unit 1/Locus B Level 1

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Glass		General collection
2	Metal		↓
3	Shotgun shell		↓
4	Bone		↓
5	Historic Ceramics		↓
6	Aluminum Foil		↓

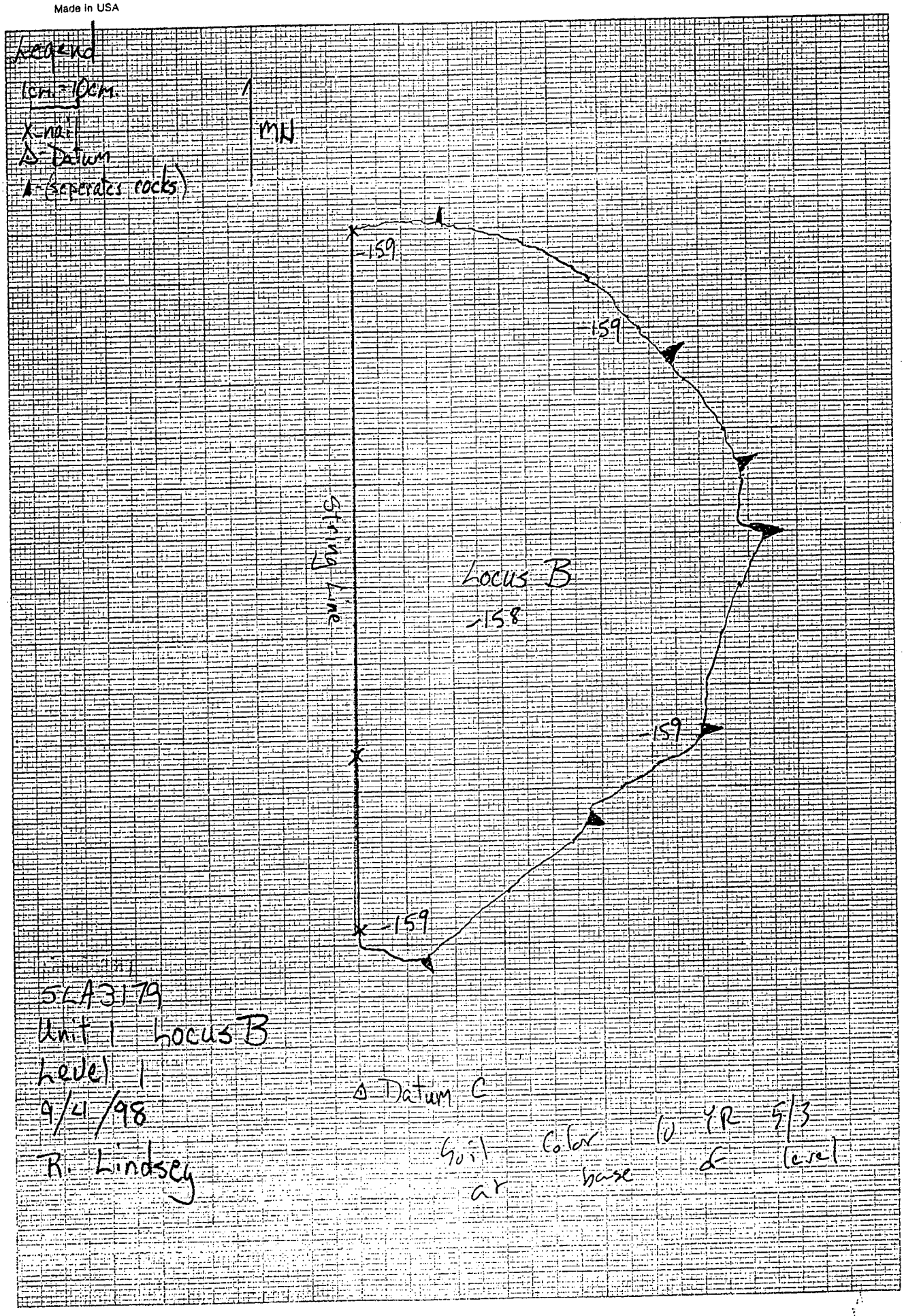
Carbon sample notes None taken - Some scattered charcoal flecks were noted but not collected.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: This level includes both analytical unit 1 (loosely consolidated aeolian deposits) and analytical unit 2 (laminated sand and silt.)

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☒ No ☐



PCMS-CRM-201
ACC# _____

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1/Locus A Level 1 Screen size 1/4"

Datum/height (AS) C / +10 cm Average starting depth (below datum) -91 cm

Average ending depth (below datum) -100 cm

Description of cultural deposits Three small fragments of glass were collected from the screen. A pull tab / Miller beer can was encountered at the base of the level in the SE corner, and will be collected as part of level 2.

Soil color (Munsell) 10YR 4/1 Dark Gray Soil texture Silty loam

Additional soil description The fill consists very loosely compacted dry, aoelian deposits. Excavation of the level was stopped at the contact of laminated sand & silt.

Additional comments Some root disturbance throughout level.

Features identified (describe) None

B/W photos Camera A1 / Roll 98-32 / Exp. 13

Color photos Camera A2 / Roll 98-36 / Exp. 13

Excavators C. Loendorf / R. Burdon, R. Lindsey Date 9/2/98

Site SLA3179 Unit 1 / Locus A Level 1 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen Sample	General	SE corner of Unit
2	Pollen Sample	↓	SE corner of unit
3	Glass	↓	General collection

Bag count - 3

Carbon sample notes None

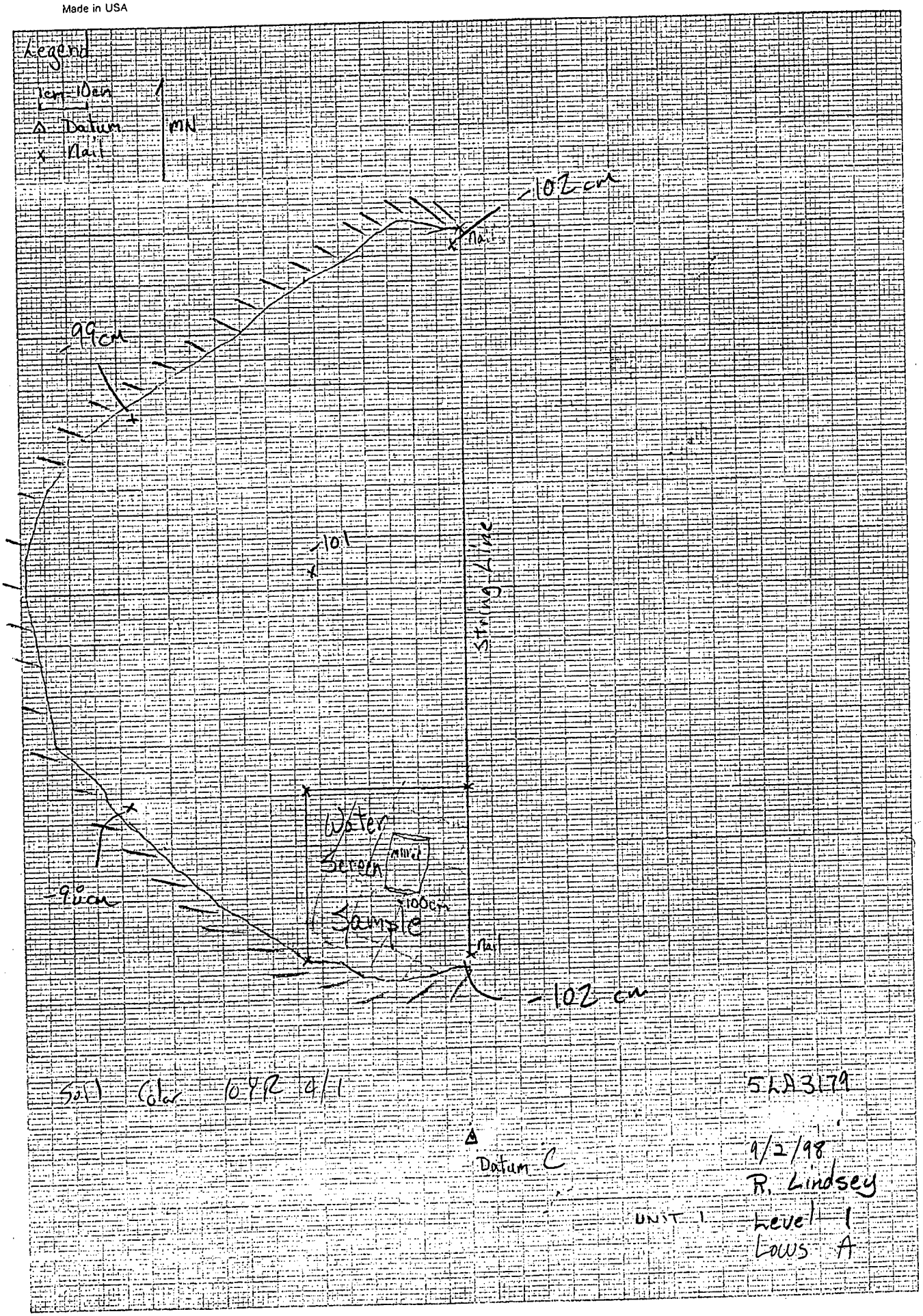
Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: Aeolian deposits on surface = Au 1

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒

Made in USA



10 Millimeters to the Centimeter

PCMS-CRM-201 page 1 of 2
ACC# _____

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1/Locus A Level 2 Screen size 1/4"
Datum/height (AS) C / +10cm Average starting depth (below datum) -100 cm
Average ending depth (below datum) -108 cm

Description of cultural deposits Cultural material encountered in the unit appears to be secondary deposits from slope wash. Five small glass fragments (Brown / Aqua tint and green), three bone / frags. (Large Mammal and Rodent) and two flakes (Chalcedony, quartzite) were collected. A miller beer can with a bullet hole was collected with the water screen. sample.

Soil color (Munsell) 10YR 5/3 Brown. Soil texture Silt and Sand

Additional soil description The fill in the level consists of water deposited laminated sand and silt. Appears to be fill from slope wash.

Additional comments The fill has a relatively high moisture content and is lightly compacted. The munsell was taken when the soil was moist.

Features identified (describe) None

B/W photos Camera A-1 / Roll 98-32 / Exp. 14
Color photos Camera A-2 / Roll 98-36 / Exp. 14

Excavators R. Lindsey, R. Burleson, C. Lambert Date 9/2/98

Site SLA3179 Unit 1/Locus A Level 2 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen Sample		SE Corner
2	Pollen Sample		SE Corner
3	Glass		General Collection
4	Bone		↓ ↓
5	Lithics		↓ ↓

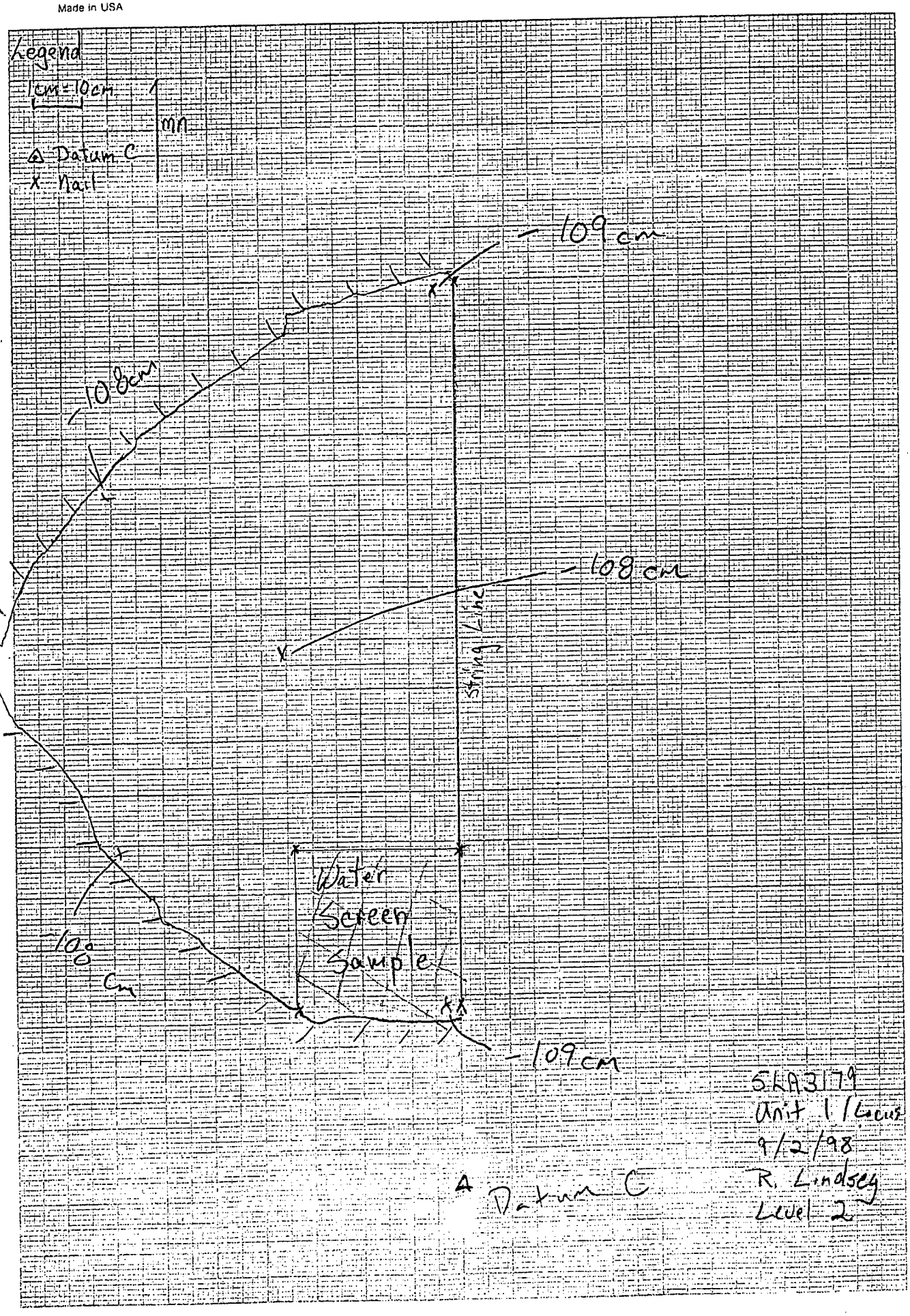
Carbon sample notes No charcoal noted 5 Bags collected

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU2; Laminated sediments below topsoil, Justified based on the presence of laminated sediments.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒



PCMS-CRM-201
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EXCAVATION LEVEL FORM

Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1/4yds A1 Level 3 Screen size 1/4"

Datum/height (AS) C / +10cm Average starting depth (below datum) -108 cm BDSL

Average ending depth (below datum) -118 cm

Description of cultural deposits Cultural Material in the unit appears to be secondary deposits from slope wash. Metal fragments, 2 bone fragments, and a single flake were collected. A fragment of fossil shell (Possibly discard) was collected because this material does not occur naturally in the area and may be a manuport

Soil color (Munsell) 10 YR 5/3 Brown Soil texture Silt and Sand.

Additional soil description Laminated silt and sand. Some root disturbance. The fill has a relatively high moisture content. Colluvial deposition.

Additional comments Fragments of decomposed sandstone from the sides of the feature were scatted around the edges of the unit.

Features identified (describe) None

B/W photos Camera A1 / Roll 98/32 / Exp. 15

Color photos Camera A2 / Roll 98/36 / Exp. 15

Excavators C. Lambert, E. Burlson, R. Cindsey Date 9/2/98 - 9/3/98

Site SLA3179 Unit 1 Locus A Level 3 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Water Screen		SE Corner
2	Pollen		SE Corner
3	Metal frags.		General Collection
4	Bone		↓ ↓
5	Lithics		
6	Fossil Shell		

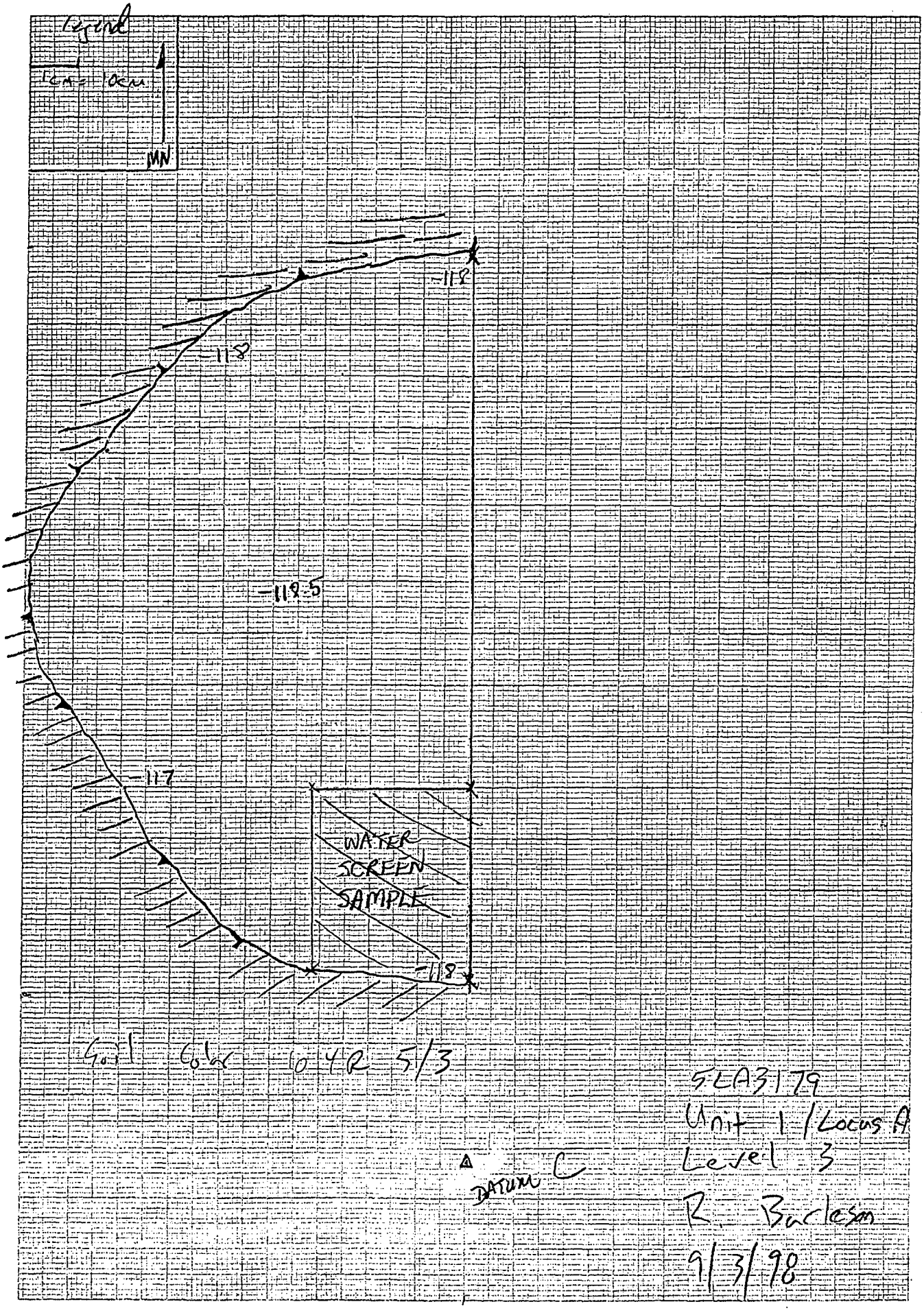
Carbon sample notes: One very small fleck of charcoal collected. 6 bags collected was noted in the screen but not collected.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AUZ, topsoil. Justified based on laminated sediments below laminated silt and sand.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level? Yes ☐ No ☒



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EXCAVATION LEVEL FORM

Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA31.79 Unit 1 Locus A Level 4 Screen size 1/4"

Datum/height (AS) C / +10 cm Average starting depth (below datum) -118cm

Average ending depth (below datum) -128cm

Description of cultural deposits The cultural material in the unit appears to be secondary deposits from slope wash. One small glass frag., bone fragments, one flake, and metal fragments including two square nails were collected.

Soil color (Munsell) 10 YR 5/3 brown Soil texture Silt and Sand

Additional soil description Laminated silt and sand. A thicker layer of silt (approx. 2-3 cm thick) was encountered near the bottom of the level which is probably the result of an unusually heavy rain fall. Colluvial deposition.

Additional comments A sandstone block from the wall was present in the floor of the unit & will be removed in level 5.

Features identified (~~describe~~) None

B/W photos C A1 : Roll 98/32 : Exp. 16

Color photos C A2 : Roll 98/36 : Exp. 16

Excavators C. Loendorf, R. Burleson, R. Lindsey Date 9/3/98

Site 5LA3179 Unit 1 Locus A Level 4 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen Sample		SE Corner
2	Pollen Sample		SE Corner
3	Glass frags.		General Collection
4	Bone		↓ ↓
5	Lithics		
6	Metal		
			6 bags collected

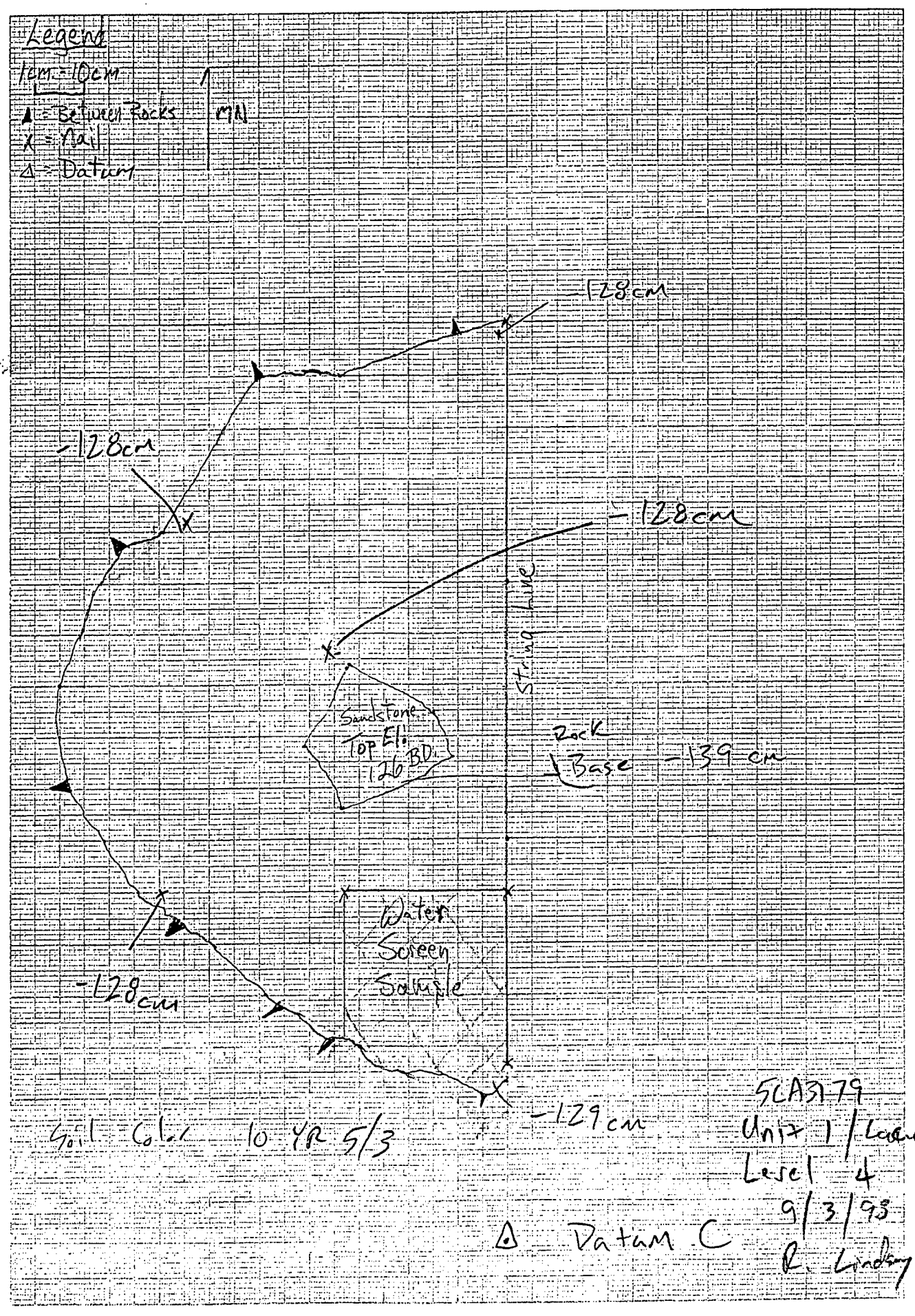
Carbon sample notes Some very small charcoal flecks were noted in the NE corner, but were not collected because of the extremely small quantity and lack of integrity of the deposits they were in.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU2; Laminated sediments below topsoil. Justified based on laminated sand and silt.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level? Yes ☐ No ☒


Legend
1cm = 10cm
▲ = Between Rocks
X = Nail
Δ = Datum
-128cm
-128cm
-128cm
-128cm
-129cm
String Line
Sandstone
Top El.
126 BD.
Rock
Base -139 cm
Water
Screen
Sample
Soil Col. 10 YR 5/3
SCA379
Unit 1 / Locus
Level 4
9/3/93
Δ Datum C
R. Lindsay

PCMS-CRM-201
ACC# _____

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1 Locus A Level 5 Screen size -1/4"

Datum/height (AS) C / +10cm Average starting depth (below datum) -128 cm

Average ending depth (below datum) -139 cm

Description of cultural deposits: Cultural material in the unit appears to be secondary deposits from slope wash. Artifacts collected include glass frags., metal including square nails, white ware ceramics, bone frags., charcoal, & lithics. A frag. of fossil shell was collected from the level.

Soil color (Munsell) 10YR 5/3 Brown Soil texture Silt & Sand

Additional soil description laminated silt and Sand. Some root disturbance. A rodent disturbance was present in the SE corner Cultural deposition

Additional comments A chunk of soil with higher clay content that appears to be adobe was removed from the SE corner. This material appears to have washed into the unit. Wall Fall (5 sandstone chunks) has increased

Features identified (describe) None identified

B/W photos Camera A1 : Roll 98-32 : Exp. 17

Color photos Camera A2 : Roll 98-36 : Exp. 17

Excavators C. Loendorf, R. Burleson, R. Lindsey Date 9/3/98

Site 5LA3179 Unit Unit 1 Locus A Level 5 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen Sample		SE Corner
2	Pollen Sample		SE Corner
3	Glass		General Collection
4	Metal		↓
5	Bone		↓
6	Historic Ceramics		↓
7	Charcoal		↓
8	Lithics		↓
9	Fossil Shell		↓
			9 bags total collected

Carbon sample notes A small charcoal sample (≈ 2 grams) was collected. This charcoal appears to have been washed into the unit, and it is unclear if the charcoal is natural or cultural in origin. Probably not worth dating. The sample was temporally (20 minutes) stored in plastic & transferred to tin foil.

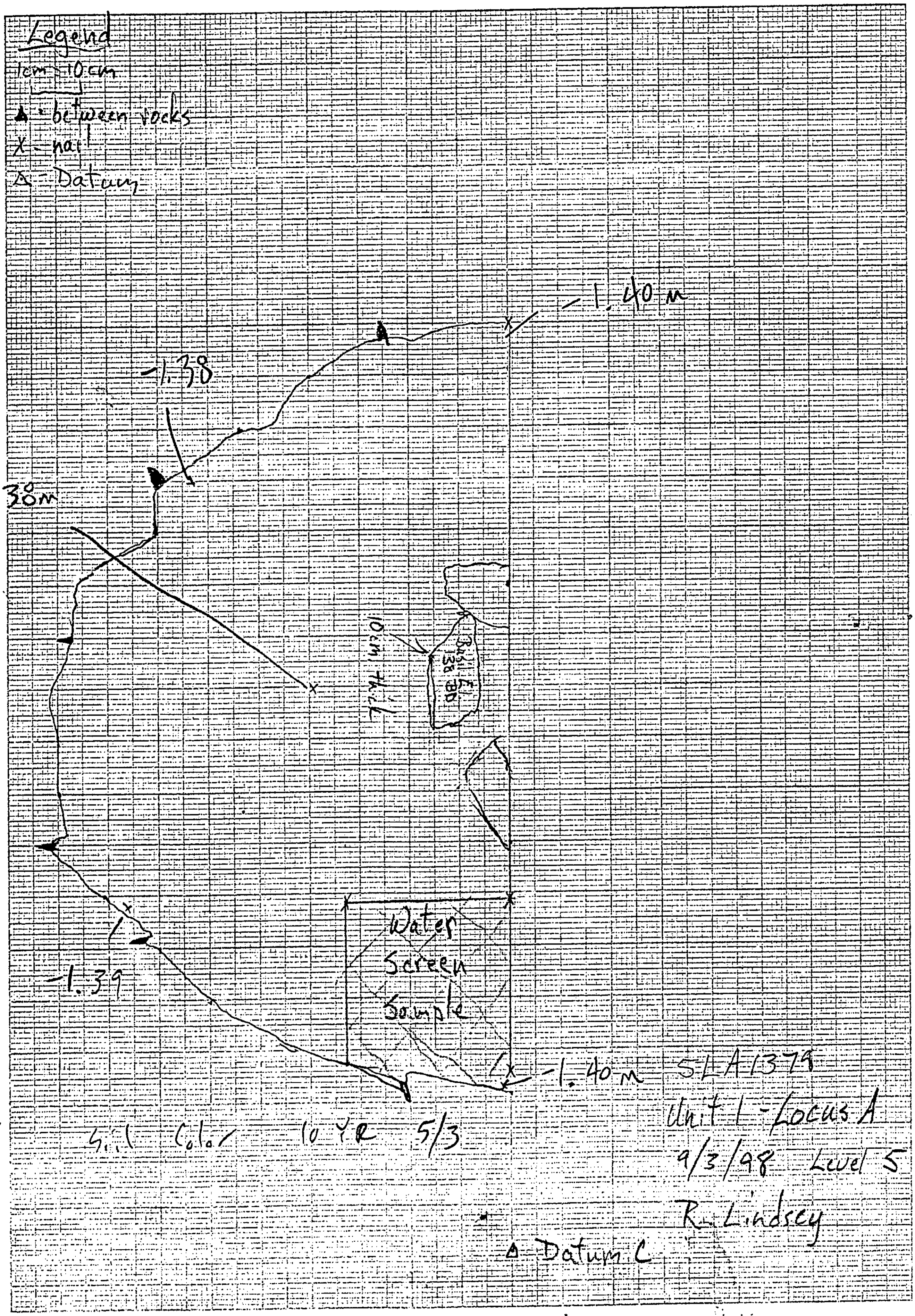
Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification Alluvial; Laminated sediments below topsoil. Justified based on the presence of laminated silt and sand.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level? Yes ☐ No ☒

Made in USA


Legend
1cm = 10cm
▲ - between rocks
X - nail
Δ - Datum
-1.40 m
-1.38
-1.38m
10cm thick
Water
Screen
Sample
-1.39
-1.40 m
Soil Color 10 YR 5/3
SLA 1379
Unit 1 - Locus A
9/3/98 Level 5
R. Lindsey
Δ Datum C

PCMS-CRM-201
ACC# \ i

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 6: Locus A Level 6 Screen size 1/4"
Datum/height (AS) C / + 10cm Average starting depth (below datum) -1.39 m
Average ending depth (below datum) -1.50 cm

Description of cultural deposits: Cultural material in the level appears to be secondary deposition from slope wash. Cultural material collected includes, glass, bone, metal fragments including a suspender clip, historic ceramics. / Artifact density was similar to previous levels.

Soil color (Munsell) 10YR 5/3 Brown Soil texture Silt & Sand

Additional soil description Laminated silt and sand. Relatively high moisture content. Some root and rodent disturbance. The fill is more compact than previous levels, but is still only moderately compacted. Colluvial deposition

Additional comments Fall from the walls of the feature continued into this level

Features identified (describe) None identified

B/W photos Camera A1: Roll 98-32: Exp. 18
Color photos Camera A2: Roll 98-36: Exp. 18
Excavators C. Loendorf, F. Burleson, L. Linsey Date 9/3/98

Site 5LA3179 Unit 1/Locus A Level 6 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen sample		SE Corner
2	Pollen Sample		SE Corner
3	Glass		General Collection
4	Metal		↓ ↓
5	Bone		
6	Historic Ceramic		
			6 Bags total collected

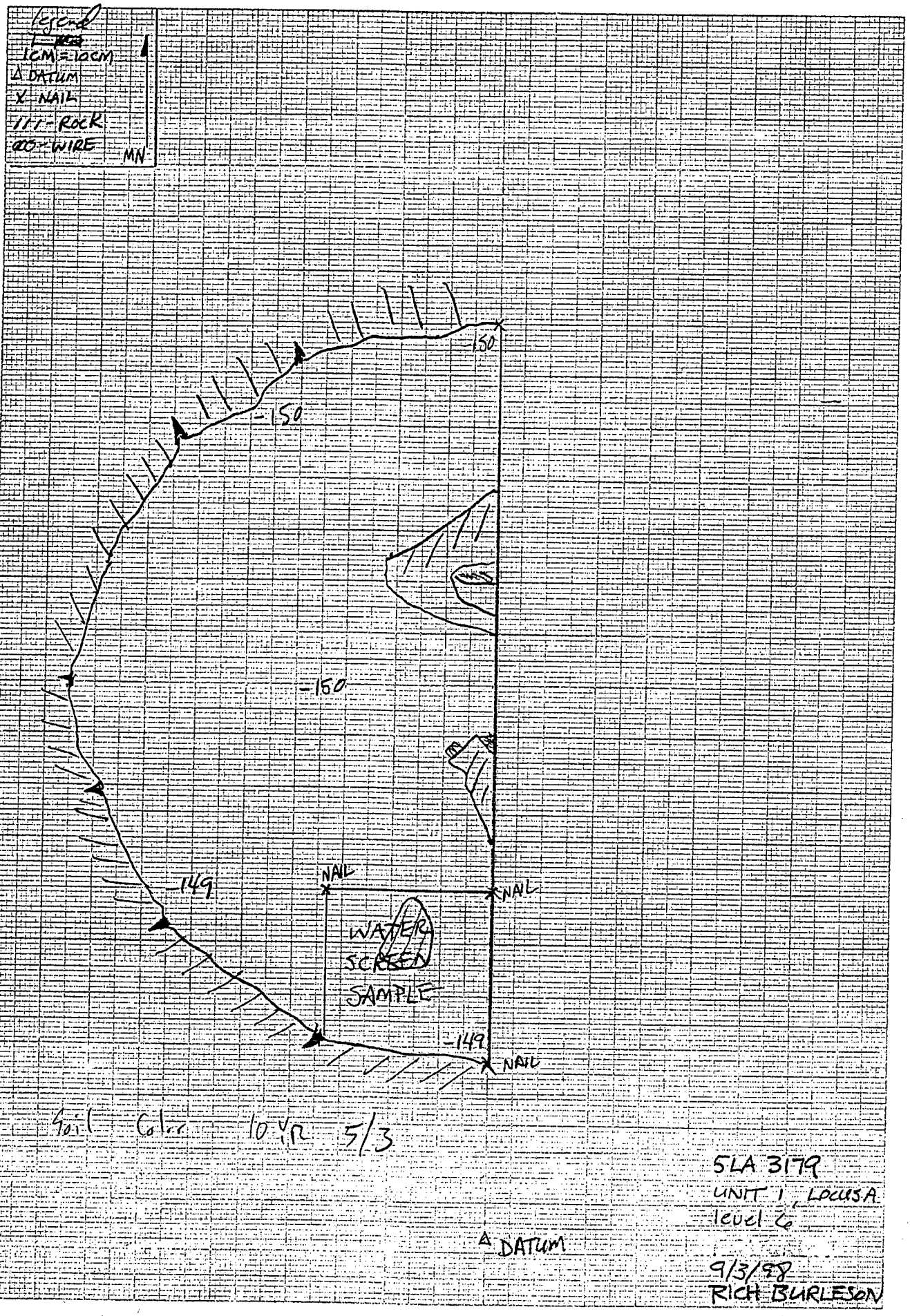
Carbon sample notes Some small charcoal flecks were noted but not collected.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU2; Laminated sediments below topsoil. Justified based on laminated silt and clay.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒



5LA 3179
UNIT 1, LOCUS A
level 6

9/3/98
RICH BURLESON

PCMS-CRM-201
ACC# _____

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1 Locus A Level 7 Screen size 1/4"
Datum/height (AS) C / 1+10cm Average starting depth (below datum) 1.5 m
Average ending depth (below datum) 1.6 m

Description of cultural deposits Cultural material in the unit appear to be secondary deposits from slope wash

Cultural material: 1 small, thin glass shard; small bone frags - 2 possibly large mammal long bone, 2 possible bird bone frags, 1 deteriorated frag; 3 metal frags square nail, 2 rust covered frags; 3 plain white ware ceramic sherds

Soil color (Munsell) 10YR 5/3 Brown Soil texture Silt and Sand

Additional soil description Still laminated sandy silt with some mixed clay. Sparse rodent disturbance. Soil is condensed as compared to higher elevations, but still relatively soft. Colluvial deposition

Additional comments No wall fall rocks were encountered in this level.

Features identified (describe) None.

B/W photos Camera A1: Roll 98-32: Exp. 19
Color photos Camera A2: Roll 98-36: Exp. 19

Excavators C. Loendorf, R. Rudeson, R. Lindsey Date 9/4/98

Site 5LA3179 Unit 1/Locus A Level 7

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Water screen sample		SE Corner
2	Pollen sample		SE Corner
3	Metal		General Collection
4	Bone		↓ ↓
5	Glass		
6	Historic ceramics		
			6 bags Total Collected

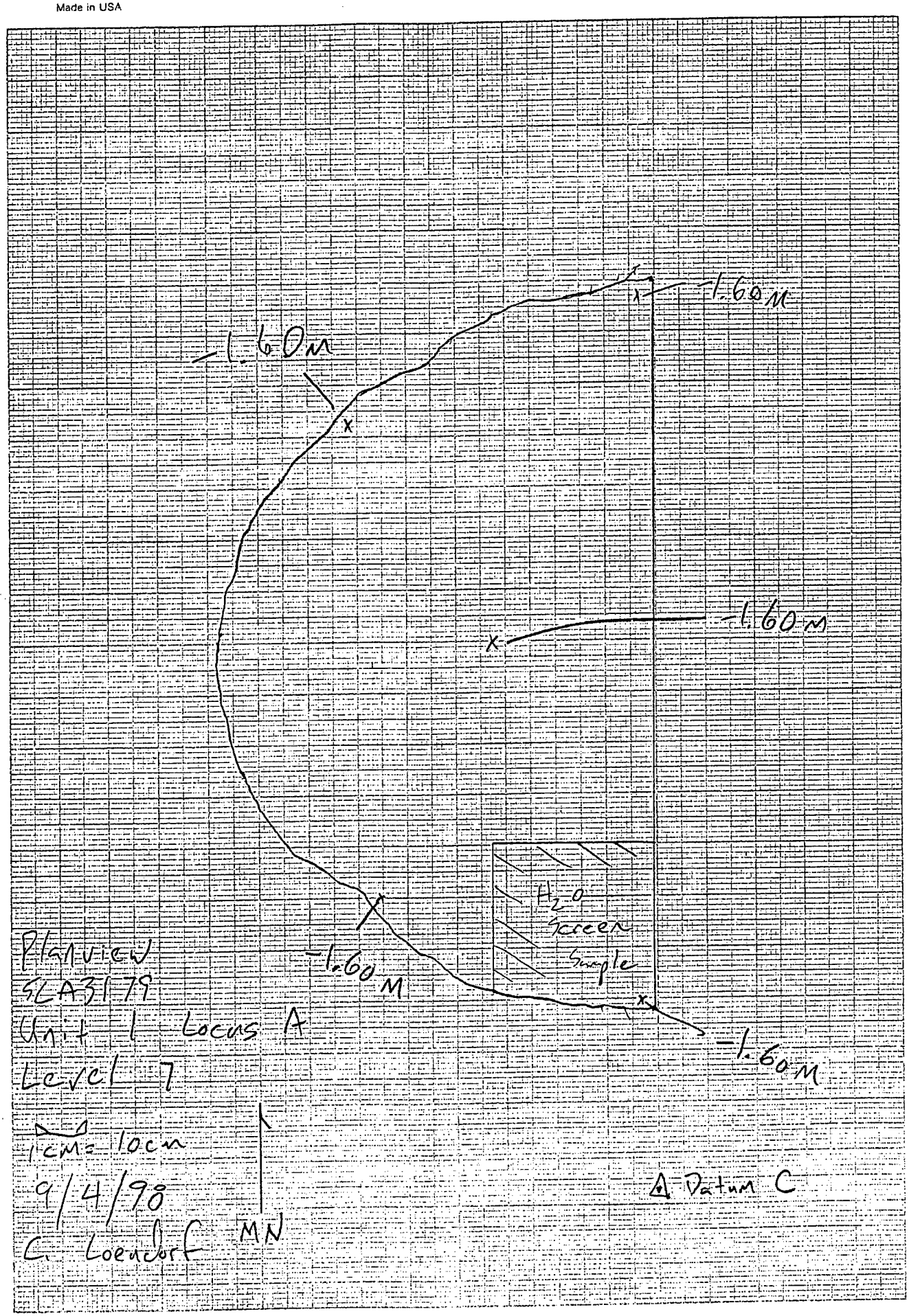
Carbon sample notes NO - small flecks, were not collected

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU2. Laminated sediments, justified by laminated silt & sand. Some clay, but it is seperate and isolated. Cannot be considered loam. Continued artifacts indicate colluvial episodal wash from historic features and activity areas.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒



PCMS-CRM-201
ACC# \

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA 3179 Unit 1 Locus A Level 8 Screen size 1/4"

Datum/height (AS) C / +10cm Average starting depth (below datum) -1.60m

Average ending depth (below datum) -1.74m

Description of cultural deposits The cultural material in the unit appears to be secondary deposits from sheet wash. Artifacts collected include glass shards, historic ceramics, metal (2 possible horseshoe nails & sheet metal frags, bone frags and a single flake. As in previous levels all artifacts are small items that washed into the feature.

Soil color (Munsell) 10 YR 4/3 Brown Soil texture Silt & Sand

Additional soil description Colluvially deposited laminated silt and sand with some clay. Some root disturbances. Soil moisture content is still relatively high.

Additional comments Because few artifacts are in the fill and all cultural material appears to be mixed secondary deposits, the depth of the levels was increased from 10cm to 15 cm.

Features identified (describe) None located

B/W photos Camera A1: Roll 98-32: Exp. 22
Color photos Camera A2: Roll 98-36: Exp. 22

Excavators R. Lindsey, C. Lueders, R. Burleson Date 9/4/98

Site 5LA3179 Unit 1/Locus A Level 8 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen sample		SE Corner
2	Pollen Sample		SE Corner
3	Glass		General Collection
4	Bone		↓
5	Historic ceramics		↓
6	Metal		↓
7	Lithics		↓

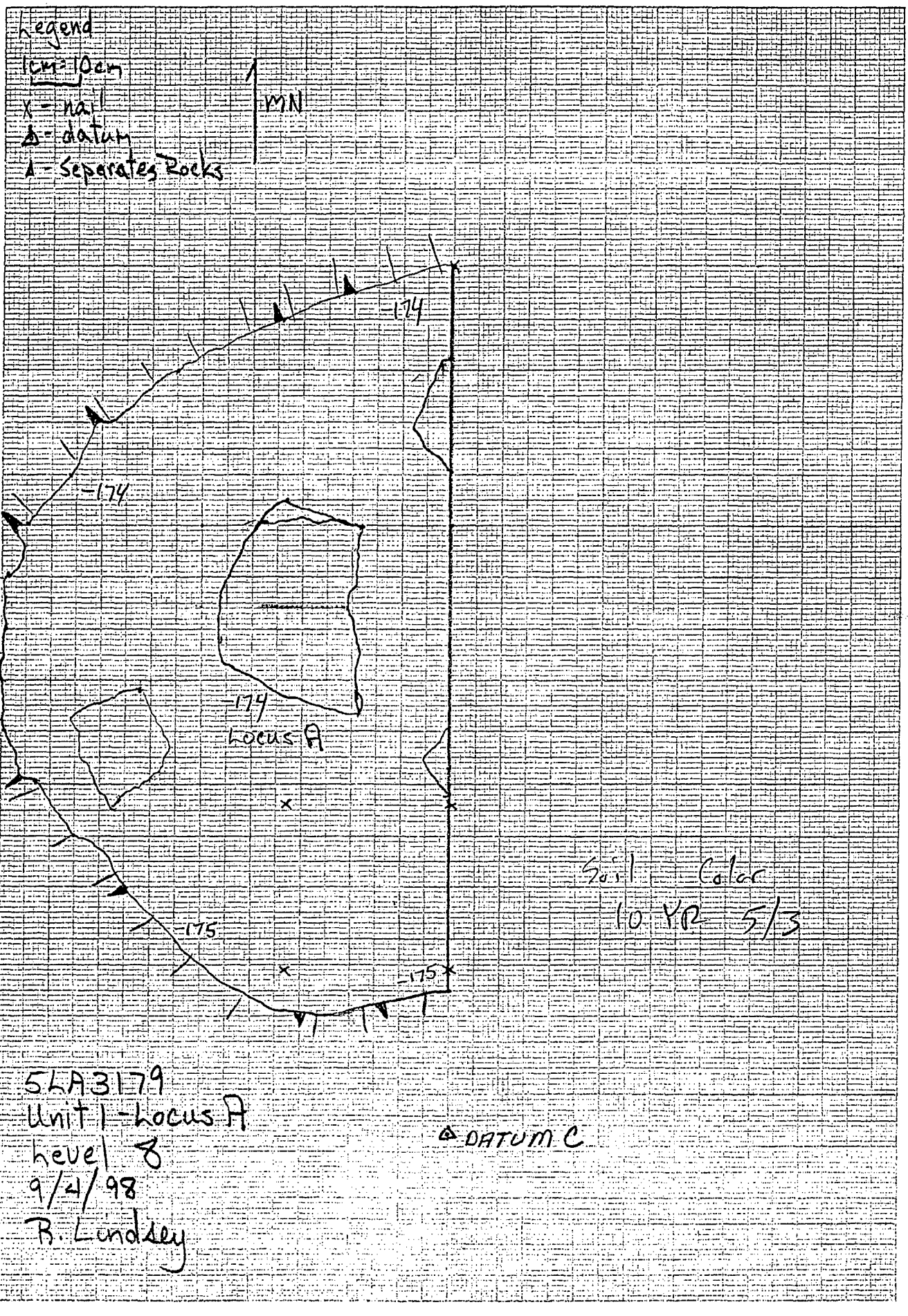
Carbon sample notes No charcoal was identified in this level.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: Aeolian laminated sand and silt below topsoil.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒


Legend
1cm=10cm
x - nail
Δ - datum
A - Separates Rocks
MN
-174
-174
-174
Locus A
-175
-175
Soil Color
10 YR 5/3
5LA3179
Unit 1 - Locus A
level 8
9/4/98
R. Lindsey
Δ DATUM C

EXCAVATION LEVEL FORM

Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1 Locus A Level 9 Screen size 1/4"

Datum/height (AS) C / + 10 cm Average starting depth (below datum) -1.74 m

Average ending depth (below datum) -1.90

Description of cultural deposits All cultural material appears to be secondary deposits from slope wash. Artifacts collected include, 6 glass frags., 3 bones (Rodent, 1 poss snake vertebrae), Metal including a larger nail, and one flake. The nail is the largest historic artifact yet encounted and may have been in a wood fragment when transported into the feature by water. The nail is better preserved than others which supports this interpretation.

Soil color (Munsell) 10 YR 5/3 Brown Soil texture Silt and Sand

Additional soil description Colluvially deposited laminated silt and sand. Moisture content relatively high. Some root disturbance.

Additional comments

Features identified (describe) None located

B/W photos Camera A1; Roll 98-32; Exp. 23

Color photos Camera A2; Roll 98-36; Exp. 23

Excavators C. Loendorf / R. Lindsey, R. Burleson Date 9/4/98

Site 5LA3179 Unit 1/Locus A Level 9 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen Sample		SE Corner
2	Pollen Sample		SE Corner
3	Glass		General - Collection
4	Metal		↓ ↓
5	Bone		
6	Flake		

3CE 7E 1

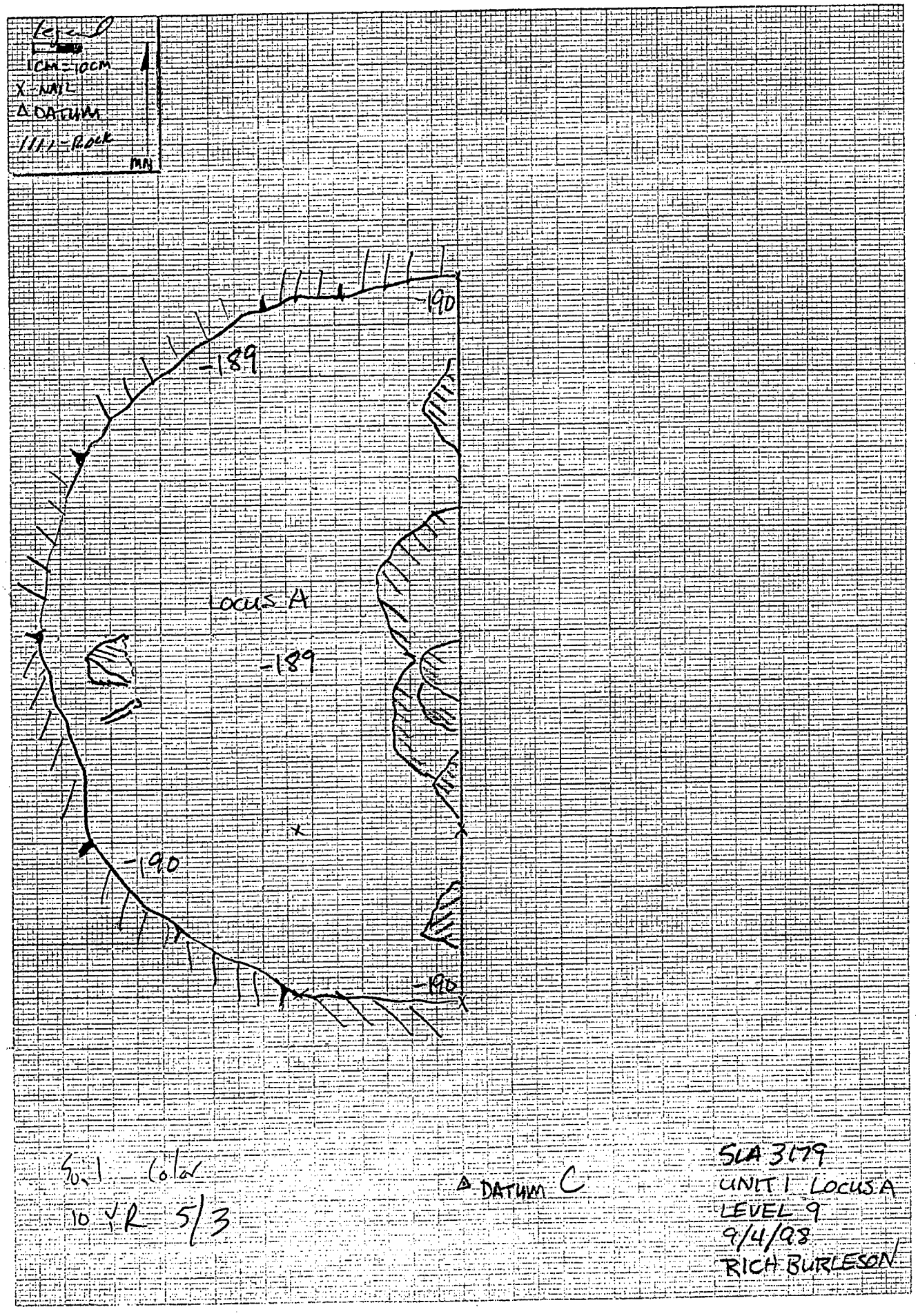
Carbon sample notes A few very small flecks of charcoal were noted but not collected.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU2; Laminated Sand and Silt below topsoil.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level? Yes ☐ No ☒


1CM=10CM
X=NAIL
Δ DATUM
////=ROCK
MN
-190
-189
LOCUS A
-189
-190
-190
Soil Color
10 YR 5/3
Δ DATUM C
SLA 3179
UNIT 1 LOCUS A
LEVEL 9
9/4/98
RICH BURLESON

PCMS-CRM-201
ACC# \ \ \

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1 Locus A Level 10 Screen size 1/4"
Datum/height (AS) C 1/+10cm Average starting depth (below datum) -1.90 m
Average ending depth (below datum) -2.05m

Description of cultural deposits Small rodent and/or reptile/amphibian bones + possible bird bone (Total = 16) including rodent skull. 5 metal fragments including a small nail fragment + a large nail head. 8 glass fragments of various colors + thicknesses. One piece appears to have been melted. 1 piece historic whiteware ceramics. All artifacts appear to have been deposited as the result of slope wash.

Soil color (Munsell) 10YR 5/3 Brown Soil texture Silt + sand

Additional soil description Clay content is higher than previous level, but has fresh clinal increase. Laminated silt w/ some sand and mottled clay. Must soil w/ pebbles to .5 cm. Colluvial deposition.

Additional comments High oxidized state on metal artifacts

Features identified (describe) None identified

B/W photos Camera A1: Roll 98-32: Exp. 24
Color photos Camera A2: Roll 98-36: Exp. 24

Excavators C. Loendorf, R. Lindsey, R Burleson Date 9/5/98

Site SLA3179 Unit 1/Locus A Level 10

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Screen Sample		SE Corner
2	Pollen Sample		SE Corner
3	Metal		General Collection
4	Ceramics		↓ ↓
5	Bone		
6	Glass		
			6 Bags total Collected

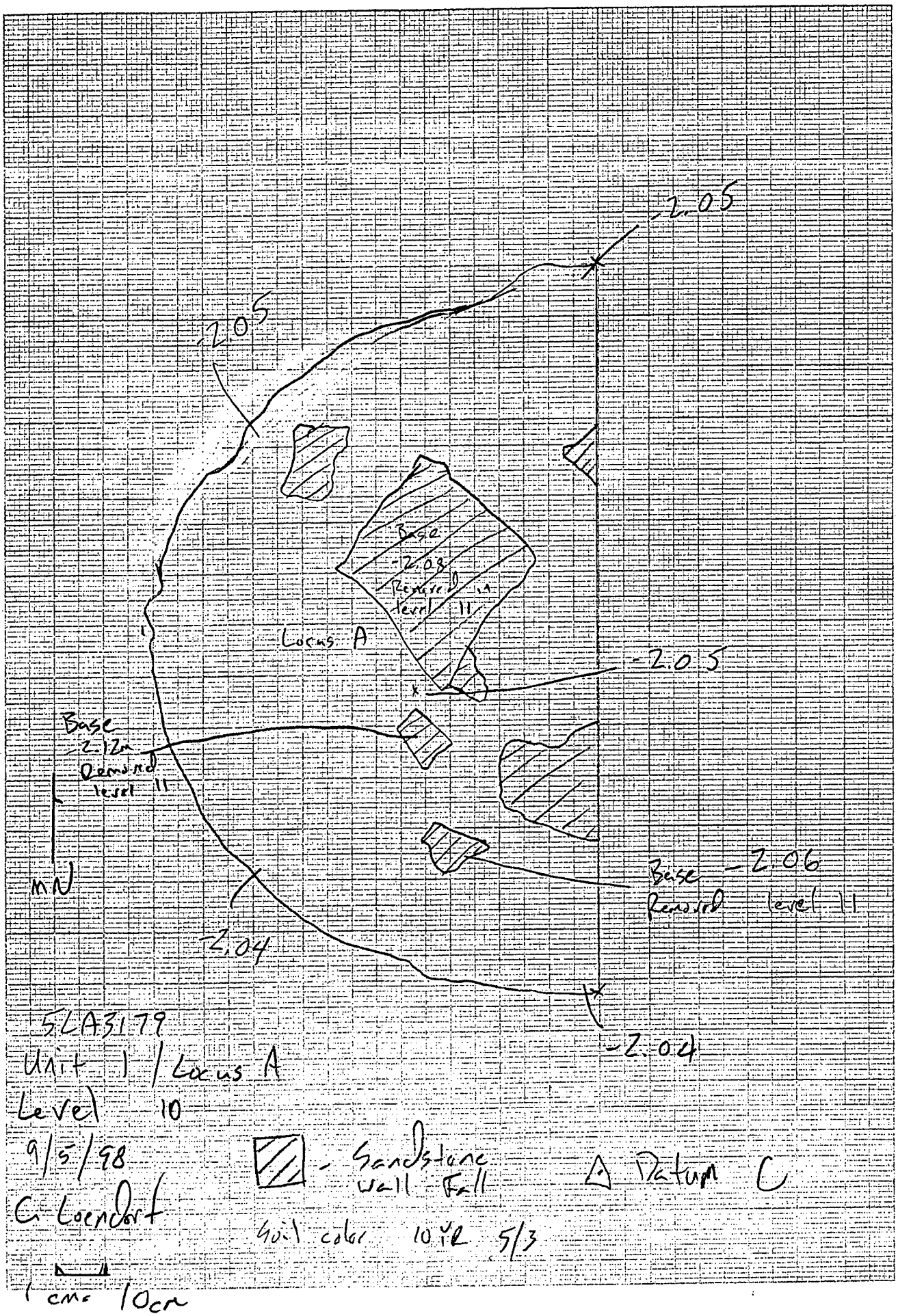
Carbon sample notes A very few small flecks of charcoal to .3 cm. in dia. None collected.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU2: Laminated silt & sand - colluvial deposits below topsoil. justified by small cultural debris in fill.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒



PCMS-CRM-201
ACC# \ \

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing.

Site 5LA 3179 Unit 1 Lows A Level 11 Screen size 1/4"

Datum/height (AS) C 1 + 10 cm Average starting depth (below datum) -2.05 m

Average ending depth (below datum) -2.20m

Description of cultural deposits Cultural material in the level appears to have been deposited by sheet wash. Artifacts collected include 1 glass shards (clear, purple, & brown) highly oxidized metal & bone fragments (large mamal, and possible amphibian), a piece of historic whiteware, and one single flake. Artifact density has increased from previous levels.

Soil color (Munsell) 10 YR 5/3 Brown Soil texture Silt and Sand

Additional soil description Colluvially deposited laminated silt and sand. Some root disturbance. Moisture content is relatively high.

Additional comments Feature is becoming wider at the base. Some largely decomposed wood was noted in the SE corner but was too fragmentary and friable to collect.

Features identified (describe) None identified

B/W photos Camera A1: Roll 98-32; Exp. 25; ~~Roll 98-2; Exp.~~

Color photos Camera A2: Roll 98-36; Exp. 25; ~~Roll 98-13; Exp.~~

Excavators R. Lindsey, R. Burleson, C. Loendorf Date 9/5/98

Site 5LA3179 Unit 1: Locus A Level 11 page 2 of 2

Field Specimen List			
FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen Sample		SE Corner
2	Pollen Sample		SE corner
3	Glass		General Collection
4	Metal		↓ ↓
5	Bone		
6	Historic Ceramics		
7	Lithic		↓
			7 bags total collected.

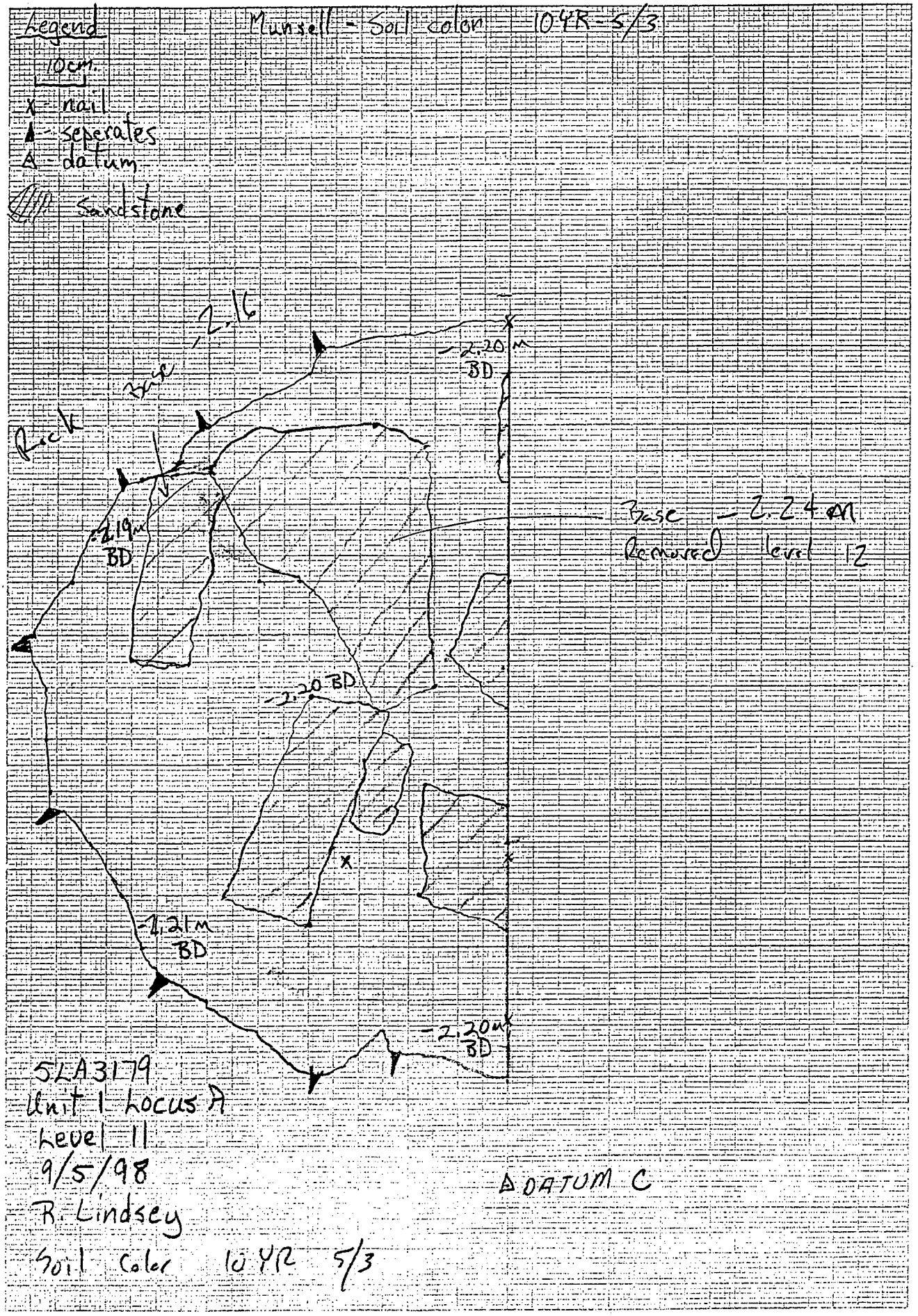
Carbon sample notes Charcoal Some small flecks of were noted but not collected.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: Colluvially deposited laminated sediments below topsoil. Justified based on small inclusions that could be deposited by water and the presence of laminated silt and clay.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒



PCMS-CRM-201
ACC# \ 1

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1 Locus A Level 12 Screen size 1/4"

Datum/height (AS) C / + 10cm Average starting depth (below datum) -2.20m

Average ending depth (below datum) -2.35m

Description of cultural deposits All artifacts appear to be secondary deposits from sheet wash. Artifact density increased from the previous level & level 12 has the largest number of artifacts thus far encountered. A comparatively large number of metal artifacts, all highly oxidized, were collected. In addition, bone, glass, historic / ceramics, and 2 flakes were collected. Most of the metal appears to be poorly preserved square nails.

Soil color (Munsell) 10 YR 5/3 Brown Soil texture Silt & Sand

Additional soil description Colluvially deposited laminated silt and sand. The fill is less compact than the previous level. Moisture content is still relatively high. Some root disturbance.

Additional comments The density of well faulted rocks has decreased from the previous level.

Features identified (describe) None identified.

B/W photos C A1; Roll 98-1 : Exp. 2

Color photos C A2; Roll 98-13C : Exp. 2

Excavators C. Loendorf, K. Burleson, R. Lindsey Date 9/5/98

Site 5LA3179 Unit 1 Locus A Level 12 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen Sample		SE Corner
2	Pollen Sample		SE Corner
3	Glass		General Collection
4	Metal		↓ ↓
5	Historic Ceramics		
6	Bone		
7	Lithics		
			7 bags total collected

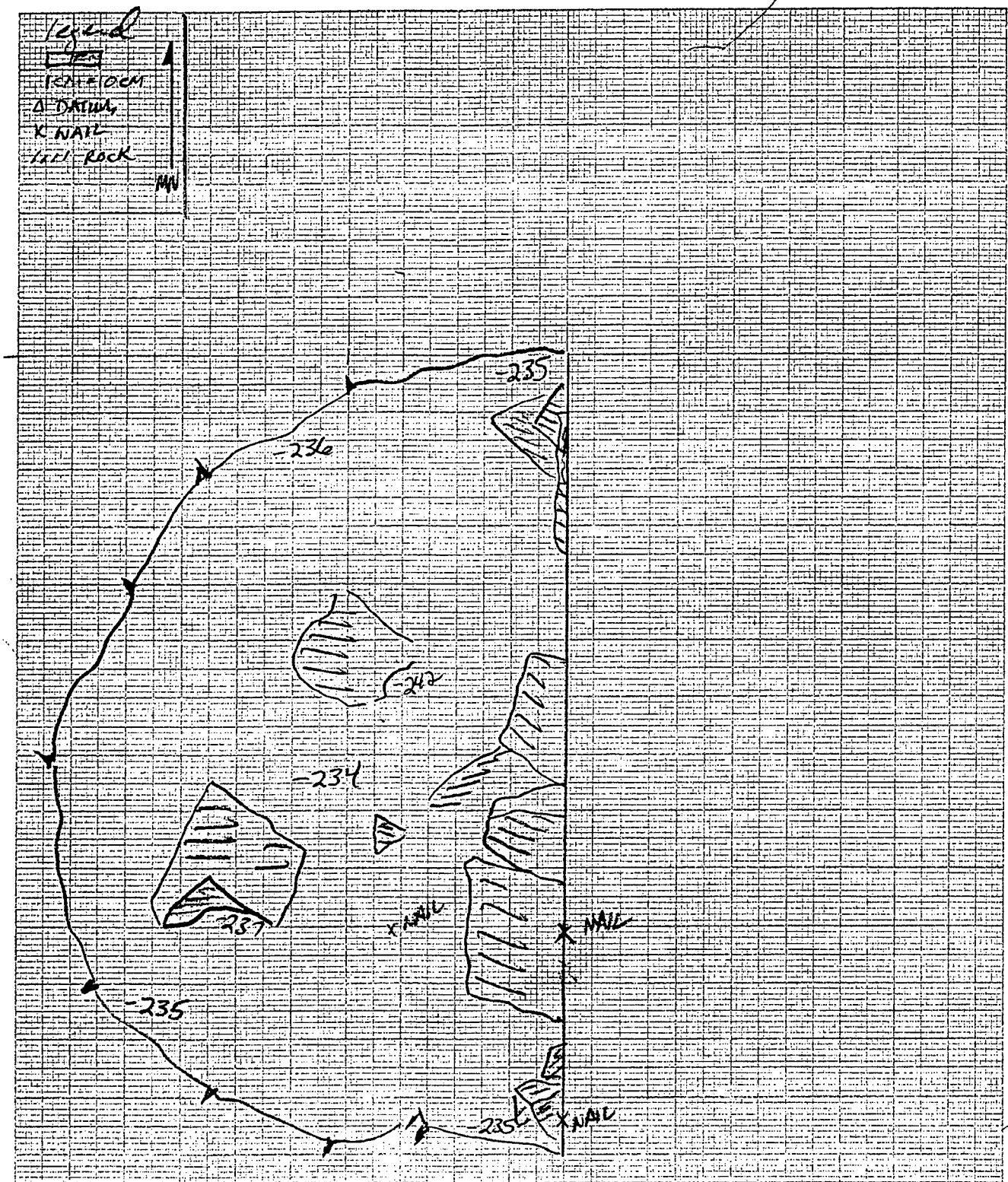
Carbon sample notes Some small flecks of noted but not collected.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU2; Colluvial fill below topsoil. Justified based on the presence of dark small inclusions and laminated silt and clay.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒



Soil Color 10YR 5/3

SLA 3179
UNIT 1 LOCUS A
LEVEL 12
9/5/97
RICH BURLESON

Δ
DATUM C

PCMS-CRM-201
ACC# ___

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1/Locus A Level 13 Screen size 1/4"
Datum/height (AS) C / +10cm Average starting depth (below datum) -2.35M
Average ending depth (below datum) -2.50M

Description of cultural deposits Some bone was found in-situ but was not mapped (contained in 2 foil pouches) [Partially articulated bone from small animals]. Misc. glass, ceramics, metal + bone were collected - very similar to most levels. Pollen sample + water screen sample were collected. No flakes this level. Artifact density, particularly metal, decreased from level 12. All cultural material in the upper portion of the level appears to be secondary deposits that washed into the feature. A large fragment of metal at the base of the level may have been culturally deposited in the feature.

Soil color (Munsell) 10YR-5/3 brown Soil texture Silt + sand

Additional soil description Colluvial laminated silt + sand w/very little mottled clay. Fill is fairly unconsolidated - less so under rocks encounted in previous levels. Some deteriorate wood, root disturbance (some of the roots are still viable), and quite a few organics. Soil is moist. Sand lens at bottom of level. Decomposed organics were scattered throughout the level.

Additional comments Level 14 (NEXT LEVEL) may include material that was culturally deposited in the feature

Features identified (describe) None

B/W photos Camera A-1: Roll 98:1, Exposure 3
Color photos Camera A-2: Roll 98:13C, Exposure 3

Excavators R. Lindsey, C. Lowendorf, R. Burleson Date 9/6/98

Site 5LA3179 Unit 1/Locus A Level 13 page 2 of 2

Field Specimen List

FS No.	Description	Depth (BD)	Location/Point Provenience
1	Water screen		SE Corner
2	Pollen sample		↓ ↓
3	Bone		General Collection
4	Glass		↓ ↓
5	Ceramic		
6	Bone		

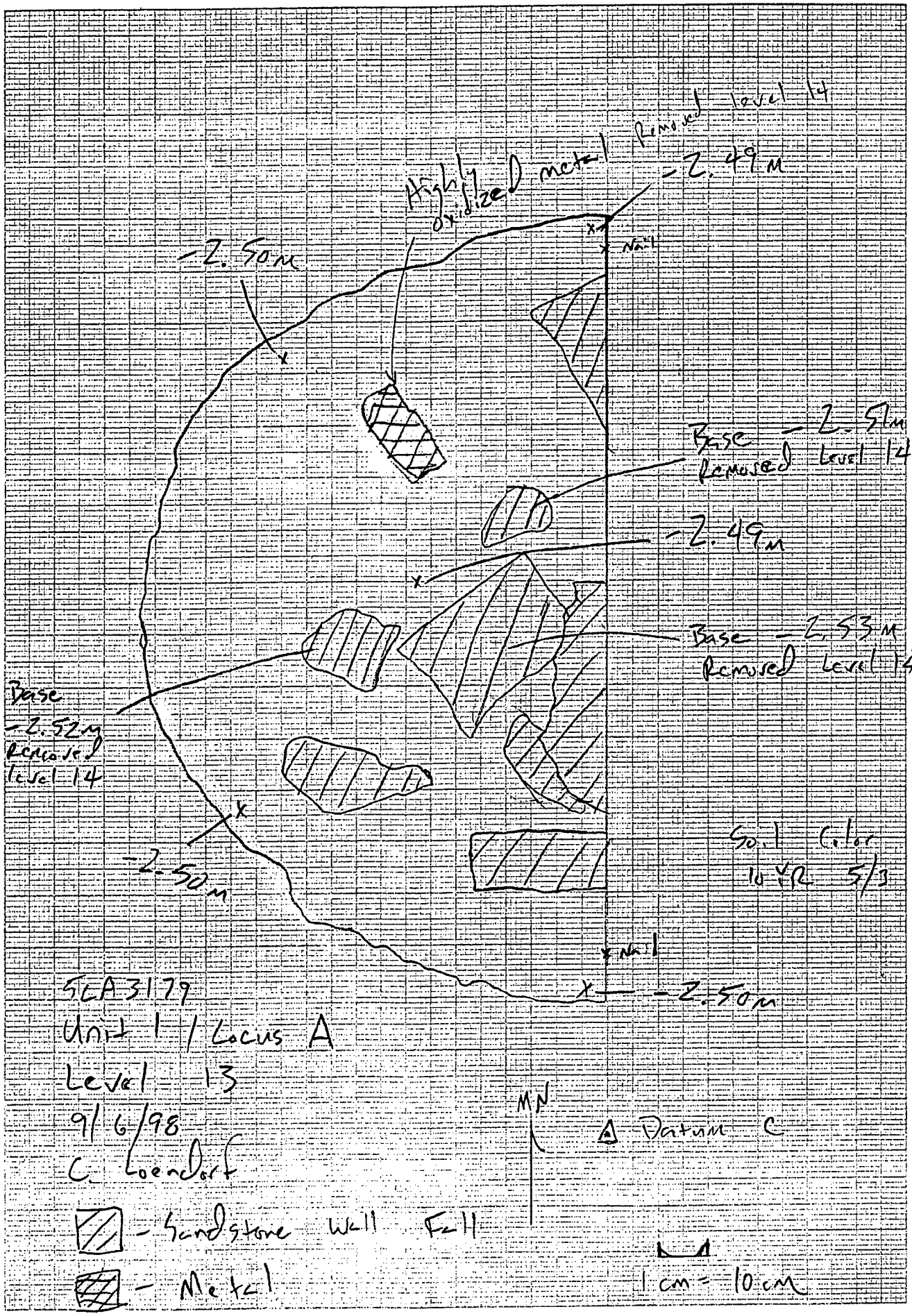
Carbon sample notes none taken - some scattered flecks to .3 cm.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU2; Colluvially deposited laminated sediments below topsoil. Justified based on the presence of thin small inclusions and laminated silt and / sand.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☐ No ☒



PCMS-CRM-201
ACC# \

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5LA3179 Unit 1-Locus A Level 14 Screen size 1/4"
Datum/height (AS) C / +10cm Average starting depth (below datum) -2.50m
Average ending depth (below datum) -2.65m

Description of cultural deposits The size of artifacts increased substantially in this level, suggesting that this material was known into the feature. It is unclear, however, if this material was deposited when the site was occupied or after it was abandoned. Articulated long bones from a large mammal (Possibly deer, but more than one individual appears to be represented) were collected from this level. A substantial portion of a clear glass bottle was also collected. See below.

Soil color (Munsell) 10 YR 5/3 Brown Soil texture Silt and Sand

Additional soil description The fill consists of colluvially deposited laminated silt and sand with some clay. This fill is similar to the previous level with some root disturbance and moisture. Decomposed organics were scattered throughout the level.

Additional comments A 22 short casing stamped with a "P" was collected. 3 rivets that are similar to those on modern jeans, were collected. Elements, including a fragmentary skull & claws, from a small carnivore (Possibly bobcat) were intermix with the large mammal long bones. (see continuation)
Features identified (describe) None identified

B/W photos Camera A1: Roll 98-1: Exps. 4 and 5
Color photos Camera A2: Roll 98-13S: Exps. 4 and 5

Excavators R. Lindsey, C. Loendorf Date 9/6/98

Site 5LA3179 Unit 1 Locus A Level 14

Field Specimen List			
FS No.	Description	Depth (BD)	Location/Point Provenience
1	Waterscreen sample		SE Corner
2	Pollen sample		↓ ↓
3	Misc. Glass		General Collection
4	Shell button		
5	Misc. Bone		
6	Misc. Metal		↓ ↓
7	22 short casing		↓ ↓
8	Metal (Poss. stove part)	-2.53m	1.28m N, 0.34m W of Datum C
9	Glass Bottle	Avg. -2.62m	Scattered in center of unit
10	Charcoal Sample		General Collection
11	Large mammal long Bone	-2.57m	0.93m N 0.36m W of Datum C
12	ankle bones	-2.57m	0.97m N, 0.33m W of Datum C
13	Large mammal long Bone (Femur)	-2.59m	0.94m N, 0.40m W of Datum C
14	Large mammal long Bone	-2.59m	0.82m N, 0.18m W of Datum See Continuation

Carbon sample notes Scattered flecks of charcoal throughout level. Sample collected with matrix. The sample is probaly around 50 grams in weight. The source and association of this charcoal is unclear at this point.

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: AU3; Trash deposition event in laminated sediments. Justified based on the presence of larger artifacts and partially articulated faunal remains. This material was concentrated in the northern ½ of the level. AU2 extended into the southern ½ of the level.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☒ No ☐

Fort Carson-Pinon Canyon Maneuver Site

CONTINUATION FORM

Recorder: C. Loendorf

Date: 9/7/98

Continuation of: Level 1 Locus A Level 14 Description of cultural deposits.

The intermixing of the skeletal material of several different animals and the partial articulation of the elements strongly suggests that this material was thrown into the feature. Diagnostic artifacts in the level (the 22 shell may date between 1887 & 1934, and the crown cap bottle [post 1891]) suggest that this cultural material dates after the late 1800's, and may have been deposited at the end of occupation of the site or after the site was abandoned. Other artifacts collected include a comparatively large piece of metal that may be from a stove, misc. metal frags. and bone from small mammals & possibly amphibians. The larger bones were collected individually and assigned FS numbers. Some of the artifacts

in the level appear to be older artifacts that were deposited by slope wash. Wall fall sandstone blocks are more present above and below the trash that was thrown in which further supports the suggestion that this material was thrown in after the feature was abandoned.

Fort Carson-Pinon Canyon Maneuver Site

CONTINUATION FORM

Recorder: C. Loendorf

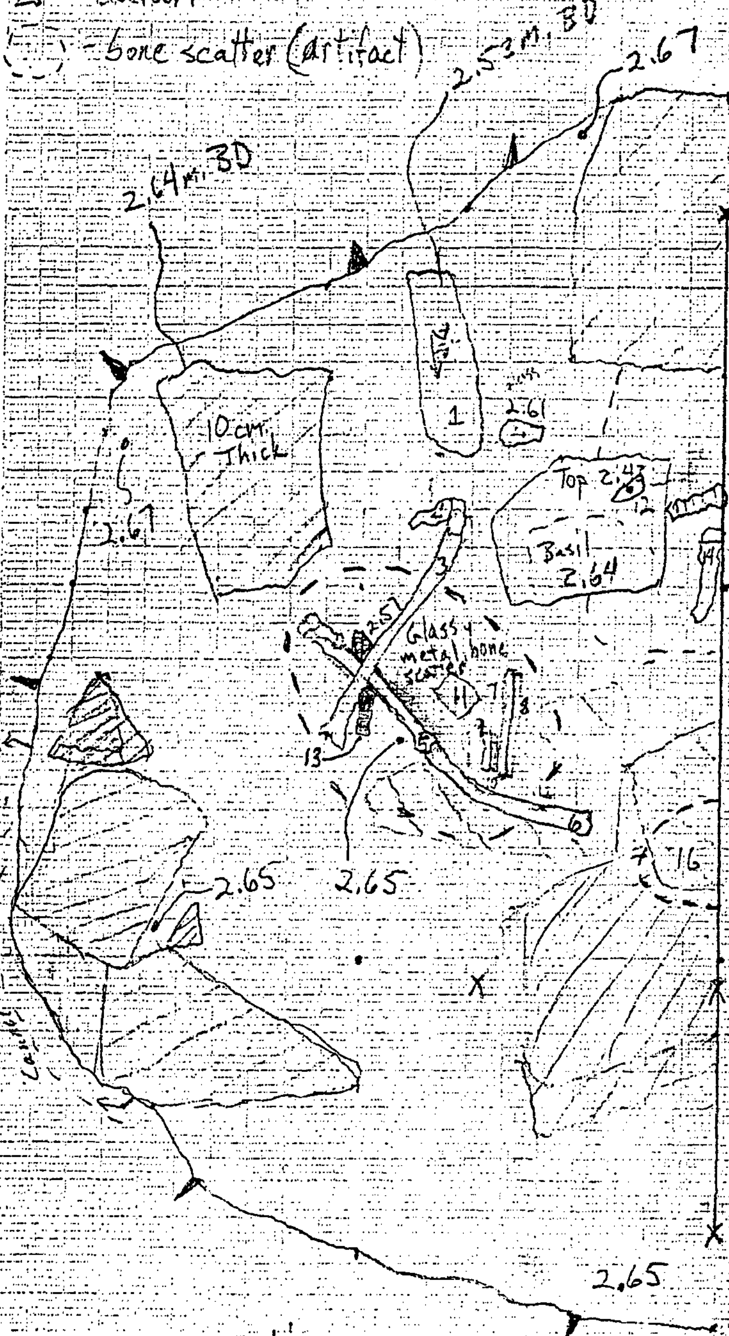
Date: 9/7/98

Continuation of: 5CA3179 Unit #1 Locus A level 14 artifact FS # list

FS #	Description	Depth (BD)	Location / Point Provenience
15	Poss. Radius	-2.62m	0.91m N, 0.30m W Datum C
16	Poss. Ulna	-2.62	0.91m N, 0.28m W Datum C
17	Bone	-2.59m	0.91m N, 0.32m W Datum C
18	Bone	-2.59m	0.91m N, 0.31m W Datum C
19	Long Bone	-2.60m	1.11m N, 0m W of Datum C
20	Vertebrae & Ribs	-2.60m	1.27m N, 0m W of Datum C
21	Fragmented small carnivore skull	-2.62m	0.74m N, 0m W of Datum C
22	Misc. Bone from center of Unit		Center of Unit
23	Misc. Bone near FS # 20		Area of FS#20
	11 Bags Total Collected		

Made in USA

Legend
(///) - Sandstone
X - nail
△ - datum
( ) - bone scatter (artifact)



1. Large metal frag. FS # 8
2. Glass frag/ FS # 9
3. Long bone + 2 articulated FS # 11
4. Ankle FS # 12
5. Femur? 2 ankle - epiphises (4 pieces) 2.59 (FS # 13)
6. Long bone 2.59 B.D. FS # 14
7. Radius 2.62 B.D. FS # 15
8. Ulna 2. 2.62 B.D. FS # 16
9. Unidentified 2.59 B.D. FS # 17
10. Unident. fied 2.59 B.D. FS # 18
11. Glass frag 2.60 B.D. / FS # 9
12. Glass frag 2.63 B.D. / FS # 9
13. Glass bottle top 2.64 B.D. / FS # 9
14. Long bone FS # 19
15. Spinal FS # 20
16. Skull (fragmented)

1998 PCMS Testing
5LA3179
Unit 1 / Locus A
Level 14
9/7/98
R. Lindsey

MN

Soil Color 10 YR 5/3

1cm = 10 cm

PCMS-CRM-201
ACC# \

EXCAVATION LEVEL FORM
Fort Carson-Piñon Canyon Maneuver Site

Project 1998 PCMS Testing Stage Testing

Site 5CA3179 Unit 1 Locus A Level 15 Screen size 1/4"

Datum/height (AS) C / +10cm Average starting depth (below datum) -2.65m

Average ending depth (below datum) -2.80m

Description of cultural deposits Most cultural deposits in this level are a continuation of the trash deposition event in the previous level. Glass that appears to be part of the bottle collected as FS #9 in level 14 was collected from the upper 3 to 4 cm of level 15. Numerous faunal elements were collected from this level. The bone was concentrated in the northern 1/2 of level, but elements were scattered throughout. (see below)

Soil color (Munsell) 10.5Y 4/3 Soil texture Sand & Clay

Additional soil description Moderately compact clay and laminated silt and sand. Clay content has increased from that of level 14. The clay was most dense on the north 1/2 of the unit

Additional comments Most of the faunal bone appears to be from small carnivores, but medium sized carnivore bone, small rodent as well as prob. amphibian bone was collected. Articulated elements were intermixed with (see continuation

Features identified (describe) None assigned

B/W photos Camera A1: Roll 98-1 : Exposures 6 - 9
Color photos Camera A2: Roll 98-13C : Exposures 6 - 9

Excavators C. Loendorf, R. Burleson, R. Lindsey Date 9/7/98 - 9/8/98

Site SLA3179 Unit 1 Locus A Level 15 page 2 of _____

Field Specimen List			
FS No.	Description	Depth (BD)	Location/Point Provenience
1	Water Screen		SE Corner
2	Pollen Sample		1 1
3	Metal - horse shoe		See planview
4	Metal		General collection
5	Lithics		↓ ↓
6	Glass		
7	Bone		
8	Cranium A		
9	Cranium B		
10	Cranium C		
11	Cranium D		
12	Cranium E		
13	Cranium F		
14	Metal Pipe		

Carbon sample notes Some scattered flecks of charcoal were present but not collected

Was a plan view drawn? Yes ☒ No ☐

Analytical unit and justification: Au3; Trash deposition event in laminated sediments below 11 topsoil. Justified based on the presence of numerous partially articulated faunal elements and larger artifact that must have been thrown into the ufeature. This material was concentrated in the norther 1/2 of the level. Au2 extended into the southern 1/2 of the level.

Examples of analytical units - Midden deposit, pit fill, hearth fill, fill just above floor, room fill, topsoil, sterile deposits, stream laid deposits, fill just below floor, extramural deposits, mixed cultural deposits just below topsoil, wall trench fill, floor assemblage, post hole fill, fill in rodent burrow, living surface assemblage, floor or surface, and activity area assemblage.

Are there continuation sheets for this level ? Yes ☒ No ☐

Fort Carson-Pinon Canyon Maneuver Site

CONTINUATION FORM

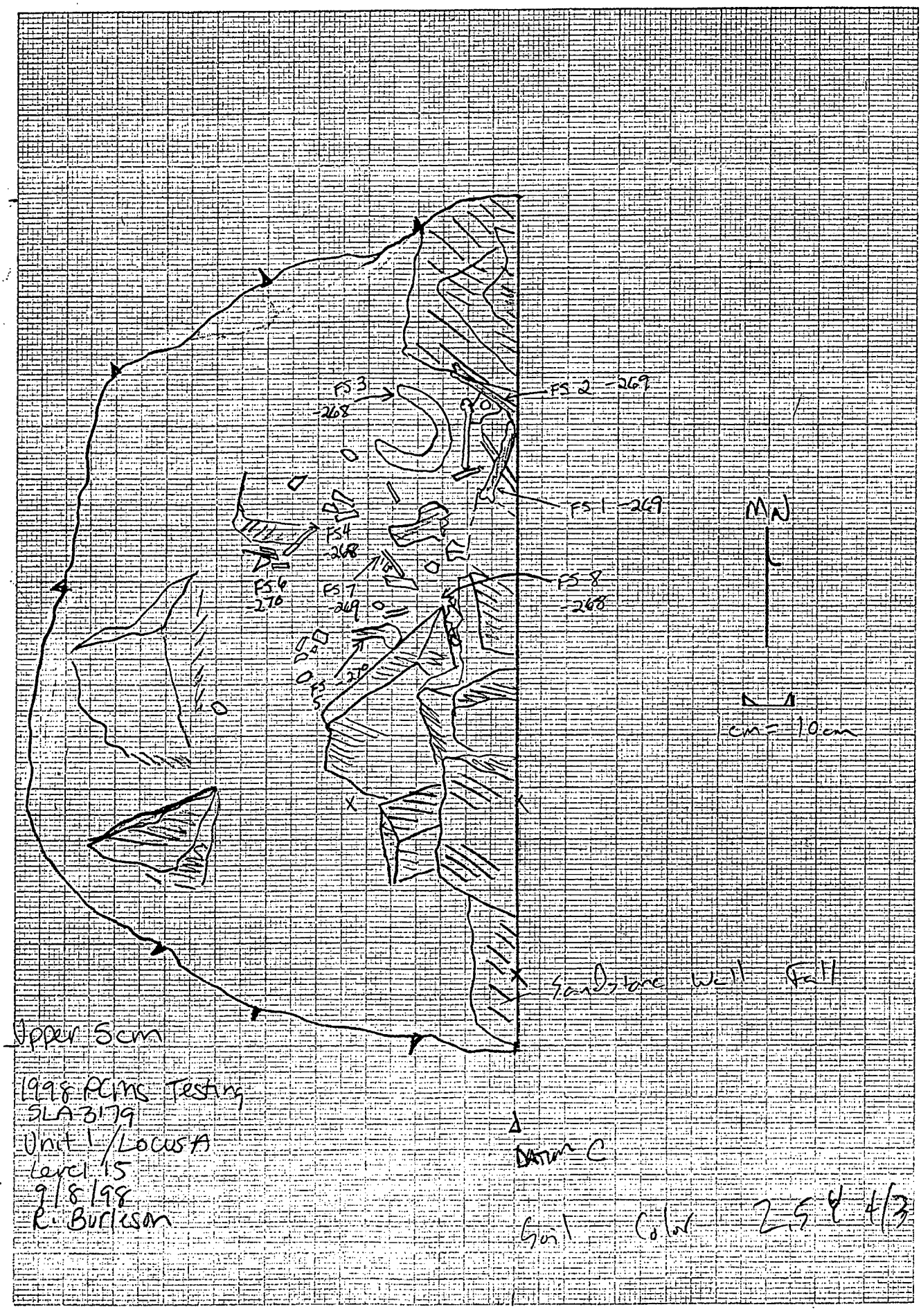
Recorder: C. Loendorf

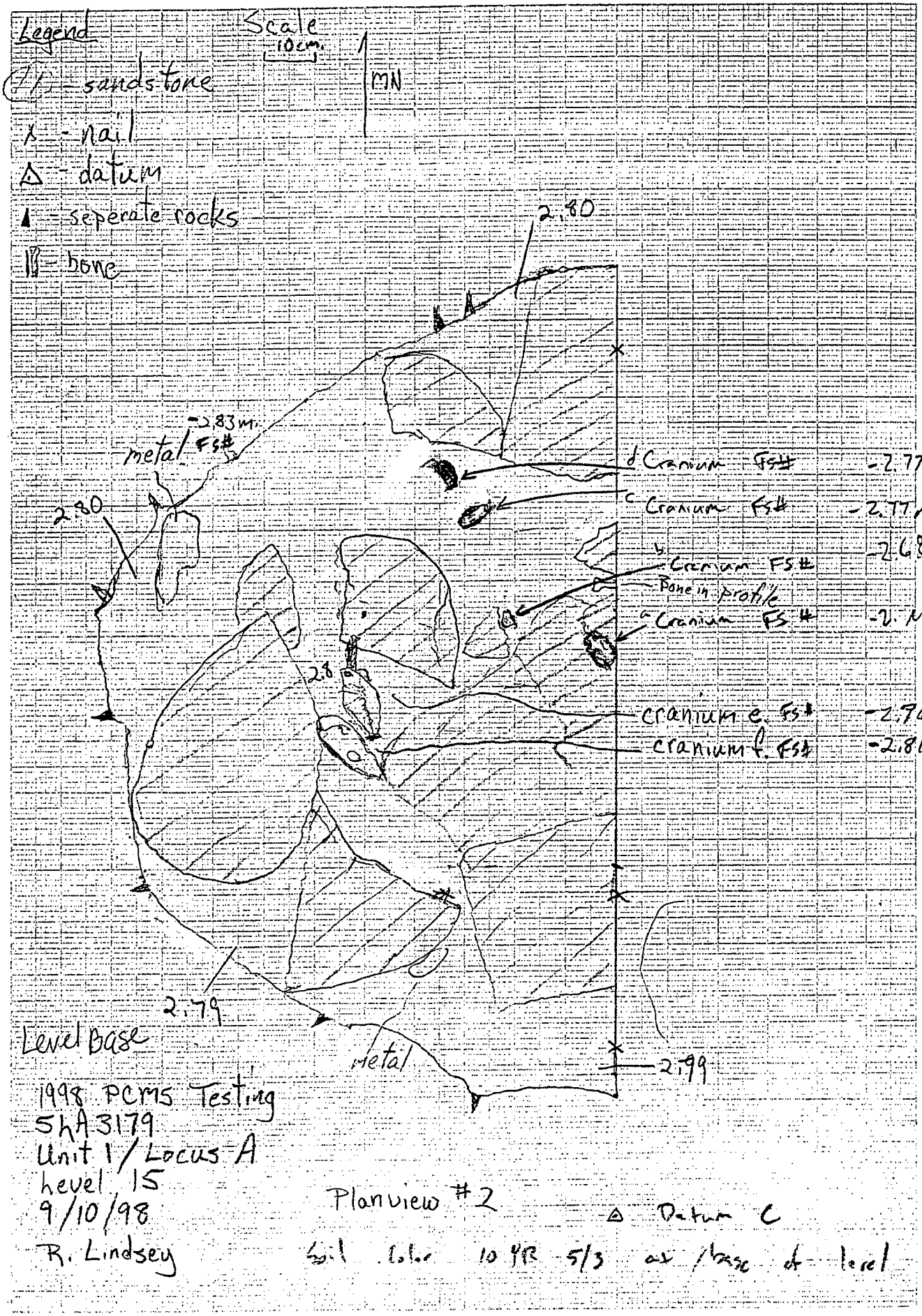
Date: 9/10/98

Continuation of: 5LA3179 Unit 1 Locus A, Level 15 Description of cultural deposits

disarticulated elements. Five articulated tails that were not articulated with spinal columns were collected. Only craniums were piece plotted and assigned seperate FS numbers. All remaining faunal elements were placed in foil with elements from seperate areas placed in different pouches. In addition, a large number of smaller elements were collected from the screen. A possible coyote skeleton was largely articulated at the base of the level. A portion of the right half of this individual continued below the base of level 15 and was not collected. Numerous other faunal elements were present at the base of level 15 and it is unclear where the base of the trash deposition event occurs. Sandstone blocks that appear to be wall fall cobbles were present

above, below, and in this level. The sides of the base of the level were probed with a chaining pin & the sandstone sides of the feature continue at least 20 cm below the base of the level (Probably much further, it may be more than 1m to the base of the feature). A horse shoe and misc. metal frags were collected. Three flakes were collected from the upper 5 cm of the level.





PCMS-CRM-203
ACC# _____

UNIT CLOSURE FORM
Fort Carson-Piñon Canyon Maneuver Site

Project: 1998 PCMS Testing Stage: Testing

Site Number: 5LA3179 Unit: 1 Loci A & B

Features: None Final Depth: -2.80 m BDSL

Number of levels: 15 Date closed: 9/10/98

Reasons for closure: Excavation of the unit was terminated due to safety concerns

Date Backfilled: 9/10/98

Walls profiled: East wall of Locus A

Crew chief: C. Loendorf

Excavators: R. Burleson, R. Lindsey

Appendix II: Artifact Databases (analysis by Kimberly Henderson)

Ammunition

Site	Catal	Feature	Level/Unit	Locus	Northing	Easting	Elevation	Surface Col	Material	Description	Portion	Quantity	Weight	Length	Diameter	Caliber	Center/rim Fire
5LA3179	250		12	0			998.684	☐	brass	cartridge	complete	1	0.5	1 cm	.22	0.22	rim
5LA3179	302		14	1			995.2	☐	brass	cartridge	complete	1	0.5	1 cm	.22	0.22	rim
5LA3179	303		14	1			995.2	☐	brass	cartridge	complete	1	2.9	2 cm	.38	0.38	center
5LA3179	327		15	2			995	☐	brass	cartridge	complete	1	0.8	1 cm	0.22	0.22	rim
5LA3179	327.01		15	2			995	☐	brass	cartridge	complete	1	0.7	1.5 cm	0.22	0.22	rim
5LA3179	391		19	1			994.34	☐	brass	cartridge	complete	1	0.5	1.1 cm	0.22	0.22	rim
5LA3179	404		20	1			995.33	☐	brass	cartridge	incomplete	1	2.3	1.3 cm	.44	0.44	rim
5LA3179	489		23	4			998.49	☐	brass	primer cap	spent	1	0.3				center
5LA3179	490		23	4			998.49	☐	brass	cartridge	complete	1	5	2 cm; 1.25"		0.44	center?
5LA3179	513		23	5			998.45	☐	brass	cartridge	complete	1	2.8	2 cm	.38	0.38	center?
5LA3179	523		23	wall cleanup				☐	brass	cartridge	complete	1	1.4	2 cm	.32	0.32	rim
5LA3179	528		24	1			995.3	☐	brass	cartridge	complete	1	0.5	1.1 cm	.22	0.22	rim
5LA3179	580		28	1			995.291	☐	brass	percussion cap?	incomplete	1	1.4				
5LA3179	594		28	2			995.262	☐	brass	cartridge	incomplete	1	2.9		0.5"	0.44	center
5LA3179	671		32	1			994.186	☐	brass	cartridge	complete	1	0.8		.22	0.22	rim
5LA3179	705		36	2			995.97	☐	brass	cartridge	complete	1	5.1		.44	0.44	center
5LA3179	709		37	0			995.44	☐	brass	cartridge	complete	1	0.7	1.0 cm	.22	0.22	rim
5LA3179	726		37	2			995.25	☐	brass	cartridge	complete	1	0.7	1.5 cm	.22	0.22	rim
5LA3179	786	9	42	2			994.78	☐	brass	cartridge	complete	1	0.5	1 cm	.22	0.22	rim
5LA3179	872						point plot 864	☑	brass	cartridge	complete	1	5.0	1.3"	.5"	.44	center
5LA3179	889						point plot 877	☑	brass	cartridge	complete	1	3.8	.95"	.5"	.44	center
5LA3179	900						point plot 929	☑	brass	cartridge	complete	1	5.2	1.3"	.5"	.44	center
5LA3179	952	1A	N 1/2- east wall	clean-up				☐	iron	bullet?		1	14.1	0.655"	0.4"	??	

Makers Mark	Manufacturer/Type	Early Date	Late Date	Category	Class	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
P	Peters Cartridge Co.	1890	1940	firearms	ammunition		☐	☐	☐	
H	Winchester and successors	1880	1980	firearms	ammunition		☐	☐	☐	
	Peters Cartridge Co.	1865	1940	firearms	ammunition		☐	☐	☐	
U	Union Metallic Cartridge Co. and Remington	1885	2000	firearms	ammunition		☐	☐	☐	
diamond stamped on end	unknown			firearms	ammunition		☐	☐	☐	
H	Winchester and successors	1880	1980	firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	
		1860	1934	firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	
		1860	1934	firearms	ammunition		☐	☐	☐	
P	Peters Cartridge Co.	1890	1940	firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	
"SUPER X"				firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	
"H"	Winchester and successors	1880	1980	firearms	ammunition		☐	☐	☐	
"H"	Winchester and successors	1880	1980	firearms	ammunition		☐	☐	☐	
"P"	Peters Cartridge Co.	1890	1940	firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	
U.M.C./S.H.	Union Metallic Cartridge Co., Solid Headcase	1873	2000	firearms	ammunition		☐	☐	☐	
				firearms	ammunition		☐	☐	☐	

Ceramics

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Col	Ware Description	Portion	Form	Quantity	Weight	Length	Width	Diameter	Thickness	Count	Description
5LA3179	096	1A	4	5			998.86	☐	white graniteware	body		2	4.1						
5LA3179	152	1A	7	1			999.15	☐	ceramic glaze	tiny, glaze sliver		1	0.01	0.6					
5LA3179	222		10	3			999.07	☐	white graniteware	body		1	0.5						
5LA3179	251		12	0			998.684	☐	white graniteware	plate base frag		1	2.6						
5LA3179	253		12	1			998.64	☐	white graniteware	plate base frag		1	2.8						
5LA3179	256		12	2			998.559	☐	porcelin doll face frag			1	2.5						painted
5LA3179	280	1B	13	2			998.86	☐	white graniteware	body		1	0.01	0.5					
5LA3179	292	1B	13	4			998.75	☐	white graniteware	rim		1	0.9	1.5	1				
5LA3179	293	1B	13	4			998.75	☐	white graniteware	body		1	0.8	1.2	1				
5LA3179	294	1B	13	4			998.75	☐	porcelin doll face frag			1	0.5						painted
5LA3179	350		16	2			994.44	☐	white graniteware	rim pc & shatter		2	2				0.7		
5LA3179	350.01		16	2			994.44	☐	white graniteware	rim		1	0.5				0.5		
5LA3179	376		17	4			993.966	☐	white graniteware	body		1	0.5				0.4		
5LA3179	392		19	1			994.34	☐	white graniteware	body		1	0.3						
5LA3179	403		20	1			995.33	☐	white graniteware	body		1	0.5				0.6		
5LA3179	415		20	2			995.27	☐	white graniteware	body frag		1	0.2						
5LA3179	416		20	2			995.27	☐	earthenware	body		1	0.8				0.5		
5LA3179	501		23	4			998.49	☐	white graniteware	rim sherd		1	2.5				0.6		
5LA3179	507		23	5			998.45	☐	white graniteware	1 body; 1 base		2	5.8				0.6		
5LA3179	541		25	0			995.01	☐	white graniteware	body		1	1.3						
5LA3179	542		25	0			995.01	☐	porcelain	rim sherd		1	3.1				0.5		
5LA3179	545		25	1			994.96	☐	white graniteware	body		1	1.5						
5LA3179	547		25	1			994.96	☐	white graniteware	body		3	1.3						
5LA3179	548		25	2			994.89	☐	white graniteware	body		1	0.8						
5LA3179	582		28	1			995.291	☐	white graniteware	body frags		2	2.3						
5LA3179	583		28	1			995.291	☐	white graniteware	rim sherd		1	2.1						two incised lines
5LA3179	602		28	2			995.262	☐	white graniteware	body frags		3	1.8						
5LA3179	603		28	2			995.262	☐	white graniteware	rim sherd		1	0.2						
5LA3179	604		28	2			995.262	☐	white graniteware	body frag		1	1.4						
5LA3179	630	9	29	2			994.84	☐	white graniteware	rim sherd		1	0.7				0.3		
5LA3179	642	9	29	4			994.81	☐	white graniteware	rim sherd		1	8				0.8		
5LA3179	644	9	29	5			994.7	☐	white graniteware	rim sherd		1	28.5	7.7			0.7		
5LA3179	667	9	31	4			994.665	☐	white graniteware	rim sherd		1	7.4				0.4		
5LA3179	668	9	31	4			994.665	☐	white graniteware	rim sherd		1	6.3				0.5		
5LA3179	677		33	1			994.45	☐	white graniteware	small body frag		1	0.1						
5LA3179	704		36	2			995.97	☐	white graniteware	body		1	2				0.7		
5LA3179	730		37	2			995.25	☐	white graniteware	body frags		2	2.2						
5LA3179	740	14	38	3			998.52	☐	white graniteware	rim		1	1.2						
5LA3179	754	15	40	1			995.2	☐	redware	body		1	1.3						
5LA3179	758	15	40	1			995.2	☐	white graniteware	body		1	1.3						
5LA3179	765	15	40	2			995.1	☐	white graniteware	body; small frag		1	0.5						
5LA3179	771		41	1			995.23	☐	white graniteware	body		2	0.7						
5LA3179	775		41	2			995.17	☐	white graniteware	body		2	5.6				0.8		
5LA3179	780		41	2			995.17	☐	white graniteware	body		1	0.6						
5LA3179	781		41	4			995.12	☐	white graniteware	body		1	0.8						
5LA3179	785	9	42	2			994.78	☐	white graniteware	rim		1	1.9				0.5		
5LA3179	793	9	42	3			994.73	☐	white graniteware	rim sherds		2	8.8				0.5		
5LA3179	805	9	42	4			994.61	☐	white graniteware	body		1	2.6				0.5		
5LA3179	809	9	42	5			994.46	☐	white graniteware	body		1	5.2					0.4	
5LA3179	830	9	44	2			994.82	☐	white graniteware	base		1	5.4				varies		
5LA3179	848	9	44	6			994.36	☐	white graniteware	rim, sculpted		1	2.5				0.4		
5LA3179	861	9	44	7			994.21	☐	white graniteware	body		2	0.2						
5LA3179	882						point plot	☑	porcelin doll face frag			1	0.9						painted

Glaze	Maker's Mark	Early Date	Late Date	Category	Class	Burned	Assoc Cat #s	Photo	Comments	[illegible]	[illegible]
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
		1840	1885	subsistence	food consumption	☐	253	☐	refits with Cat. 253	☐	☐
		1840	1885	subsistence	food consumption	☐	251	☐	refits with Cat. 251	☐	☐
				personal	accessories (toys)	☐	294; 882; 894; 895	☐	SAMANTHA *for illustration*	☐	☐
		1840	1885	subsistence	food consumption	☐		☐	very tiny chunk fragment	☐	☐
		1840	1885	subsistence	food consumption	☐		☐	plate or bowl rim piece	☐	☐
		1840	1885	subsistence	food consumption	☐	292	☐	refits with Cat.292	☐	☐
				personal	accessories (toys)	☐	256; 882; 894; 895	☐	SAMANTHA for illustration	☑	☐
		1840	1885	subsistence	food consumption	☐		☐	shatter is from rim pc	☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
drk yellowish brow				subsistence	food storage	☐		☐	compare to 5LA5454.0.067 fr Lockwood; p15	☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐	pieces refit	☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
white, smooth				subsistence	food consumption	☐		☐	no crazing; porcelain questionable	☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
		1840	1885	subsistence	food consumption	☐		☐		☑	☐
		1840	1885	subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐	incised lines painted very light blue	☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☑	☐
				subsistence	food consumption	☐		☐		☑	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐	lrg piece; bowl?	☐	☐
				subsistence	food consumption	☐	Cat 642 (refit?)	☐	lrg piece; serving bowl?	☐	☐
				subsistence	food consumption	☐		☐		☐	☐
not crazed				subsistence	food consumption	☐		☐	not same as Cat. 667, same lot	☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
none				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☑	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐	prob bowl frag	☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				subsistence	food consumption	☐		☐		☐	☐
				personal	accessories (toys)	☐	895; 894; 256; 294	☐		☐	☐

Site	Lot	Feature	Unit	Level	Northing	Easting	Elevation	Surface Col	Object Type	Portion	Form	Quantity	Weight	Length	Width	Thickness	Decoration	Structure	Description
5LA3179	894						point plot	☑	porcelin doll face frag			1	0.9						painted
5LA3179	895						point plot	☑	porcelin doll face frag			2	3.3						painted
5LA3179	903	1C	27	2			998.852	☐	white graniteware	body		1	0.01						
5LA3179	945	9	42	2			994.78	☐	white graniteware	tiny sherd		1	.01						

Glaze	Maker's Mark	Early Date	Late Date	Category	Class	Burned	Assoc Cat	Photo	Comment	H2O	Flo
				personal	accessories (toys)	☐	895; 882; 256; 294	☐		☐	☐
				personal	accessories (toys)	☐	882; 894; 256; 294	☐		☐	☐
		1840	1885	subsistence	food consumption	☐		☐	small sherd	☑	☐
				subsistence	food consumption	☐		☐		☑	☐

Glass

Site #	Locus	Provenience	Unit	Lot Number	Easting	Elevation	Surface OC	Description	Portion	Plan/Shape	Quantity	Weight	Length	Width	Diameter	Thickness	Color	NOC	Notes
5LA3179	001	1C	1	0		998.98	☐	flat glass			1	6.8				1/8	colorless	☐	
5LA3179	002	1C	1	1		998.95	☐	flat glass			2	1				1/8	colorless	☐	
5LA3179	003	1C	1	1		998.95	☐	flat glass			5	2.7				1/16	colorless	☐	
5LA3179	007	1C	1	2		998.8	☐	flat glass			2	1.2				1/16	colorless	☐	
5LA3179	008	1C	1	2		998.8	☐	flat glass			1	0.9				1/8	colorless	☐	
5LA3179	014	1C	1	3		998.8	☐	flat glass			18	12				1/16	colorless	☐	
5LA3179	015	1C	1	3		998.8	☐	flat glass			3	4.7				1/8	colorless	☐	
5LA3179	016	1C	1	3		998.8	☐	flat glass			1	9.5				1/8	colorless	☐	
5LA3179	022	1C	1	4		998.78	☐	flat glass			23	11				1/16	colorless	☐	
5LA3179	023	1C	1	4		998.78	☐	flat glass			7	7.4				1/8	colorless	☐	
5LA3179	028	1C	1	5		998.685	☐	flat glass			2	5.2				1/8	colorless	☐	No
5LA3179	030	1A	2	1		998.95	☐	vessel glass	body		1	1.9				0.2	amber	☐	yes
5LA3179	033	1A	2	2		998.95	☐	flat glass			1	0.1				1/16	colorless	☐	
5LA3179	040	1A	2	4		998.55	☐	flat glass			1	0.1				1/16	colorless	☐	
5LA3179	046	1A	2	6		998.87	☐	flat glass			4	1.3				1/16	colorless	☐	
5LA3179	051	1A	2	6		998.87	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	054	1A	2	5		998.86	☐	flat glass			1	0.4				1/16	colorless	☐	
5LA3179	057	1A	3	0		991.15	☐	vessel glass	rim	cut molded	1	33.3		0.3		0.5	solarized	☑	
5LA3179	059	1A	3	1		991.145	☐	vessel glass	body	cut molded	1	2.2					solarized	☑	
5LA3179	060	1A	3	1		991.145	☐	flat glass			2	2				1/16	colorless	☐	
5LA3179	060.01	1A	3	1		991.145	☐	flat glass			2	0.7				1/8	colorless	☐	
5LA3179	061	1A	3	2		991.03	☐	flat glass			7	1.2				1/16	colorless	☐	
5LA3179	062	1A	3	2		991.03	☐	flat glass			1	13.3				1/8	colorless	☐	
5LA3179	072	1A	3	3		991.03	☐	flat glass			8	15.9				1/16	colorless	☐	
5LA3179	072.01	1A	3	3		991.03	☐	flat glass			9	4.4				1/8	colorless	☐	
5LA3179	082	1A	3	3		991.03	☐	flat glass			2	1				1/8	colorless	☐	
5LA3179	084	1A	3	3		991.03	☐	jar frags	1 lid?		2	15.0					clear	☑	
5LA3179	087	1A	4	1		999.15	☐	flat glass			3	3.3				1/16	colorless	☐	
5LA3179	087.01	1A	4	1		999.15	☐	flat glass			1	0.8				1/8	colorless	☐	
5LA3179	089	1A	4	2		998.08	☐	flat glass			4	1.6				1/8	colorless	☐	
5LA3179	093	1A	4	3		998.95	☐	flat glass			4	5.4				1/8	colorless	☐	
5LA3179	094	1A	4	3		998.95	☐	flat glass			4	6.3				1/16	colorless	☐	
5LA3179	098	1A	4	5		998.86	☐	flat glass			9	8				1/8	colorless	☐	
5LA3179	099	1A	4	5		998.86	☐	flat glass			14	6.1				1/16	colorless	☐	
5LA3179	102	1A	4	5		998.86	☐	flat glass			2	1.4				1/8	colorless	☐	
5LA3179	103	1A	4	5		998.86	☐	flat glass			19	5.9				1/16	colorless	☐	
5LA3179	105	1A	4	8		998.65	☐	flat glass			1	0.3				1/8	colorless	☐	
5LA3179	108	1A	4	9		998.25	☐	flat glass			1	0.1				1/8	colorless	☐	
5LA3179	110	1A	5	0		999.065	☐	vessel glass	body		1	4.9				0.3	amber	☐	
5LA3179	111	1A	5	0		999.065	☐	flat glass			1					1/8	colorless	☐	
5LA3179	112	1A	5	2		998.911	☐	flat glass			26	35.3				1/16	colorless	☐	
5LA3179	112.01	1A	5	2		998.911	☐	flat glass			8	9.9				1/8	colorless	☐	
5LA3179	117	1A	5	2		998.911	☐	flat glass			4	7.5				1/16	colorless	☐	
5LA3179	118	1A	5	3		998.911	☐	flat glass			2	11				1/16	colorless	☐	
5LA3179	120	1A	5	4		998.884	☐	flat glass			9	2.8				1/16	colorless	☐	
5LA3179	121	1A	5	3		998.965	☐	flat glass			36	33.7				1/16	colorless	☐	
5LA3179	121.01	1A	5	3		998.965	☐	flat glass			41	116.2				1/8	colorless	☐	
5LA3179	125	1A	5	4		998.884	☐	flat glass			1	1.4				1/16	colorless	☐	
5LA3179	126	1A	5	4		998.884	☐	vessel glass	unknow		1	0.4					amber	☐	
5LA3179	130	1A	5	4		998.884	☐	flat glass			17	8.8				1/8	colorless	☐	
5LA3179	131	1A	5	4		998.884	☐	flat glass			7	2.8				1/16	colorless	☐	
5LA3179	132	1A	5	5		998.734	☐	flat glass			1	0.1				1/8	colorless	☐	
5LA3179	137	1B	6	0		998.995	☐	flat glass			4	2.2				1/16	colorless	☐	

Maker's Mark	Worked	Contents	Burned	Early Date	Late Date	Category	Class	Photo	Assoc Cat #	Modified	Comments	[illegible]	[illegible]
	☐		☐			architecture	window glass	☐		☐	possibly cabinet glass	☐	☐
	☐		☐			architecture	window glass	☐		☐	odd, serated shatter pattern on 1 piece	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	serrated shatter pattern	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	bottle frag; panel?	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	drinking glass	☐	☐
	☐		☐			subsistence	food consumption	☐	57	☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			personal?		☐		☐	pressed; accordian pleat exterior; cosmetic jar	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	looter pit	☐	☐
	☐		☐	1860	1996	recreation		☐		☐	possibly panel bottle	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	small chunk, bottle frag	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Co	Description	Portion	Finish/Shape	Quantity	Weight	Length	Width	Diameter	Thickness	Color	Mfg. Marks	Embossing
5LA3179	138	1B	6	1			998.977	☐	flat glass			3	2.9				1/16	colorless	☐	
5LA3179	139	1B	6	2			998.868	☐	flat glass			8	2.4				1/16	colorless	☐	
5LA3179	140	1B	6	2			998.868	☐	flat glass			2	0.6				1/8	colorless	☐	
5LA3179	143	1B	6	3			998.792	☐	flat glass			2	1.7				1/16	colorless	☐	
5LA3179	144	1B	6	3			998.792	☐	vessel glass	body	cut molded?	1	0.5	1	1		0.4	clear	☐	
5LA3179	146	1B	6	4			998.607	☐	vessel glass	body		3	2.1					clear	☐	
5LA3179	147	1B	6	4			998.607	☐	flat glass			2	1.2				1/16	colorless	☐	
5LA3179	150	1A	7	0			999.155	☐	flat glass			1	1.1				1/8	colorless	☐	
5LA3179	151	1A	7	1			999.15	☐	vessel glass	rim		1	0.2	1	0.5		0.5	cobalt blu	☐	
5LA3179	155	1A	7	2			998.09	☐	flat glass			2	0.4				1/16	colorless	☐	
5LA3179	156	1A	7	3			998.99	☐	flat glass			1	0.5				1/8	colorless	☐	
5LA3179	157	1A	7	3			998.99	☐	flat glass			2	2.8				1/8	colorless	☐	
5LA3179	158	1A	7	3			998.99	☐	flat glass			1	0.5				1/16	colorless	☐	
5LA3179	159	1A	7	4			998.97	☐	flat glass			3	1.7				1/8	colorless	☐	
5LA3179	160	1A	7	4			998.97	☐	flat glass			3	1				1/16	colorless	☐	
5LA3179	161	1A	7	4			998.97	☐	flat glass			1	0.8				1/16	colorless	☐	
5LA3179	163	1A	7	5			998.86	☐	flat glass			9	7.4				1/8	colorless	☐	
5LA3179	165	1A	7	6			998.765	☐	flat glass			5	3.8				1/8	colorless	☐	
5LA3179	166	1A	7	6			998.765	☐	flat glass			3	1.5				1/16	colorless	☐	
5LA3179	173	1A	7	7			998.625	☐	flat glass			2	2.5				1/8	colorless	☐	
5LA3179	174	1A	7	7			998.625	☐	flat glass			2	0.7				1/16	colorless	☐	
5LA3179	176	1A	7	8			998.48	☐	vessel glass	base		1	0.5	1	1		0.2	clear	☐	
5LA3179	177	1A	7	8			998.48	☐	flat glass			2	1.2				1/16	colorless	☐	
5LA3179	181	1A	7	9			998.17	☐	flat glass			3	3.4				1/8	colorless	☐	
5LA3179	182	1A	7	9			998.17	☐	flat glass			2	2.1				1/16	colorless	☐	
5LA3179	184		8	0			999.175	☐	flat glass			1	0.3				1/8	colorless	☐	
5LA3179	190		8	1			999.115	☐	flat glass			2	1.1				1/8	colorless	☐	
5LA3179	191		8	1			999.115	☐	flat glass			4	1.1				1/16	colorless	☐	
5LA3179	192	1C	9	0			998.61	☐	flat glass			2	1.3				1/16	colorless	☐	
5LA3179	195	1C	9	2			998.44	☐	flat glass			1	0.7				1/16	colorless	☐	
5LA3179	196	1C	9	2			998.44	☐	flat glass			4	1.2				1/8	colorless	☐	
5LA3179	197	1C	9	2			998.44	☐	flat glass			8	2.6				1/16	colorless	☐	
5LA3179	202	1C	9	3			998.34	☐	flat glass			4	1.1				1/16	colorless	☐	
5LA3179	203	1C	9	3			998.34	☐	flat glass			2	4.1				1/8	colorless	☐	
5LA3179	204	1C	9	3			998.34	☐	flat glass			27	9.5				1/16	colorless	☐	
5LA3179	211		10	0			999.21	☐	flat glass			3	3.6				1/16	colorless	☐	
5LA3179	212		10	1			999.2	☐	vessel glass	body		1	0.3	1	0.5		0.3	light olive	☐	
5LA3179	213		10	1			999.2	☐	Flat glass			2	1.4				1/16	colorless	☐	
5LA3179	216		10	2			999.13	☐	flat glass			3	1.1				1/16	colorless	☐	
5LA3179	219		10	3			999.07	☐	flat glass			2	6.1				1/8	colorless	☐	
5LA3179	220		10	3			999.07	☐	flat glass			20	8.8				1/16	colorless	☐	
5LA3179	224		10	4			998.91	☐	vessel glass	body		1	0.5	1.5	0.8		0.5	cobalt blu	☐	
5LA3179	227		10	4			998.91	☐	flat glass			1	1.7				1/8	colorless	☐	
5LA3179	228		10	4			998.91	☐	flat glass			4	1.8				1/16	colorless	☐	
5LA3179	230		10	4			998.91	☐	flat glass			3	0.01				1/16	colorless	☐	
5LA3179	232		11	1			998.675	☐	flat glass			1	1				1/8	colorless	☐	
5LA3179	233		11	1			998.675	☐	flat glass			1	0.4				1/16	colorless	☐	
5LA3179	236		11	2			998.59	☐	flat glass			2	2.5				1/8	colorless	☐	
5LA3179	237		11	2			998.59	☐	flat glass			2	0.4				1/16	colorless	☐	
5LA3179	239		11	2			998.59	☐	flat glass			2	0.4				1/16	colorless	☐	
5LA3179	244		11	3			998.52	☐	flat glass			1	0.9				1/16	colorless	☐	
5LA3179	245		11	3			998.52	☐	flat glass			11	5.8				1/16	colorless	☐	
5LA3179	248		12	0			998.684	☐	flat glass			41	83				1/8	colorless	☐	

Maker's Mark	Worked	Contents	Burned	Early Date	Late Date	Category	Class	Photo	Assoc Cat #	Modified	Comments	H2O	Plot
	☐		☐			architecture	window glass	☐		☐		☐	☐
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	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
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	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			personal		☐		☐	base corner of panel bottle	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
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	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			recreation	alcohol	☐		☐	bottle frag	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
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	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐

Site	Locus	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Col	Description	Portion	Finish/Shape	Quantity	Weight	Length	Width	Diameter	Thickness	Lk Color	Mold Marks	Embossing
5LA3179	249		12	0			998.684		flat glass			68	45.4				1/16	colorless		
5LA3179	254		12	1			998.666		flat glass			5	12.1				1/8	colorless		
5LA3179	255		12	1			998.666		flat glass			23	11.2				1/16	colorless		
5LA3179	255.01		12	1			998.666		flat glass			6	7.3				1/8	colorless		
5LA3179	262		12	2			998.539		flat glass			24	62.2				1/8	colorless		
5LA3179	262.01		12	2			998.539		flat glass			19	51.8				1/8	colorless		
5LA3179	263		12	2			998.539		flat glass			116	98.9				1/16	colorless		
5LA3179	265		12	2			998.539		flat glass			34	23				1/16	colorless		
5LA3179	265.01		12	2			998.539		flat glass			10	9				1/8	colorless		
5LA3179	266		12	2			998.539		flat glass			2	1.7				1/8	colorless		
5LA3179	267		12	3			998.494		flat glass			1	1				1/16	colorless		
5LA3179	269		12	4			998.52		flat glass			1	7.3				1/8	colorless		
5LA3179	270		12	4			998.52		flat glass			7	6.5				1/16	colorless		
5LA3179	270.01		12	4			998.52		flat glass			1	3.9				1/8	colorless		
5LA3179	275	1B	13	1			998.92		flat glass			3	1.6				1/8	colorless		
5LA3179	275.01	1B	13	1			998.92		flat glass			1	0.8				1/16	colorless		
5LA3179	277	1B	13	2			998.86		flat glass			8	2.4				1/16	colorless		
5LA3179	277.01	1B	13	2			998.86		flat glass			3	2.9				1/8	colorless		
5LA3179	279	1B	13	2			998.86		vessel glass	body		1	0.2	1.6	0.6			clear		
5LA3179	282	1B	13	2			998.86		flat glass			3	0.5				1/16	colorless		
5LA3179	282.01	1B	13	2			998.86		flat glass			3	2.1				1/8	colorless		
5LA3179	286	1B	13	3			998.71		vessel glass	body	cut molded	1	0.9	1.5	1			solarized		
5LA3179	287	1B	13	3			998.71		vessel glass	body		1	0.4	1.2	1		0.3	clear		
5LA3179	288	1B	13	4			998.75		vessel glass	body		1	0.6	1.6	0.7			clear		
5LA3179	289	1B	13	4			998.75		flat glass			1	0.7				1/16	colorless		
5LA3179	304		14	1			995.2		vessel glass	body		1	0.8	1.8	0.9			amber		
5LA3179	305		14	1			995.2		vessel glass	body	smooth	3	1.7				0.3	solarized		
5LA3179	306		14	1			999.2		vessel glass	rim	smooth	1	1.3	1.9	1.8		0.2	colorless		
5LA3179	307		14	1			995.2		flat glass			2	1.8				1/8	colorless		
5LA3179	308		14	1			995.2		flat glass			4	1.4				1/16	colorless		
5LA3179	312		14	2			995.12		vessel glass	body	smooth	1	1.3	1.7	1.3		0.5	clear		
5LA3179	323		15	1			995.1		vessel glass	body	smooth	3	1.3				0.3	solarized		
5LA3179	324		15	1			995.1		vessel glass	body	smooth	1	0.8	1.9				clear		
5LA3179	325		15	1			995.1		vessel glass	base/ne		1	1.1	2				clear		
5LA3179	329		15	2			995		vessel glass	body	smooth	1	4.4				1/4	colorless		
5LA3179	330		15	2			995		flat glass			4	1.2				1/8	colorless		
5LA3179	333		15	2			995		flat glass			1	0.1				1/8	colorless		
5LA3179	337		16	1			994.54		lantern glass	body		1	0.2				1/16	colorless		
5LA3179	338		16	1			994.54		flat glass			1	0.3				1/16	colorless		
5LA3179	339		16	1			994.54		vessel glass	body		1	0.2				0.4	amber		
5LA3179	340		16	1			994.54		vessel glass	neck/lip		1	1.8				0.45	solarized		
5LA3179	341		16	1			994.54		vessel glass	body/ba		1	0.4				0.5	colorless		
5LA3179	342		16	1			994.54		vessel glass	body		1	0.5					milk glass		
5LA3179	347		16	2			994.44		flat glass			10	3.8				1/16	colorless		
5LA3179	348		16	2			994.44		vessel glass	rim; bod		9	8.4				0.3	colorless		
5LA3179	349		16	2			994.44		vessel glass	body		3	0.9				0.3	amber		
5LA3179	362		16	2			994.44		vessel glass	body		1	0.9				0.4	amber		
5LA3179	363		16	2			994.44		flat glass			2	0.9				1/16	colorless		
5LA3179	364		16	2			994.44		flat glass			1	0.7				1/8	colorless		
5LA3179	368		16	3			994.34		vessel glass	body		1	0.5					amber		
5LA3179	374		17	2			994.136		flat glass			1	0.2				1/16	colorless		
5LA3179	382		18	2			994.42		vessel glass	body	smooth	1	2.9				0.6	light aqua		
5LA3179	389		19	1			994.34		flat glass			5	1.4				1/8	colorless		

Maker's Mark	Worked	Contents	Burned	Early Date	Late Date	Category	Class	Photo	Assoc Cat #	Modified	Comments	[illegible]	[illegible]
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
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	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	possibly panel bottle; could be base frag	☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			subsistence	food consumption	☐		☐	2 flat sides indicates molded glass	☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	bottle frag	☐	☐
	☐		☐					☐		☐	bottle frags	☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐					☐		☐	bottle frags	☐	☐
	☐		☐					☐		☐	bottle frags	☐	☐
	☐		☐					☐		☐	bottle frag	☐	☐
	☐		☐					☐		☐	bottle frag	☐	☐
	☐		☐					☐		☐	bottle frag	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	tiny chunk	☑	☐
	☐		☐			domestic		☐		☐	slightly curved	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	bottle frag	☐	☐
	☐		☐					☐		☐	bottle frag	☐	☐
	☐		☐					☐		☐	poss corner of small panel bottle	☐	☐
	☐		☐					☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	heavily patenated	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	1 pc is 0.5 cm thick	☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	heavily patenated; bottle frags	☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	bottle frag	☑	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	bottle frag	☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐	1870	1915	subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Description	Portion	Finish/Shape	Quantity	Weight	Length	Width	Diameter	Thickness	Color	Mold Mark	Embossing
5LA3179	390		19	1			994.34	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	393		19	1			994.34	☐	vessel glass	body		1	0.3				0.5	solarized	☐	
5LA3179	396		20	0			995.35	☐	flat glass			1	0.2				1/16	colorless	☐	
5LA3179	397		20	0			995.35	☐	vessel glass	body		2	1.2					clear	☐	
5LA3179	398		20	1			995.33	☐	vessel glass	body		3	1.8				0.4	clear	☐	
5LA3179	399		20	1			995.33	☐	flat glass			3	0.8				1/16	colorless	☐	
5LA3179	399.01		20	1			995.33	☐	flat glass			1	0.6				1/8	colorless	☐	
5LA3179	400		20	1			995.33	☐	vessel glass	body		2	1.7				0.4	amber	☐	
5LA3179	401		20	1			995.33	☐	vessel glass	body		7	8.2				0.7	solarized	☐	
5LA3179	402		20	1			995.33	☐	vessel glass	body		1	0.4				0.4	7-Up gree	☐	
5LA3179	412		20	2			995.27	☐	flat glass			1	0.4				1/8	colorless	☐	
5LA3179	413		20	2			995.27	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	414		20	2			995.27	☐	vessel glass	body		1	0.6				0.55	clear	☐	
5LA3179	419		20	3			995.17	☐	vessel glass	body		1	0.4				0.4	light gree	☐	
5LA3179	429		20	8			994.685	☐	flat glass			1	0.2				1/8	colorless	☐	
5LA3179	436	10	21	0			998.86	☐	flat glass			3	0.6				1/16	colorless	☐	
5LA3179	437	10	21	1			998.795	☐	flat glass			9	3.6				1/16	colorless	☐	
5LA3179	448	1A	22	2			998.99	☐	flat glass			2	2.4				1/8	colorless	☐	
5LA3179	455	1A	22	5			998.84	☐	flat glass			1	3.9				1/16	colorless	☐	
5LA3179	461	1A	22	5			998.84	☐	vessel glass	body/tin		1	0.01					clear	☐	
5LA3179	462	1A	22	6			998.82	☐	flat glass			1	0.4				1/8	colorless	☐	
5LA3179	464		23	0			998.86	☐	flat glass			1	1.4				1/8	colorless	☐	
5LA3179	465		23	0			998.86	☐	flat glass			1	0.6				1/16	colorless	☐	
5LA3179	466		23	1			998.83	☐	flat glass			2	0.8				1/16	colorless	☐	
5LA3179	470		23	2			998.82	☐	flat glass			1	0.8				1/8	colorless	☐	
5LA3179	471		23	2			998.82	☐	flat glass			11	4.2				1/16	colorless	☐	
5LA3179	474		23	2			998.82	☐	flat glass			2	0.2				1/16	colorless	☐	
5LA3179	475		23	3			998.78	☐	vessel glass	body	smooth	2	9.3	3.7			0.5	olive	☐	
5LA3179	477		23	3			998.78	☐	flat glass			4	4				1/8	colorless	☐	
5LA3179	478		23	3			998.78	☐	flat glass			8	2.4				1/16	colorless	☐	
5LA3179	485		23	3			998.78	☐	flat glass	body/tin		1	0.01				1/16	colorless	☐	
5LA3179	498		23	4			998.49	☐	flat glass			2	7				1/8	colorless	☐	
5LA3179	499		23	4			998.49	☐	flat glass			3	6.5				1/16	colorless	☐	
5LA3179	500		23	4			998.49	☐	vessel glass	body	1side fluted	1	5.9				1 cm	clear	☐	
5LA3179	502		23	4			998.49	☐	vessel glass	body		1	0.7				0.4	cobalt blu	☐	
5LA3179	504		23	4			998.49	☐	flat glass			1	0.7				1/8	colorless	☐	
5LA3179	505		23	4			998.49	☐	flat glass			1	0.6				1/16	colorless	☐	
5LA3179	508		23	5			998.45	☐	flat glass			1	2				1/8	colorless	☐	
5LA3179	509		23	5			998.45	☐	flat glass			2	0.7				1/16	colorless	☐	
5LA3179	514		23	6			998.32	☐	flat glass			2	2	1.3			1/8	colorless	☐	
5LA3179	515		23	6			998.32	☐	flat glass			2	2	2.1			1/16	colorless	☐	
5LA3179	521	14	23	11			997.79	☐	flat glass			1	6				1/8	colorless	☐	
5LA3179	522	14	23	11			997.79	☐	flat glass			2	2.5				1/16	colorless	☐	
5LA3179	525		24	1			995.3	☐	flat glass			1	0.2				1/16	colorless	☐	
5LA3179	526		24	1			995.3	☐	vessel glass	body		3	1.3					solarized	☐	
5LA3179	527		24	1			995.3	☐	vessel glass	body		5	6				0.3	solarized	☐	M F (or E) o
5LA3179	533		24	2			995.2	☐	vessel glass	body		1	1.1					solarized	☐	
5LA3179	535		24	2			995.2	☐	vessel glass	body		1	0.7				0.3	solarized	☐	
5LA3179	536		24	3			995.1	☐	vessel glass	body		1	0.7				0.2	clear	☐	
5LA3179	539		25	0			995.01	☐	vessel glass	body		1	1.7				3	light gree	☐	
5LA3179	540		25	0			995.01	☐	flat glass			1	0.3				1/8	colorless	☐	
5LA3179	544		25	1			994.96	☐	vessel glass	body		1	1.6				0.4	solarized	☑	
5LA3179	549.02		25	2			994.89	☐	vessel glass	body		1	0.3				0.2	light amb	☐	

Maker's Mark	Worked	Contents	Burned	Early Date	Late Date	Category	Class	Photo	Assoc Lot?	Modified	Comments	H2O	Phot
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	bottle?	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	bottle? heavily patenated	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	bottle	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	bottle frags?	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	bottle?	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	bottle?	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	bottle?	☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			subsistence		☐		☐	bottle; 1 pc worked (scraper)	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	could be base or stem	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	possibly worked	☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☑		☐			subsistence		☐		☐	bottle; 1 pc worked	☐	☐
	☐		☐			subsistence		☐		☐	bottle?	☐	☐
	☐		☐			subsistence		☐	527?	☐	bottle?	☑	☐
	☐		☐			subsistence		☐		☐	bottle?; possibly worked or use wear visible	☑	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	depressed (stamped) 5-point star	☐	☐
	☑		☐	1860	1996	subsistence	food consumption	☐		☐	originally cataloged as a lithic	☐	☐

Site #	Catal	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Col	Description	Portion	Finish/Shape	Quantity	Weight	Length	Width	Diameter	Thickness	Color	Mold Marks	Embossing
5LA3179	554		25	3			994.8	☐	flat glass			1	1.1				1/8	colorless	☐	
5LA3179	558	13	26	7			998.169	☐	vessel glass	base/or	smooth	1	0.3				0.1	clear/pati	☐	
5LA3179	559	13	26	7			998.169	☐	flat glass			3	2				1/16	colorless	☐	
5LA3179	562	13	26	8			998.106	☐	flat glass			4	1.1				1/16	colorless	☐	
5LA3179	563	13	26	9			998.034	☐	flat glass			1	0.5				1/16	colorless	☐	
5LA3179	564	13	26	10			997.959	☐	flat glass			1	0.5				1/16	colorless	☐	
5LA3179	566	13	26	11			997.919	☐	flat glass			5	2.2				1/16	colorless	☐	
5LA3179	567		26	3			998.499	☐	flat glass			2	0.4				1/16	colorless	☐	
5LA3179	568		26	4			998.479	☐	flat glass			1	0.01				1/16	colorless	☐	
5LA3179	570	13	26	7			998.169	☐	flat glass			1	0.3				1/8	colorless	☐	
5LA3179	572	1C	27	2			998.852	☐	flat glass			1	18.2				1/8	colorless	☐	
5LA3179	573	1C	27	3			998.767	☐	flat glass			2	2.6				1/8	colorless	☐	
5LA3179	584		28	1			995.291	☐	vessel glass	body		1	0.6				0.3	amber	☐	
5LA3179	585		28	1			995.291	☐	flat glass			1	0.4				1/8	colorless	☐	
5LA3179	586		28	1			995.291	☐	vessel glass	body		1	3.1				0.5	light gree	☐	
5LA3179	587		28	1			995.291	☐	vessel glass	body; c		1	2.2				0.3	amber	☐	
5LA3179	588		28	1			995.291	☐	vessel glass	body		1	0.2					solarized/	☐	
5LA3179	592		28	1			995.291	☐	vessel glass	body		4	1					clear/2 pc	☐	
5LA3179	598		28	2			995.262	☐	flat glass			1	0.6				1/8	colorless	☐	
5LA3179	599		28	2			995.262	☐	vessel glass	body		1	0.2					colorless	☐	
5LA3179	600		28	2			995.262	☐	vessel glass	body		1	0.3					green (not	☐	
5LA3179	601		28	2			995.262	☐	vessel glass	body		3	0.7					solarized	☐	
5LA3179	602.01		28	2			995.262	☐	vessel glass	body (c		1	0.3					amber	☐	
5LA3179	606		28	2			995.262	☐	vessel glass	body		1	0.6				0.5	amber	☐	
5LA3179	606.01		28	2			995.262	☐	vessel glass	body		1	0.2					colorless	☐	
5LA3179	607		28	2			995.262	☐	flat glass			6	1.8				1/16	colorless	☐	
5LA3179	610	11	28	4			995.17	☐	vessel glass	body		1	0.1					solarized	☐	
5LA3179	615	11	28	5			995.027	☐	vessel glass	body		1	0.3					solarized	☐	
5LA3179	616	11	28	5			995.027	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	627	9	29	1			994.93	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	631	9	29	2			994.84	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	632	9	29	2			994.84	☐	vessel glass	body		3	1.2					clear/sola	☐	
5LA3179	641	9	29	2			994.81	☐	vessel glass	body		1	39.8	6.5	6		0.7	amber	☐	
5LA3179	651	9	30	1			994.68	☐	flat glass			2	0.5				1/16	colorless	☐	
5LA3179	655	9	31	1			994.73	☐	vessel glass	thick bo		1	1.7				0.5	dark olive	☐	
5LA3179	656	9	31	2			994.665	☐	vessel glass	thick bo		1	6.9				0.7	dark olive	☐	
5LA3179	658	9	31	3			994.665	☐	flat glass			3	2.9				1/16	colorless	☐	
5LA3179	665	9	31	3			994.665	☐	flat glass			2	1				1/16	colorless	☐	
5LA3179	669	9	31	4			994.665	☐	flat glass			7	2				1/16	colorless	☐	
5LA3179	673		32	1			994.186	☐	vessel glass	body		1	0.1					clear/sligh	☐	
5LA3179	679		33	2			994.36	☐	flat glass			1	0.2				1/8	colorless	☐	
5LA3179	680		33	2			994.36	☐	flat glass			1	0.4				1/16	colorless	☐	
5LA3179	681		33	2			994.36	☐	vessel glass	body		1	3.1				0.4	solarized	☐	
5LA3179	682		33	2			994.36	☐	vessel glass	body		1	2.4				0.3	clear	☐	
5LA3179	689		34	1			995	☐	vessel glass	body		1	0.2					amber	☐	
5LA3179	690		35	1			996.33	☐	vessel glass	body		1	0.3					clear	☐	
5LA3179	691		35	1			996.33	☐	flat glass			2	1				1/8	colorless	☐	
5LA3179	692		35	2			996.22	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	694		35	2			996.22	☐	flat glass			1	0.2				1/16	colorless	☐	
5LA3179	695		35	3			996.1	☐	flat glass			1	0.8				1/16	colorless	☐	
5LA3179	697		36	0			996.12	☐	vessel glass	body		1	0.9				0.5	solarized	☑	
5LA3179	698		36	1			996.05	☐	vessel glass	body		1	1.5				0.5	solarized	☑	
5LA3179	703		36	2			995.97	☐	flat glass			1	0.6				1/16	colorless	☐	

Maker's Mark	Worked	Contents	Burned	Early Date	Late Date	Category	Artifact Class	Photo	Assoc Cat #	Modified	Comments	H2O	Plot
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			subsistence	food consumption	☐		☐	slightly curved	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐	large piece	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☑		☐	1860	1996	recreation	alcohol	☐		☐	possibly worked	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☑		☐			subsistence	food consumption	☐		☐		☑	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☑	☐
	☐		☐	1880	1918	subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	small sherd; heavy patina	☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	small sherd	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			recreation	alcohol	☐	656	☐		☐	☐
	☐		☐			recreation	alcohol	☐	655	☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	portion of same "star" pattern/as Cat 544	☐	☐
	☐		☐			subsistence	food consumption	☐	697	☐	stamped "star" pattern; same as Cat 544	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐

Site #	Lot #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Description	Portion	Finish/Shape	Quantity	Weight	Length	Width	Diameter	Thickness	Color	Mold Mark	Embossing
5LA3179	710		37	0			995.44	☐	vessel glass	body		1	0.1					light gree	☐	
5LA3179	711		37	1			995.35	☐	vessel glass	rim/nec		1	2.9					very light	☐	
5LA3179	712		37	1			995.35	☐	vessel glass	body		9	2.1					clear/pati	☐	
5LA3179	713		37	1			995.35	☐	vessel glass	body		3	1.4					solarized	☐	
5LA3179	714		37	1			995.35	☐	vessel glass	body		8	4.8					amber	☐	
5LA3179	731		37	2			995.25	☐	flat glass			2	0.9				1/8	colorless	☐	
5LA3179	732		37	2			995.25	☐	vessel glass	body		2	1.6					7-up gree	☐	
5LA3179	733		37	2			995.25	☐	vessel glass	body		5	1.6					clear/partl	☐	
5LA3179	733.01		37	2			995.25	☐	vessel glass	body		1	0.3					clear/poss	☐	
5LA3179	734		37	2			995.25	☐	vessel glass	body		3	2.5					amber	☐	
5LA3179	736	14	38	2			998.59	☐	flat glass			4	3.6				1/16	colorless	☐	
5LA3179	737	14	38	3			998.52	☐	flat glass			3	4.9				1/8	colorless	☐	
5LA3179	738	14	38	3			998.52	☐	flat glass			16	9.9				1/16	colorless	☐	
5LA3179	739	14	38	2			998.52	☐	vessel glass	body	molded	1	3.9	3	2		0.6	solarized	☐	
5LA3179	746	14	38	4			998.45	☐	flat glass			3	4.8				1/16	colorless	☐	
5LA3179	748	14	38	5			998.42	☐	flat glass			1	2.3				1/8	colorless	☐	
5LA3179	749	14	38	6			998.19	☐	flat glass			1	2.3				1/8	colorless	☐	
5LA3179	751		39	2			996.09	☐	vessel glass	body		1	0.5					clear	☐	
5LA3179	755	15	40	1			995.2	☐	flat glass			11	7.3				1/8	colorless	☐	
5LA3179	756	15	40	1			995.2	☐	vessel glass	body		1	2					7-up gree	☐	
5LA3179	757	15	40	1			995.2	☐	vessel glass	body		4	7.7					solarized	☐	
5LA3179	764	15	40	2			995.1	☐	vessel glass	body		1	0.2					light amb	☐	
5LA3179	766		41	0			995.24	☐	vessel glass	body		1	0.9					amber	☐	
5LA3179	768		41	1			995.23	☐	vessel glass	neck		1	3.5					light gree	☐	
5LA3179	769		41	1			995.23	☐	vessel glass	body		1	0.4					amber	☐	
5LA3179	770		41	1			995.23	☐	flat glass			3	1.6				1/8	colorless	☐	
5LA3179	772		41	2			995.17	☐	flat glass			2	0.7				1/16	colorless	☐	
5LA3179	773		41	2			995.17	☐	vessel glass	body		2	1.9					clear	☐	
5LA3179	774		41	2			995.17	☐	vessel glass	body		2	0.5					amber	☐	
5LA3179	782		41	4			995.12	☐	flat glass			1	0.2				1/8	colorless	☐	
5LA3179	784	9	42	1			994.89	☐	vessel glass	neck ri		1	1.2					clear	☐	
5LA3179	787	9	42	2			994.78	☐	vessel glass	rim?		1	0.6					clear	☐	
5LA3179	788	9	42	2			994.78	☐	flat glass			3	0.7				1/16	colorless	☐	
5LA3179	789	9	42	2			994.78	☐	lantern glass			1	0.1				0.1	clear	☐	
5LA3179	794	9	42	3			994.73	☐	vessel glass	body		1	4.7	5.5	2.5		0.3	amber	☐	
5LA3179	795	9	42	3			994.73	☐	vessel glass	body		1	0.4					dark gree	☐	
5LA3179	796	9	42	3			994.73	☐	flat glass			4	2.4				1/16	colorless	☐	
5LA3179	812	9	42	5			994.46	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	813		43	0			996.528	☐	flat glass			1	0.7				1/16	colorless	☐	
5LA3179	814		43	0			996.528	☐	vessel glass	body		1	0.4					solarized	☐	
5LA3179	815		43	0			996.528	☐	vessel glass	body		1	15.4				0.5	amber	☐	
5LA3179	816		43	1			996.422	☐	vessel glass	body		2	3.7					clear	☐	
5LA3179	817		43	1			996.422	☐	flat glass			3	1.4				1/8	colorless	☐	
5LA3179	818		43	1			996.422	☐	flat glass			10	5.6				1/16	colorless	☐	
5LA3179	826		43	2			996.328	☐	flat glass			1	0.3				1/8	colorless	☐	
5LA3179	828		43	2			996.328	☐	flat glass			2	1.3				1/8	colorless	☐	
5LA3179	832	9	44	2			994.82	☐	flat glass			2	0.5				1/16	colorless	☐	
5LA3179	837	9	44	2			994.82	☐	flat glass			1	0.2				1/16	colorless	☐	
5LA3179	849	9	44	6			994.36	☐	vessel glass	body		1	0.6					amber	☐	
5LA3179	855	9	44	6			994.36	☐	flat glass			1	0.1				1/16	colorless	☐	
5LA3179	860	9	44	7			994.21	☐	vessel glass	body		1	2.5					clear	☐	
5LA3179	862	9	44	8			unknown	☐	vessel glass	body		2	0.3					clear	☐	
5LA3179	865						point plot	☑	vessel glass	base		1	7.9					aqua	☐	

Maker's Mark	Worked	Comments	Burned	Early Date	Late Date	Category	Subclass	Photo	Associated #	Modified	Comments	F20	F10
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	1 pc poss panel bottle frag	☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	heavy patina	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	largest pc 1/4" thick	☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐	heavy patina	☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	1 frag lightly solarized	☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			domestic	furniture	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			recreation	alcohol	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☑		☐			subsistence	food consumption	☐		☐	1 pc slightly solarized & poss worked	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☑		☐	1860	1996	recreation	alcohol	☐		☐	looks like glass flake	☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1870	1915	subsistence	food consumption	☐		☐		☐	☐

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Description	Portion	Finish/Shape	Quantity	Weight	Length	Width	Diameter	Thickness	Color	Mold Marks	Embossing
5LA3179	866						point plot	☑	vessel glass	body		1	3.1					light aqua	☐	
5LA3179	867						point plot	☑	vessel glass	body		1	5.4					amber	☐	
5LA3179	870						point plot	☑	vessel glass	body		1	10.5					amber	☐	
5LA3179	871						point plot	☑	vessel glass	body		1	2.8					solarized	☐	
5LA3179	873						point plot	☑	vessel glass	2 base;		3	38.1					light aqua	☐	
5LA3179	874						point plot	☑	vessel glass	body/2		9	51.6					solarized	☑	
5LA3179	875						point plot	☑	vessel glass	body fra		3	17.2					purple	☐	
5LA3179	877						point plot	☑	vessel glass	square		1	10.4					light aqua	☐	
5LA3179	878						point plot	☑	vessel glass	Pepsi b		1	7.9					clear	☐	
5LA3179	883						point plot	☑	vessel glass	Pepsi fr		13	82.0					clear	☑	
5LA3179	884						point plot	☑	flat glass			1	1.9				1/8	colorless	☐	
5LA3179	885						point plot	☑	vessel glass	Pepsi;		3	27.5					clear	☐	
5LA3179	886						point plot	☑	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	887						point plot	☑	vessel glass	Pepsi fr		6	18.1					clear	☐	
5LA3179	891						point plot	☑	vessel glass	body		1	10.2					amber	☐	"S" visible
5LA3179	892						point plot	☑	vessel glass	Pepsi b		2	10.0					clear	☑	PEPSI CO
5LA3179	896						point plot	☑	vessel glass	base		1	5.9					solarized	☑	
5LA3179	897						point plot	☑	vessel glass	2 base/		3	11.7					solarized	☑	
5LA3179	898						point plot	☑	vessel glass	body	pressed	1	7.5				0.3	solarized	☑	
5LA3179	902	1C	27	2			998.852	☐	flat glass			1	0.3				1/16	colorless	☐	
5LA3179	904	1C	27	2			998.852	☐	flat glass			3	0.2				1/16	colorless	☐	
5LA3179	911	11	28	3			995.177	☐	vessel glass	body		1	0.1					clear/pain	☐	
5LA3179	922		11	3			998.52	☐	flat glass			1	0.2				1/16	colorless	☐	
5LA3179	927		26	0			998.613	☐	flat glass			5	9				1/16	colorless	☐	
5LA3179	928		26	1			998.613	☐	flat glass				6	14.2			1/8	colorless	☐	
5LA3179	929		26	1			998.613	☐	flat glass			4	2.5				1/16	colorless	☐	
5LA3179	933		26	2			998.507	☐	flat glass			2	11.6				1/8	colorless	☐	
5LA3179	934		26	2			998.507	☐	flat glass			19	11.6				1/16	colorless	☐	
5LA3179	936		26	3			998.499	☐	flat glass			14	30.2				1/8	colorless	☐	
5LA3179	936.01		26	3			998.499	☐	flat glass			11	5				1/16	colorless	☐	
5LA3179	939		26	4			998.479	☐	flat glass			3	1.3				1/16	colorless	☐	
5LA3179	939.01		26	4			998.479	☐	flat glass			2	1.6				1/8	colorless	☐	
5LA3179	940		26	5			998.448	☐	flat glass			7	4				1/16	colorless	☐	
5LA3179	942		26	6			998.239	☐	flat glass			1	0.4				1/8	colorless	☐	
5LA3179	943		26	6			998.239	☐	flat glass			6	4.5				1/16	colorless	☐	
5LA3179	947	9	42	2			994.78	☐	flat glass			1	0.6				1/16	colorless	☐	
5LA3179	955	1A	N 1/2	clea				☐	vessel glass	body		1	3.0					amber	☑	
5LA3179	956	1A	N 1/2	clea				☐	flat glass			14					1/8	colorless	☐	
5LA3179	957	1A	N 1/2	clea				☐	flat glass			13					1/8	colorless	☐	
5LA3179	958	1A	east	clea				☐	flat glass			4					1.16	colorless	☐	
5LA3179	958.01	1A	east	clea				☐	flat glass			5					1/8	colorless	☐	
5LA3179	960	1A	north	clea				☐	flat glass			4	3.4				1/16	colorless	☐	
5LA3179	961	1C	west	clea				☐	flat glass			5	3.2				1/16	colorless	☐	
5LA3179	962	1C	west	clea				☐	flat glass			1	0.5				1/8	colorless	☐	
5LA3179	968		36	2			995.97	☐	vessel glass	body		1						colorless	☐	
5LA3179	971		32	1			994.186	☐	flat glass			1					1/8	colorless	☐	

Maker's Mark	Worked	Contents	Burned	Early Date	Late Date	Category	Class	Photo	Assoc Cat #	Modified	Comments	Base	Rim
	☐		☐	1870	1915	subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☑		☐	1860	1996	recreation	alcohol	☐	891?	☐	poss worked	☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐	1870	1915	subsistence	food storage?	☐		☐	jar frags?	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	base pcs from diff vessels	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	1 pc w/right angle; poss sqr bottle	☐	☐
	☐		☐	1870	1915	subsistence		☐		☐	medicine or personal bottle?	☐	☐
	☐		☐			subsistence	food consumption	☐	892; 885; 88	☐	painted "...NG CO."	☐	☐
	☐		☐					☐	887; 878; 88	☐	painted	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐	892; 878; 88	☐	Pepsi logo painted	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐	883; 878; 88	☐	painted	☐	☐
	☐		☐	1860	1996	recreation	alcohol	☐	870?	☐		☐	☐
	☐		☐			subsistence	food consumption	☐	885; 878; 88	☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐	bowl?	☐	☐
	☐		☐			subsistence	food consumption	☐		☐	scalloped edges; base pcs refit	☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐	possibly small vessel frags	☑	☐
	☐		☐			subsistence	food consumption	☐		☐		☐	☑
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 539	☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 540	☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 541	☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 545	☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 546	☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 548	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 551	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 552	☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 554	☐	☐
	☐		☐			architecture	window glass	☐		☐	Cat # changed from 555	☐	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐
	☐		☐	1860	1996	recreation	alcohol	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	wall clean-up	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐	wall clean-up	☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			architecture	window glass	☐		☐		☐	☐
	☐		☐			subsistence	food consumption	☐		☐		☑	☐
	☐		☐			architecture	window glass	☐		☐		☑	☐

Lithics

Site #	Catg	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Col	Material	Color	Description	Modified	Flake Type	Complete	Portion	Quantity
5LA3179	021	1C	1	4			998.78	☐	quartzite	white	tool	☐	utilized blade	☐	medial	1
5LA3179	029	1C	1	6			998.58	☐	chert	banded/cream & red	debitage	☑	tertiary	☐		1
5LA3179	029.01	1C	1	6			998.58	☐	chert	banded/cream & red	debitage	☑	tertiary	☑		1
5LA3179	035	1A	2	2			998.95	☐	mudstone	white	debitage	☐	primary; shatter	☐	medial	1
5LA3179	085	1A	3	5			990.77	☐	quartzite; fine-grained	amber/orange red	debitage	☐	tertiary; biface thinning flak	☐		1
5LA3179	101	1A	4	5			998.86	☐	chert	brown	shatter	☐	pressure flake	☐		1
5LA3179	133	1A	5	7			998.489	☐	chalcedony	brown	debitage	☐	tertiary	☐		1
5LA3179	136	1B	6	0			998.995	☐	chalcedony	tan brown mottled	debitage	☐	tertiary	☐		1
5LA3179	188		8	1			999.115	☐	chert	dark olive	debitage	☐	tertiary/bifacial	☐		1
5LA3179	189	1B	8	1			999.115	☐	chert	dark grey	tool	☐	utilized flake	☐		1
5LA3179	200	1C	9	3			998.34	☐	chert	olive	debitage	☐	tertiary	☐		1
5LA3179	231		10	4			998.91	☐	chert	grey/brown	shatter	☐	pressure flake	☐		1
5LA3179	234		11	2			998.59	☐	chert	brown	debitage	☐	tertiary,utilized	☐		1
5LA3179	240		11	2			998.59	☐	siltstone	light tan	core	☐		☐		2
5LA3179	246		11	3			998.52	☐	mudstone	red/brown	debitage	☐	tertiary	☐		1
5LA3179	247		11	3			998.52	☐	chert (jasper)	red	shatter	☐	pressure flake	☐		1
5LA3179	257		12	2			998.539	☐	chalcedony	tan/light olive	debitage	☐	primary	☐		1
5LA3179	268		12	3			998.494	☐	chalcedony	tan/brown	debitage	☐	tertiary	☐		1
5LA3179	271		12	5			998.355	☐	chert	tan	debitage	☐	secondary	☐		1
5LA3179	272		12	6			998.239	☐	chert	reddish brown	debitage	☐	tertiary	☐		1
5LA3179	313		14	2			995.12	☐	chalcedony	white	debitage	☐	secondary	☐		1
5LA3179	335		15	3			994.895	☐	mudstone	beige	debitage	☐	primary	☐		1
5LA3179	336		15	4			994.795	☐	basalt	black	debitage	☐	tertiary	☐		1
5LA3179	420		20	4			995.08	☐	chalcedony	reddish/tan	debitage	☐	secondary, utilized	☐		1
5LA3179	421		20	5			995	☐	chert	light orange	debitage	☐	secondary/utilized	☐		1
5LA3179	422		20	5			995	☐	chalcedony	red brown	debitage	☐	tertiary	☐		1
5LA3179	423		20	6			994.88	☐	quartzite; med-graine	light tan	debitage	☐	tertiary	☐		1
5LA3179	425		20	7			994.785	☐	chert	grey	debitage	☐	tertiary	☐		1
5LA3179	426		20	7			994.785	☐	chert	red	debitage	☐	tertiary	☐		1
5LA3179	427		20	8			994.685	☐	quartzite; fine-grained	grey	debitage	☐	tertiary	☐		1
5LA3179	428		20	8			994.685	☐	chert	red	debitage	☐	tertiary	☐		1
5LA3179	430		20	8			994.685	☐	chert	white/slightly banded	debitage	☐	tertiary	☐		1
5LA3179	431		20	8			994.685	☐	basalt	black	debitage	☐	tertiary	☐		1
5LA3179	432		20	8			994.685	☐	quartzite; fine-grained	light tan	debitage	☐	tertiary	☐		1
5LA3179	433		20	9			994.62	☐	quartzite	tan	tool	☐	blade, utilized	☐		1
5LA3179	434		20	9			994.62	☐	quartzite	tan	debitage	☐	tertiary	☐		1
5LA3179	435		20	9			994.62	☐	chalcedony	blonde	debitage	☑	tertiary	☐		1
5LA3179	435.01		20	9			994.62	☐	chert	grey	shatter	☐	pressure flake	☐		1
5LA3179	443	10	21	2			998.785	☐	chert	tan	shatter	☐	primary	☐		1
5LA3179	468		23	1			998.83	☐	chert	red/tan/black	debitage	☐	tertiary	☐		1
5LA3179	496		23	4			998.49	☐	chert (jasper)	red	debitage	☐	tertiary	☐		1
5LA3179	517		23	8			998.22	☐	mudstone	tan/beige	debitage	☐	primary	☐		2
5LA3179	532		24	1			995.3	☐	quartzite	grey	debitage	☐	tertiary	☐		1
5LA3179	537		24	4			994.92	☐	quartzite	tan	tool	☐	utilized flake; scraper	☐		1
5LA3179	538		24	4			994.92	☐	chert	dark brown mottled	debitage	☐	tertiary	☐		1
5LA3179	549		25	2			994.89	☐	chalcedony	tan, w/brown	debitage	☐	tertiary	☐		1
5LA3179	549.01		25	2			994.89	☐	chalcedony	cream/ red	debitage	☐	tertiary	☐		1
5LA3179	551		25	3			994.8	☐	chalcedony	cream	debitage	☐	tertiary	☐		
5LA3179	552		25	3			994.8	☐	chert	cream/ red	debitage	☐	tertiary	☐		
5LA3179	555		25	5			994.58	☐	chert	grey	debitage	☐	tertiary	☐		
5LA3179	556		25	7			994.4	☐	quartzite	red	debitage	☐	tertiary	☐		
5LA3179	614	11	28	5			995.027	☐	chert	light tan	debitage	☐	tertiary	☐		
5LA3179	617	11	28	6			994.927	☐	chert	red	debitage	☐	tertiary	☐		

Weight	Length	Width	Thickness	Period	Culture	Category	Class	Associated	Photo	Comments	Initial	Flat
8.7	6	2.5	0.5	Prehistoric		chipped stone	flake		☐	possible use ware	☐	☐
0.3	1	1	0.02	Prehistoric		chipped stone	flake	29.01	☐	slight edge wear	☐	☐
0.01	0.5	0.5	0.01	Prehistoric		chipped stone	flake	29	☐		☐	☐
1.2				Prehistoric		chipped stone	flake		☐		☐	☐
0.2	1.2	1	0.2	Prehistoric		chipped stone	flake		☐	use ware	☐	☐
0.01	0.3	0.2	0.2	Prehistoric		chipped stone	shatte		☐		☐	☐
0.01	0.5	0.5	0.01	Prehistoric		chipped stone	flake		☐		☐	☐
0.2	1.5	0.5	0.2	Prehistoric		chipped stone	flake		☐		☐	☐
0.6	1.5 cm	0.8 cm	0.3 cm	Prehistoric		chipped stone	flake		☐		☐	☐
2.5	2	1.5	0.5	Prehistoric		chipped stone	flake		☐		☐	☐
0.1	1	0.9	0.01	Prehistoric		chipped stone	flake		☐		☐	☐
0.01				Prehistoric		chipped stone	flake		☐	possible fossil snail shell	☐	☐
0.4	1.5	1	0.2	Prehistoric		chipped stone	flake		☐	unifacial; use ware	☐	☐
31.2				Prehistoric		chipped stone	flakes		☐	pieces refit	☐	☐
0.1	0.6	0.4	0.2	Prehistoric		chipped stone	flake		☐		☐	☐
0.01				Prehistoric		chipped stone	flake		☐		☐	☐
0.7	1.5	0.6	0.6	Prehistoric		chipped stone	flake		☐		☐	☐
0.01	0.5	0.5		Prehistoric		chipped stone	flake		☐		☐	☐
1.1	2	1.2	0.5	Prehistoric		chipped stone	flake		☐		☐	☐
0.2	1.3	1	0.2	Prehistoric		chipped stone	flake		☐		☐	☐
0.3	1	1	0.5	Prehistoric		chipped stone	flake		☐		☐	☐
0.4	1.2	0.7	0.4	Prehistoric		chipped stone	flake		☐		☑	☐
0.5	1.5	0.9	0.4	Prehistoric		chipped stone	flake		☐		☑	☐
1.9	2.2	1.7	0.4	Prehistoric		chipped stone	flake		☐	1 flake and 1 small shatter	☐	☐
1.2	2.2	1.7	0.5	Prehistoric		chipped stone	flake		☐		☐	☐
0.5	1.4	0.9	0.4	Prehistoric		chipped stone	flake		☐		☐	☐
1.8	2.4	1.9	0.3	Prehistoric		chipped stone	flake		☐	possible use ware	☐	☐
0.2	1.3	1	0.2	Prehistoric		chipped stone	flake		☐		☐	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
1.5	2	1.9	0.4	Prehistoric		chipped stone	flake		☐	use ware	☐	☐
0.1				Prehistoric		chipped stone	flake		☐		☐	☐
0.01				Prehistoric		chipped stone	flake		☐		☐	☐
0.01				Prehistoric		chipped stone	flake		☐		☐	☐
1.9	1.8	1.2	0.6	Prehistoric		chipped stone	flake		☐		☐	☐
2.1	3.5	1.4	0.6	Prehistoric		chipped stone	flake		☐	use ware	☐	☐
0.6	1.9	1.1	0.3	Prehistoric		chipped stone	flake		☐	possible use ware	☐	☐
0.9	2	1.6	0.3	Prehistoric		chipped stone	flake		☐		☐	☐
0.1				Prehistoric		chipped stone	flake		☐		☐	☐
0.4	1	0.8	0.5	Prehistoric		chipped stone	flake		☐	one dorsal side	☐	☐
1.1	1.5	1.5	0.5	Prehistoric		chipped stone	flake		☐	use ware	☐	☐
0.5	1.5	1.1	0.3	Prehistoric		chipped stone	flake		☐	retouched	☐	☐
7.3	3.8	2	0.5	Prehistoric		chipped stone	flake		☐	2nd flk = 3.2 x 1.6; refit	☑	☐
2	3	2.5	0.4	Prehistoric		chipped stone	flake		☐	point in progress? use ware	☐	☐
9	3.6	3	0.9	Prehistoric		chipped stone	tool		☐	use ware and retouch	☐	☐
1.5	2.8	2.3	0.3	Prehistoric		chipped stone	flake		☐		☐	☐
0.1	1.1	0.9	0.3	Prehistoric		chipped stone	flake		☐		☐	☐
0.3	1.1	0.9	0.4	Prehistoric		chipped stone	flake		☐		☐	☐
0.8	1.5	1	0.5	Prehistoric		chipped stone	flake		☐		☐	☐
0.4	1.4	1.1	0.2	Prehistoric		chipped stone	flake		☐	retouch	☐	☐
1.5	2.2	1.7	0.4	Prehistoric		chipped stone	flake		☐	broken; possible use wear	☐	☐
0.2	1.6	0.8	0.2	Prehistoric		chipped stone	flake		☐	possible use wear	☐	☐
0.3	1.1	1	0.3	Prehistoric		chipped stone	flake		☐		☐	☐
0.3	1.1	0.9	0.2	Prehistoric		chipped stone	flake		☐		☐	☐

Site #	Catno	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Material	Color	Description	Modified	Flake Type	Complete	Portion	Quantity
5LA3179	618	11	28	7			994.787	☐	chert	red w/black striations	debitage	☐	tertiary	☐		1
5LA3179	619	11	28	7			994.787	☐	chert	pink w/black intrusions	debitage	☐	tertiary	☐		1
5LA3179	620	15	28	8			994.857	☐	chert	brown	debitage	☐	tertiary	☐		1
5LA3179	621	15	28	9			994.647	☐	chert	tan/reddish	debitage	☐	tertiary	☐		1
5LA3179	622	15	28	9			994.647	☐	chert	light red w/striations	debitage	☐	tertiary	☐		1
5LA3179	623	15	28	9			994.647	☐	chalcedony	tan/black	debitage	☐	tertiary	☐		1
5LA3179	626	15	28	11			994.348	☐	chert	cream	debitage	☐	tertiary	☐		1
5LA3179	646	9	29	5			994.7	☐	chert	white	debitage	☐	tertiary	☐		1
5LA3179	648	9	29	7			994.6	☐	chert	orange/red	shatter	☐	pressure flake	☐		1
5LA3179	675		32	4			994.016	☐	quartzite; fine-grained	light tan	debitage	☐	tertiary	☐		1
5LA3179	676		32	4			994.016	☐	chert	dark grey/green	debitage	☐	tertiary	☐		1
5LA3179	696		35	3			996.1	☐	chalcedony	white/grey	debitage	☐	tertiary	☐	broken	1
5LA3179	702		36	2			995.97	☐	chert	cream	debitage	☐	tertiary	☐		1
5LA3179	728		37	2			995.25	☐	quartzite; med-graine	light tan	debitage	☐	tertiary	☐		1
5LA3179	729		37	2			995.25	☐	chert	tan w/cream	debitage	☐	tertiary	☐		1
5LA3179	752		39	3			995.92	☐	chalcedony	tan w/orange	debitage	☐	tertiary	☐		1
5LA3179	797	9	42	3			994.73	☐	chert	yellow	debitage	☐	tertiary	☐		1
5LA3179	808	9	42	4			994.61	☐	chert	light red	debitage	☐	tertiary	☐		1
5LA3179	819		43	1			996.422	☐	chert	white	debitage	☐	secondary	☐		1
5LA3179	820		43	1			996.422	☐	chert	grey	debitage	☐	primary	☐		1
5LA3179	821		43	1			996.422	☐	chert	red	debitage	☐	tertiary	☐		1
5LA3179	825		43	2			996.328	☐	chert	brown	debitage	☐	tertiary	☐		1
5LA3179	827		43	2			996.328	☐	chert	tan w/red	debitage	☐	primary	☐		1
5LA3179	833	9	44	2			994.82	☐	quartzite	brown	debitage	☐	tertiary	☐		1
5LA3179	834	9	44	2			994.82	☐	chalcedony	dark tan	debitage	☐	tertiary	☐		1
5LA3179	842	9	44	4			994.59	☐	chert	tan/reddish	debitage	☐	tertiary	☐		1
5LA3179	856	9	44	6			994.36	☐	chert	tan	debitage	☐	tertiary	☐		1
5LA3179	881						point plot 871	☑	mudstone	brown (ugly)	tool	☑	utilized flake; side scraper	☐		1
5LA3179	888						point plot 876	☑	chert	mottled cream/red	debitage	☐	tertiary	☐		1
5LA3179	907		25	3			994.8	☐	chert	1 white; 1 red;	shatter	☐	pressure flakes	☐		2
5LA3179	907.01		25	3			994.8	☐	chert	cream, mottled w/red	debitage	☐	tertiary	☐		1
5LA3179	908		25	3			994.8	☐	chert	beige	debitage	☐	tertiary	☐		2
5LA3179	909		25	7			994.4	☐	quartzite	white	shatter	☐	pressure flakes	☐		2
5LA3179	913	15	28	8			994.857	☐	chalcedony	tan w/black	debitage	☐	tertiary	☐		1
5LA3179	914	15	28	8			994.857	☐	chert	cream; red mottled	debitage	☐	tertiary	☐		1
5LA3179	917		20	9			994.62	☐	chert	white/red band	debitage	☐	tertiary	☐		1
5LA3179	921	9	44	5			994.47	☐	quartzite	grey	shatter	☐	pressure flake	☐		2
5LA3179	921.01	9	44	5			994.47	☐	chert	black	debitage	☐	tertiary	☐		1
5LA3179	925		20	5			995	☐	chalcedony	red	debitage	☐	tertiary	☐		1
5LA3179	926		20	5			995	☐	chert	black/banded	debitage	☐	tertiary	☐		1
5LA3179	931		26	2			998.507	☐	vitrous obsidian	smoky; dark grey	debitage	☐	tertiary	☐		1
5LA3179	964		39	3			995.92	☐	chert	cream	shatter	☐	pressure flake	☐		1
5LA3179	965		39	3			995.92	☐	chert	grey	shatter	☐	pressure flake	☐		1
5LA3179	970		36	2			995.97	☐	chalcedony	tan	shatter	☐	pressure flake	☐		
5LA3179	973		35	?				☐	chert	tan/cream	debitage	☐	secondary	☐		1
5LA3179	976		37	3			995.16	☐	chert	grey	shatter	☐	pressure flakes	☐		2
5LA3179	978		39	4			995.81	☐	chalcedony	cream/grey	debitage	☐	shatter	☐		1

Weight	Length	Width	Thickness	Period	Culture	Category	Class	Assoc Cat #	Photo	Comment	H2O	[illegible]
0.3	1.2	1	0.2	Prehistoric		chipped stone	flake		☐	evidence of use wear	☐	☐
0.1	1.1	0.9	0.2	Prehistoric		chipped stone	flake		☐	possible use wear	☐	☐
0.1	1.3	0.7	0.2	Prehistoric		chipped stone	flake		☐	possible use wear	☐	☐
				Prehistoric		chipped stone	flake		☐		☑	☐
0.2	1.1	1.1	0.3	Prehistoric		chipped stone	flake		☐	use wear	☐	☐
0.6	1.3	1.2	0.4	Prehistoric		chipped stone	flake		☐	possible use wear or retouch; crazed?	☐	☐
0.2	1.4	1	0.2	Prehistoric		chipped stone	flake		☐	use wear	☐	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.3			0.4	Prehistoric		chipped stone	flake		☐	poss use wear; poss broken pc of larger too	☐	☐
0.3	1.6	0.9	0.2	Prehistoric		chipped stone	flake		☐		☐	☐
0.2				Prehistoric		chipped stone	flake		☐		☐	☐
0.2	0.9	0.8	0.3	Prehistoric		chipped stone	flake		☐		☐	☐
1.5	2.5	1.5		Prehistoric		chipped stone	flake		☐	use wear	☐	☐
1.5	2	1.5	0.3	Prehistoric		chipped stone	flake		☐		☐	☐
0.5	1.5	1.2	0.2	Prehistoric		chipped stone	flake		☐	use wear	☑	☐
6.1	3.3	2.2	0.6	Prehistoric		chipped stone	flake		☐		☐	☐
0.5	1.2	1	0.2	Prehistoric		chipped stone	flake		☐	possible fossil snail shell	☐	☐
0.3	1	0.9	0.2	Prehistoric		chipped stone	flake		☐		☐	☐
0.3	1.9	1.3	0.1	Prehistoric		chipped stone	flake		☐		☐	☐
0.9	1.5	1.1	0.4	Prehistoric		chipped stone	flake		☐		☑	☐
0.1				Prehistoric		chipped stone	flake		☐		☐	☐
0.1				Prehistoric		chipped stone	flake		☐		☐	☐
0.2				Prehistoric		chipped stone	flake		☐		☐	☐
0.1				Prehistoric		chipped stone	flake		☐		☐	☐
50.8	7.5	5.0	1.8	Prehistoric		chipped stone	tool		☐		☐	☐
0.9	2.0	1.4	0.2	Prehistoric		chipped stone	flake		☐	use wear	☐	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.1	1	0.8	0.3	Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.1	1			Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☐	☐
0.1				Prehistoric		chipped stone	flakes		☐	1 grey, 1 black	☐	☐
0.1				Prehistori		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.2	1.1	0.5	0.2	Prehistoric		chipped stone	flake		☐	Cat # changed from 543	☐	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
	1.9	0.9	0.3	Prehistoric		chipped stone	flake		☐	Lot # not marked on H20 bag	☑	☐
0.01				Prehistoric		chipped stone	flake		☐		☑	☐
0.1				Prehistoric		chipped stone	flake		☐		☑	☐

Metal

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Material	Description	Portion	Quantity	Weight	Length	Width	Diameter	Category	Decoration	Early Date
5LA3179	017	1C	1	4			998.78	☐	ferrous metal	bottle cap	complete	1	2.8			3			
5LA3179	018	1C	1	4			998.78	☐	ferrous metal	fragment	incomplete	1	4.8	2	0.5				
5LA3179	018.0	1C	1	4			998.78	☐	ferrous metal	flat metal fragment	incomplete	1	0.4	1.5	1	1.8			
5LA3179	045	1A	2	6			998.87	☐	ferrous metal	strap metal	incomplete	1	4.4		3				
5LA3179	078	1A	3	3			991.03	☐	ferrous metal	folded strips		3	1.1		0.8				
5LA3179	080	1A	3	3			991.03	☐	brass	washer	complete	1	0.9			1.2			
5LA3179	109	1A	4	9			998.25	☐	brass	tack	complete	1	0.5	1.5					
5LA3179	115	1A	5	2			998.911	☐	ferrous metal	tack	complete	1	0.3	1.5					
5LA3179	123	1A	5	3			998.965	☐	ferrous metal	flat metal fragment	incomplete	1	0.2	1.3					
5LA3179	124	1A	5	3			998.965	☐	ferrous metal	tack	complete	1	1.4	1.5					
5LA3179	145	1B	6	4			998.607	☐	ferrous metal	strap metal	complete	1		30	2.5				
5LA3179	149	1B	6	1			998.977	☐	cast iron	carriage/wagon hitch	complete	1	443	28	2.5				
5LA3179	187	1B	8	1			999.115	☐	brass & ferrous	grommet	complete	1	1.1			1.2			
5LA3179	210		10	0			999.21	☐	iron	strap metal	incomplete	1	17.7	12	1.8				
5LA3179	215		10	2			999.13	☐	brass	tack head?	incomplete	1	0.3			1			
5LA3179	221.0		10	3			999.07	☐	ferrous metal	tack	complete	1	0.8	2					
5LA3179	223		10	4			998.91	☐	ferrous metal	eye-hook	complete	1	0.2	0.9	0.6				
5LA3179	226		10	4			998.91	☐	ferrous metal	tack	complete	1	0.6						
5LA3179	229		10	4			998.98	☐	ferrous metal	button or snap cap	complete	1	1.5			1.6			
5LA3179	258		12	2			998.539	☐	brass?	flat strap	incomplete	1	4.7	4.6	1				
5LA3179	259		12	2			998.539	☐	ferrous metal	pipe top fitting	incomplete	1	1.5	1.3	1.2				
5LA3179	278	1B	13	2			998.86	☐	ferrous metal	flat metal fragments		2	2.8						
5LA3179	283	1B	13	3			998.71	☐	brass	thumb tack	complete	1	0.4	1.0		1			
5LA3179	285	1B	13	3			998.71	☐	ferrous metal	flat metal scrap		1	0.9	3.0	1.5				
5LA3179	321		15	1			995.1	☐	ferrous metal	flat metal fragment	incomplete	1	1.8	2.7					
5LA3179	326		15	2			995	☐	ferrous metal	flat metal fragment	incomplete	1	0.3	2.0					
5LA3179	328		15	2			995	☐	ferrous metal	wire loop		1	1.7						
5LA3179	343		16	1			994.54	☐	brass?	small grommet		1	0.2			0.7			
5LA3179	346		16	1			994.54	☐	ferrous metal	flat metal fragments		22	18.7						
5LA3179	356		16	2			994.44	☐	ferrous metal	grommet	complete	1	2			1.7			
5LA3179	358		16	2			994.44	☐	cast iron	flat, w/lip	incomplete	1	23.7		3.7				
5LA3179	359		16	2			994.44	☐	ferrous metal	fragments		9	6.5						
5LA3179	366		16	2			994.44	☐	ferrous metal	flat metal fragment		1	0.7						
5LA3179	371		16	4			994.2	☐	ferrous metal	flat metal fragments		2	0.5						
5LA3179	372		17	1			994.276	☐	ferrous metal	flat metal fragment		1	0.7						
5LA3179	373		17	2			994.136	☐	ferrous metal	flat metal fragments		5	1.4						
5LA3179	383		18	3			994.31	☐	ferrous metal	flat metal scrap		1	1.1						
5LA3179	388		19	1			994.34	☐	ferrous metal	flat metal scraps		4	5						
5LA3179	405		20	1			995.33	☐	ferrous metal	hinge		1	5.5	1"	12				
5LA3179	410		20	1			995.33	☐	ferrous metal	flat metal scraps		2	1.2						
5LA3179	410.0		20	1			995.33	☐	brass/tin?	sm. Flat strip		1	0.3		0.4				
5LA3179	411		20	1			995.33	☐	ferrous metal	wire		2	7.1						
5LA3179	439	10	21	1			998.795	☐	ferrous metal	flat metal scrap		1	0.2						
5LA3179	488		23	4			998.49	☐	brass/iron?	small washer ring		1	0.3			0.6			
5LA3179	491		23	4			998.49	☐	ferrous metal	round cap	complete	1	12.1			4.1			
5LA3179	493		23	4			998.49	☐	iron	metal rod frag		1	1	2.2		0.5			
5LA3179	510		23	5			998.45	☐	ferrous metal	wire frag		1	2	~3"					
5LA3179	516		23	7			998.32	☐	ferrous metal	flat metal scraps		7	2.7						
5LA3179	524		24	1			995.3	☐	tin?	thin strip		1	1.7		0.6				
5LA3179	534		24	2			995.2	☐	cast iron	metal strap		1	18.9	5"	1"				
5LA3179	543		25	1			994.96	☐	ferrous metal	flat metal fragments		3	1.4						
5LA3179	550		25	2			994.89	☐	ferrous metal	flat metal fragment		1	0.3						
5LA3179	576		28	1			995.291	☐	ferrous metal	twisted wire loop		1	7.2	7.4					

Date Date	Category	Class	Modified	Assoc Cat #	Photo	Comment	[illegible]	[illegible]
	recreation	alcohol			☐	ginger beer cap	☐	☐
	hardware	indeterminate			☐	rectangular in cross section	☐	☐
	recreation	tobacco			☐	tobacco tag	☐	☐
	hardware	indeterminate			☐	end piece	☐	☐
	indeterminate	indeterminate			☐	can lid fragments?	☐	☐
	hardware	indeterminate			☐		☐	☐
	domestic	furniture			☐	w/head; looter pit	☐	☐
	domestic	furniture			☐	w/head	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	domestic	furniture			☐	w/head	☐	☐
	indeterminate	indeterminate			☐	ridged top and bottom; folded over 4 times	☐	☐
	transportation	carriage parts	possibly		☐	bent into triangle at 19cm; 4 holes	☐	☐
	personal	clothing			☐	maybe	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	hardware	indeterminate			☐		☐	☐
	domestic	furniture			☐		☐	☐
	personal	clothing			☐		☐	☐
	domestic	furniture			☐		☐	☐
	personal	clothing			☐		☐	☐
	indeterminate	indeterminate			☐	2 holes; folded or welded	☐	☐
	hardware	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	possibly cut from can lid	☐	☐
	domestic				☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	livestock	fencing			☐	baling wire?	☐	☐
	personal	clothing			☐	hole in center	☐	☐
	indeterminate	indeterminate			☐	can frags? Some w/lip, rim; one w/sq. corner	☐	☐
	personal	clothing			☐	_ R O A _ ???	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	can frags; one pc rim	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	can frags?	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	poss. Can frags; 1 pc folded lid	☐	☐
	domestic				☐	prob. Cabinet hinge; 2 screw	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	one straight edge;	☐	☐
	livestock	fencing			☐	baling wire?	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
					☐	friction cap? 1.2 cm deep	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	baling wire?	☐	☐
	indeterminate	indeterminate			☐	tin can frags?	☐	☐
	indeterminate	indeterminate			☐	folded; twisted; rim?	☐	☐
	indeterminate	indeterminate			☐	barrel strap?	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	livestock	fencing			☐		☐	☐

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Col	Material	Description	Portion	Quantity	Weight	Length	Width	Diameter	Thickness	Description	Early Date
5LA3179	581		28	1			995.291	☐	ferrous metal	flat metal frags		4	3.8						
5LA3179	589		28	1			995.291	☐	ferrous metal	button pieces	top half	2	0.1			0.5"			
5LA3179	590		28	1			995.291	☐	ferrous metal	flat metal frag; folded		1	0.5						
5LA3179	605		28	2			995.262	☐	brass? (not iron	thin metal strip		1	0.4	2	0.5				
5LA3179	612	11	28	4			995.17	☐	ferrous metal	metal strap w/rivet		1	6.7		2				
5LA3179	628	9	29	2			994.84	☐	ferrous metal	flat metal frag		1	0.4						
5LA3179	652	9	30	1			994.68	☐	ferrous metal	flat metal frag		1	0.6						
5LA3179	659	9	31	3			994.66	☐	ferrous metal	can rim frag?		1	1.3						
5LA3179	662	9	31	3			994.665	☐	ferrous metal	flat metal frag		1	1.4						
5LA3179	663	9	31	3			994.66	☐	ferrous metal	flat metal frag		1	1.6						
5LA3179	666	9	31	4			994.665	☐	ferrous metal	flat metal strap pcs w		3	23.7						
5LA3179	672		32	1			994.186	☐	ferrous metal	flat frag, folded		1	0.8						
5LA3179	678		33	1			994.45	☐	ferrous metal	flat metal frag		1	0.4						
5LA3179	686		33	3			994.26	☐	ferrous metal	pc of wire (thick)		1	4.6			0.3			
5LA3179	715		37	1			995.35	☐	ferrous metal/ca	heavy metal frags		3	30				1/8"		
5LA3179	716		37	1			995.35	☐	ferrous metal	flat metal frags		2	0.6						
5LA3179	727		37	2			995.25	☐	ferrous metal	flat metal frags		4	1.9						
5LA3179	753		39	3			995.92	☐	ferrous metal	flat metal frags		3	8.9						
5LA3179	759	15	40	1			995.2	☐	ferrous metal	flat metal strips		2	6		3/4"; 1/				
5LA3179	760	15	40	1			995.2	☐	ferrous metal	cast iron frag		1	17.9	2.25"	1.5"				
5LA3179	779		41	2			995.17	☐	ferrous metal	flat metal frags		2	0.5						
5LA3179	822		43	1			996.422	☐	ferrous metal	thin metal strip		1	0.5		1/8"				
5LA3179	823		43	1			996.422	☐	ferrous metal	can lid frag		1	3.2						
5LA3179	829	9	44	2			994.82	☐	ferrous metal	can frags		6	3.8						
5LA3179	850	9	44	6			994.36	☐	ferrous metal	flat metal strap & frag		2	5.2		3/4"				
5LA3179	864						point plot	☑	ferrous metal	can frag		1	4.5						
5LA3179	868						point plot	☑	ferrous metal	bucket handle	nearly com	1	17.0		2.6"				
5LA3179	869						point plot	☑	ferrous metal	can lid; tobacco?	complete	1	4.6			1.53"			
5LA3179	876						point plot	☑	ferrous metal	can frags		6	34.3						
5LA3179	879						point plot	☑	ferrous metal	button	complete	1	0.8			.65"		4 hole	
5LA3179	880						point plot	☑	ferrous metal	can lid or base	complete	1	15.1			(folded)			
5LA3179	899						point plot	☑	ferrous metal	candle holder	complete	1	44.1			4.8"			
5LA3179	901						point plot	☑	ferrous metal	washer	complete	1	0.8			.6"			
5LA3179	932		26	2			998.507	☐	copper?	thick pc cable/wire?	fragment	1	0.8	0.9		0.35			
5LA3179	935		26	3			998.499	☐	ferrous metal	sm hammer head		1	53.4	2.25"	.6"				
5LA3179	953		N 1/2	clea				☐	iron?	bolt; rnd top, sqr bas		1	4.7			0.59"			
5LA3179	954	1A	N 1/2	clea				☐	ferrous? Metal	flat metal frags		2	10.4						

Late Date	Category	Class	Modified	Assoc Cat #	Photo	Comments	FCR	Flot
	indeterminate	indeterminate			☐	possibly can frags	☐	☐
	personal	clothing			☐		☑	☐
	indeterminate	indeterminate			☐	prob can rim frag	☑	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	pc broken and folded, rivet still attached	☐	☐
	indeterminate	indeterminate			☐	can frag?	☐	☐
	indeterminate	indeterminate			☐	can frag?	☐	☐
	indeterminate	indeterminate			☐	folded	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	can frag?	☑	☐
	indeterminate	indeterminate			☐	thickness varies	☐	☐
	indeterminate	indeterminate			☐	can rim frag?	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	heavy wire	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	can frags?	☐	☐
	indeterminate	indeterminate			☐	can frags? Some pcs folded	☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	folded; was round	☐	☐
	subsistence	food storage			☐		☐	☐
	subsistence	food storage			☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	subsistence	food storage			☐		☐	☐
	hardware				☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	subsistence	food storage	cut into tri		☐		☐	☐
	personal	clothing			☐		☐	☐
	subsistence	food storage			☐	stamped HAND MADE C.M.M.P.A.	☐	☐
	personal	accessories	made fro		☐		☐	☐
	indeterminate	indeterminate			☐		☐	☐
	indeterminate	indeterminate			☐	cylindrical	☐	☐
	hardware				☐	SAMANTHA	☐	☐
	indeterminate	indeterminate			☐	poss more modern	☐	☐
	indeterminate	indeterminate			☐	different aloy compound than other frags	☐	☐

Nails

Site #	Cat #	Feature	Unit	Loc	Northing	Easting	Elevation	Surface Col	Description	Type	Portion	Quantity	Weight	PennyWeight	Length	Early Date	Late Date	[illegible]	[illegible]
5LA3179	011	1C	1	2			998.8	☐	tack	upholstery	complete	1	0.2		1.2		0	domestic	furniture
5LA3179	019	1C	1	4			998.78	☐	common	cut	heads	2	3.4			1830	1902	architecture	nails
5LA3179	026	1C	1	5			998.685	☐	common cut	cut	shank	1	2.8	6		1830	1902	architecture	nails
5LA3179	034	1A	2	2			998.95	☐	common	cut	shank	1	1.1			1830	1902	architecture	nails
5LA3179	042	1A	2	4			998.55	☐	common	cut	complete	1		6		1830	1902	architecture	nails
5LA3179	042.01	1A	2	4			998.55	☐	common	cut	head	1	0.8			1830	1902	architecture	nails
5LA3179	058	1A	3	1			991.145	☐	common	cut	complete	1	4.7	8	6.5	1830	1902	architecture	nails
5LA3179	063	1A	3	2			991.03	☐	common	cut	complete	1	8.4	10	7.5	1830	1902	architecture	nails
5LA3179	064	1A	3	2			991.03	☐	fencing	cut	head	1	6.4		4	1830	1902	livestock	fencing
5LA3179	065	1a	3	3			991.03	☐	common	cut	complete	1	4.1	8	6.5	1830	1902	architecture	nails
5LA3179	065.01	1A	3	2			991.03	☐	common	cut	complete	1	4.7	8	6	1830	1902	architecture	nails
5LA3179	066	1a	3	2			991.03	☐	common	cut	complete	1	1.9	4	3.9	1830	1902	architecture	nails
5LA3179	073	1A	3	3			991.03	☐	common	cut	complete	1	7.4	10	7.5	1830	1902	architecture	nail
5LA3179	074	1A	3	3			991.03	☐	common	cut	shank	1	4		7	1830	1902	architecture	nails
5LA3179	075	1A	3	3			991.03	☐	common	cut	complete	2	3.3	4	4	1830	1902	architecture	nails
5LA3179	076	1A	3	3			991.03	☐	common	cut	incomplete	1	0.8		5	1830	1902	architecture	nails
5LA3179	077	1A	3	3			991.03	☐	common	cut	head	2	2.8		2	1830	1902	architecture	nails
5LA3179	077.01	1A	3	3			991.03	☐	common	cut	head	1	0.7		1.4	1830	1902	architecture	nails
5LA3179	092	1A	4	3			998.95	☐	common	cut	incomplete	3	5.1			1830	1902	architecture	nails
5LA3179	100	1A	4	5			998.86	☐	common	cut	complete	2	8.2	8		1830	1902	architecture	nails
5LA3179	113	1A	5	2			998.911	☐	common	cut	complete	2		6		1830	1902	architecture	nails
5LA3179	114	1A	5	2			998.911	☐	common	cut	head	1	3.6		3.5	1830	1902	architecture	nails
5LA3179	119	1A	5	4			998.884	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	122	1A	5	3			998.965	☐	common	cut	complete	2		7		0	0	architecture	nails
5LA3179	128	1A	5	4			998.884	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	128.01	1A	5	4			998.884	☐	common	cut	complete	1		8		1830	1902	architecture	nails
5LA3179	129	1A	5	4			998.884	☐	common	cut	complete	1		6		1830	1902	architecture	nails
5LA3179	142	1B	6	3			998.792	☐	common	cut	complete	1	2.1	4		1830	1902	architecture	nails
5LA3179	162	1A	7	5			998.86	☐	common	cut	head	1	1.7			1830	1902	architecture	nails
5LA3179	169	1A	7	7			998.625	☐	common	cut	shank	1	1.6			1830	1902	architecture	nails
5LA3179	179	1A	7	8			998.48	☐	common	cut	shank	1	8.9			1830	1902	architecture	nails
5LA3179	185	1B	8	1			999.115	☐	common	cut	complete	2		5		1830	1902	architecture	nails
5LA3179	186	1B	8	1			999.115	☐	common	cut	head	1	3.5		3.8	1830	1902	architecture	nails
5LA3179	198	1C	9	2			998.44	☐	common	cut	head/fragm	2	1.2		2	1830	1902	architecture	nails
5LA3179	201	1C	9	3			998.34	☐	common	cut	head	1	0.8		2	1830	1902	architecture	nails
5LA3179	206	1C	9	3			998.34	☐	common	cut	complete	1		2		1830	1902	architecture	nails
5LA3179	207	1C	9	3			998.34	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	207.01	1C	9	3			998.34	☐	common	cut	complete	1		8		1830	1902	architecture	nails
5LA3179	217		10	2			999.13	☐	common	cut	complete	1		9		1830	1902	architecture	nails
5LA3179	217.01		10	2			999.13	☐	common	cut	complete	1	7			1830	1902	architecture	nails
5LA3179	217.02		10	2			999.13	☐	common	cut	heads	2	8		3.5	1830	1902	architecture	nails
5LA3179	218		10	2			999.13	☐	common	cut	complete	1		4		1830	1902	architecture	nails
5LA3179	221		10	3			999.07	☐	common	cut	head	1	2		2	0	0	architecture	nails
5LA3179	225		10	4			998.91	☐	common	cut	shank	1	1.8		3.6	1830	1902	architecture	nails
5LA3179	235		11	2			998.59	☐	common	cut	head	1	3.6		4	1830	1902	architecture	nails
5LA3179	242		11	3			998.52	☐	common	cut	complete	1		8		1830	1902	architecture	nails
5LA3179	243		11	3			998.52	☐	common	cut	shank	1	2.8		3.4	1830	1902	architecture	nails
5LA3179	252		12	1			998.666	☐	common	cut	shank	1	1.3			1830	1902	architecture	nails
5LA3179	252.01		12	1			998.666	☐	common	cut	head	1	2		2	1830	1902	architecture	nails
5LA3179	260		12	2			998.539	☐	common	cut	complete	1		8		1830	1902	architecture	nails
5LA3179	261		12	2			998.539	☐	common	cut	complete	1		4		1830	1902	architecture	nails
5LA3179	262		12	2			998.539	☐	common	cut	shank	1	3.7			1830	1902	architecture	nails
5LA3179	273	1B	13	1			998.92	☐	common	cut	complete	1		8		1830	1902	architectue	nails

Associated	Photo	Item Comments	Type	Class
	☐		☐	☐
	☐		☐	☐
	☐	no head	☐	☐
	☐	no head	☐	☐
	☐	1", L-bent	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	fencing because of head	☐	☐
	☐		☐	☐
	☐	casing nail	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	no head; 10d	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	copper? round headed	☐	☐
	☐	1 w/head	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	1 w/no head	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	1 head frag; 1 tiny shank	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	large head ~1cm; frag ha	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Description	Type	Portion	Quantity	Weight	Pennyweight	Length	Early Date	Late Date	Function	Subfunction
5LA3179	274	1B	13	1			998.92	☐	common	cut	head/shank	2	3.3			1830	1902	architecture	nails
5LA3179	276	1B	13	2			998.86	☐	common	cut	complete	1		3		1830	1902	architecture	nails
5LA3179	281	1B	13	2			998.86	☐	common	cut	shank	1	2.3		3.5	1830	1902	architecture	nails
5LA3179	284	1B	13	3			9.71	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	290	1B	13	4			998.75	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	296		14	1			995.2	☐	common	cut	complete	1		20		1830	1902	architecture	nails
5LA3179	297		14	1			995.2	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	298		14	1			995.2	☐	common	cut	heads	2	9.1			1830	1902	architecture	nails
5LA3179	299		14	1			995.2	☐	common	cut	head	1	4.2			1830	1902	architecture	nails
5LA3179	300		14	1			995.2	☐	common	cut	head	1	2.7			1830	1902	architecture	nails
5LA3179	301		14	1			995.2	☐	common	cut	shank	1	0.6			1830	1902	architecture	nails
5LA3179	310		14	2			995.12	☐	horseshoe		incomplete	1	1.7			1870	1885	transportation	horsetack
5LA3179	310.01		14	2			995.12	☐	common	cut	head/shank	2	4.6			1830	1902	architecture	nails
5LA3179	310.02		14	2			995.12	☐	common	cut	complete	1		7		1830	1902	architecture	nails
5LA3179	311		14	2			995.12	☐	common	cut	head/shank	3	7.2			1830	1902	architecture	nails
5LA3179	311.01		14	2			995.12	☐	common	cut	complete	1		3		1830	1902	architecture	nails
5LA3179	314		14	2			995.12	☐	common	cut	complete	1		9		1830	1902	architecture	nails
5LA3179	315		14	2			995.12	☐	common	cut	complete	2		6		1830	1902	architecture	nails
5LA3179	315.01		14	2			995.12	☐	common	cut	complete	1		4		1830	1902	architecture	nails
5LA3179	322		15	1			995.1	☐	horseshoe		complete	1	3.5			0	0	transportation	horse tac
5LA3179	331		15	2			995	☐	common	cut	complete	2		5		1830	1902	architecture	nails
5LA3179	331.01		15	2			995	☐	common	cut	incomplete	1	3		5	1830	1902	architecture	nails
5LA3179	332		15	2			995	☐		wire	complete	2		8		1880	1996	architecture	nails
5LA3179	334		15	3			994.895	☐	common	cut	complete	1		4		1830	1902	architecture	nails
5LA3179	344		16	1			994.54	☐	common	cut	complete	1		14		1830	1902	architecture	nails
5LA3179	345		16	1			994.54	☐	common	cut	complete	1		6		1830	1902	architecture	nails
5LA3179	345.01		16	1			994.54	☐	common	cut	shank	1	1.5			1830	1902	architecture	nails
5LA3179	352		16	2			944.44	☐	common	cut	head	1	14.8			1830	1902	architecture	nails
5LA3179	353		16	2			994.44	☐	common	cut	complete	2		6		1839	1902	architecture	nails
5LA3179	353.01		16	2			994.44	☐	common	cut	heads/shan	5	8.6			1830	1902	architecture	nails
5LA3179	354		16	2			994.44	☐	common	cut	complete	1		5		1830	1902	architecture	nails
5LA3179	354.01		16	2			994.44	☐	common	cut	complete	2		4		1830	1902	architecture	nails
5LA3179	354.02		16	2			994.44	☐	common	cut	head/shank	2	2			1830	1902	architecture	nails
5LA3179	355		16	2			994.44	☐	horseshoe		complete	1	4			1870	1885	transportation	horsetack
5LA3179	361		16	2			994.44	☐	common	cut	head/shank	2	4.9			1830	1902	architecture	nails
5LA3179	370		16	4			994.2	☐	common	cut		1		5		1830	1902	architecture	nails
5LA3179	381		18	2			994.42	☐	common	cut	head	1	1.3			1830	1902	architecture	nails
5LA3179	394		19	1			994.34	☐	common	cut	heads/shan	3	9.4			1830	1902	architecture	nails
5LA3179	395		19	1			994.34	☐	common	cut	head	1	0.6			1830	1902	architecture	nails
5LA3179	406		20	1			995.33	☐	common	cut	complete	1		6		1830	1902	architecture	nails
5LA3179	406.01		20	1			995.33	☐	common	cut	shank	1	1.6			1830	1902	architecture	nails
5LA3179	407		20	1			995.33	☐	common	cut?	incomplete	1	6.5			1830	1902	architecture	nails
5LA3179	407.01		20	1			995.33	☐	common	cut	head	1	1.9			1830	1902	architecture	nails
5LA3179	408		20	1			995.33	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	409		20	1			995.33	☐	horseshoe		incomplete	1	2			1870	1885	transportation	horsetack
5LA3179	417		20	2			995.27	☐	common	cut	head	1	4.2			1830	1902	architecture	nails
5LA3179	418		20	2			995.27	☐	common	cut	head/shank	2	3.2			1830	1902	architecture	nails
5LA3179	440	10	21	1			998.795	☐	fence staple			1	2.3			0	0	livestock	fencing
5LA3179	441	10	21	1			998.795	☐	common	cut	complete	1		7		1830	1902	architecture	nails
5LA3179	442	10	21	1			998.795	☐	common	cut	complete	1		5		1830	1902	architecture	nails
5LA3179	442.01	10	21	1			998.795	☐	common	cut	complete	1		4		1830	1902	architecture	nails
5LA3179	442.02	10	21	1			998.795	☐	common	cut	head	1	0.7			1830	1902	architecture	nails
5LA3179	456	1A	22	5			998.84	☐	common	cut	complete	1		5		1830	1902	architecture	nails

Assoc Cat #	Photo	[illegible]	[illegible]	[illegible]
	☐	1 head frag; 1 shank frag	☐	☐
	☐		☐	☐
	☐		☑	☐
	☐		☐	☐
	☐		☐	☐
	☐	4", 20d	☐	☐
	☐	most likely a clinch nail	☐	☐
	☐	large; 8 or 9d	☐	☐
	☐	8d?	☐	☐
	☐	6d?	☐	☐
	☐	2d?	☐	☐
	☐	no. 5, 2" horseshoe nail	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	1 1/4" horseshoe nail	☐	☐
	☐		☐	☐
	☐	7d?	☐	☐
	☐	2 1/2" long each	☐	☐
	☐	from rodent disturbance	☐	☐
	☐	large; spike?	☐	☐
	☐	very tip broken	☐	☐
	☐	6d?	☐	☐
344	☐	mostly complete; prob. 1	☐	☐
	☐	tips broken off	☐	☐
	☐	3 heads; 2 shanks	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	pounded flat	☐	☐
	☐	no. 5, 2" horseshoe	☐	☐
	☐	1 head; 1 shank	☑	☐
	☐		☐	☐
	☐	prob. 3 d	☐	☐
	☐	prob. 6 or 8 d	☐	☐
	☐	backside flat; prob. 3 d	☐	☐
	☐	smaller gauge	☐	☐
	☐		☐	☐
	☐	end broken; shank not ta	☐	☐
	☐		☐	☐
	☐	tip broken	☐	☐
	☐	no. 5, 2"?	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	2 pcs; refit	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	prob. 2 d	☐	☐
	☐		☐	☐

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Description	Type	Portion	Quantity	Weight	Pennyweight	Length	Early Date	Late Date	Category	Class
5LA3179	467		23	1			998.83	☐	common	cut	complete	1		5		1830	1902	architecture	nails
5LA3179	467.01		23	1			998.83	☐	common	cut	head	1	2			1830	1902	architecture	nails
5LA3179	472		23	2			998.82	☐	common	cut	head	1	3.5			1830	1902	architecture	nails
5LA3179	479		23	3			998.78	☐	common	cut	thick shank	1	7.1			1830	1902	architecture	nails
5LA3179	480		23	3			998.78	☐	common	cut	complete	1		9		1830	1902	architecture	nails
5LA3179	480.01		23	3			998.78	☐	common	cut	complete	1		5		1830	1902	architecture	nails
5LA3179	480.02		23	3			998.78	☐	common	cut	head/shank	3	5.8			1830	1902	architecture	nails
5LA3179	481		23	3			998.78	☐	horseshoe		complete	1	2.5		2 1/8"	0	0	transportation	horsetack
5LA3179	484		23	3			998.78	☐	common	cut	head/shank	4	2			1830	1902	architecture	nails
5LA3179	494		23	4			998.49	☐	horseshoe		complete	1	2.6		2"	0	0	transportation	horse tac
5LA3179	495		23	4			998.49	☐	common	cut	heads/frags	5	8.8			1830	1902	architecture	nails
5LA3179	511		23	5			998.45	☐	common	cut	shank	1	0.8			1830	1902	architecture	nails
5LA3179	529		24	1			995.3	☐	common	cut	head	1	12.2			1830	1902	architecture	nails
5LA3179	530		24	1			995.3	☐	common	cut	shank	1	5			1830	1902	architecture	nails
5LA3179	530.01		24	1			995.3	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	531		24	1			995.3	☐	common	cut	shanks	3	3.9			1830	1902	architecture	nails
5LA3179	546		25	1			994.96	☐	common	cut	head	1	2			1830	1902	architecture	nails
5LA3179	560	13	26	7			998.169	☐	common	cut	shank	1	3.1			1830	1902	architecture	nails
5LA3179	561	13	26	8			998.106	☐	fence staple			1	2.6			0	0	livestock	fencing
5LA3179	575	1C	27	4			998.779	☐	common	cut	head/nearly	1	9.3		3"	1830	1902	architecture	nails
5LA3179	577		28	1			995.291	☐	common	cut	complete	1		12		1830	1902	architecture	nails
5LA3179	578		28	1			995.291	☐	common	cut	shanks	2	6			1830	1902	architecture	nails
5LA3179	579		28	1			995.291	☐	common	cut	head	1	5			1830	1902	architecture	nails
5LA3179	591		28	1			995.291	☐	tack	upholstery	complete	1	1.2		.75"	0	0	domestic	furniture
5LA3179	595		28	2			995.262	☐	common	cut	head	1	7			1830	1902	architecture	nails
5LA3179	596		28	2			995.262	☐	common	cut	complete	1		5		1830	1902	architecture	nails
5LA3179	597		28	2			995.262	☐	common	cut	shanks	3	9.5			1830	1902	architecture	nails
5LA3179	611	11	28	4			995.17	☐	common	cut	complete	1		4		1830	1902	architecture	nails
5LA3179	633	9	29	3			994.74	☐	common	cut	complete	1		4		1830	1902	architecture	nails
5LA3179	640	9	29	2			994.81	☐	common	cut	head/nearly	1	17.2		3"	1830	1902	architecture	nails
5LA3179	650	9	30	1			994.68	☐	common	cut	complete	1		3		1830	1902	architecture	nails
5LA3179	653	9	30	2			994.58	☐	common	cut	complete	1		6		1830	1902	architecture	nails
5LA3179	654	9	30	2			994.58	☐	nail	wire	shank	1	0.6			1880	1996	architecture	nails
5LA3179	660	9	31	3			994.665	☐	horseshoe n		incomplete	1	1.6		1"	1870	1885	transportation	horsetack
5LA3179	661	9	31	3			994.665	☐	common	cut	complete	1		5		1830	1902	architecture	nails
5LA3179	664	9	31	3			994.665	☐	common	cut	head	1	2			1830	1902	architecture	nails
5LA3179	670	9	31	5			994.5	☐	common	cut	shank	1	3.7			1830	1902	architecture	nails
5LA3179	684		33	2			994.36	☐	common	cut	head	1	3.4			1830	1902	architecture	nails
5LA3179	685		33	2			994.36	☐	common	cut	complete	1		3		1830	1902	architecture	nails
5LA3179	687		33	4			994.16	☐	common	cut	complete	1		4		1830	1902	architecture	nails
5LA3179	693		35	2			996.22	☐	common	cut	head	1	2.7			1830	1902	architecture	nails
5LA3179	699		36	1			996.05	☐	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	700		36	1			996.05	☐	common	cut	head	1	3.6			1830	1902	architecture	nails
5LA3179	701		36	1			996.05	☐	common	cut	shank	1	2.6			1830	1902	architecture	nails
5LA3179	706		36	2			995.97	☐	common	cut	complete	2		10		1830	1902	architecture	nails
5LA3179	707		36	2			995.97	☐	common	cut	heads	2	4.6			1830	1902	architecture	nails
5LA3179	708		36	2			995.97	☐	common	cut	shanks	3	4			1830	1902	architecture	nails
5LA3179	708.01		36	2			995.97	☐	common	cut	heads	2	2.1			1830	1902	architecture	nails
5LA3179	708.02		36	2			995.97	☐	common	cut	head	1	4.2			1830	1902	architecture	nails
5LA3179	717		37	1			995.35	☐	common	cut	head	1	9.9			1830	1902	architecture	nails
5LA3179	718		37	1			995.35	☐	common	cut	head	1	3.1			1830	1902	architecture	nails
5LA3179	719		37	1			995.35	☐	common	cut	complete	1		3		1830	1902	architecture	nails
5LA3179	720		37	1			995.35	☐	common	cut	head	1	1			1830	1902	architecture	nails

Assoc Cat #	Photo	Comments	H20	Plot
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	1/4" thick	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	prob. No. 8, 2 1/2" horse	☐	☐
	☐	1 head; 2 shanks; 1 frag;	☑	☐
	☐	no. 5, 2" nail	☐	☐
	☐	2 heads; 3 frags	☐	☐
	☐		☐	☐
	☐	0.7 cm width; 10 - 16 d	☐	☐
	☐		☐	☐
	☐	hooked, poss a clinch na	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	prob. 12 d	☐	☐
	☐	very tip broken; basically	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	round head	☑	☐
	☐	prob. 8 d	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	either 40 d or a boat spik	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	poss. No. 5, 2" horsesho	☐	☐
	☐	very tip broken	☐	☐
	☐	prob. 4 d	☑	☐
	☐		☐	☐
	☐	prob. 6 d	☐	☐
	☐		☑	☐
	☐		☑	☐
	☐		☐	☐
	☐		☐	☐
	☐	nearly complete; prob. 6	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Description	Type	Portion	Quantity	Weight	Pennyweight	Length	Early Date	Late Date	Category	Class
5LA3179	721		37	1			995.35	☐	horseshoe		incomplete	1	2.9			1870	1885	transportation	horsetack
5LA3179	722		37	1			995.35	☐	common	cut	shanks	4	5.2			1830	1902	architecture	nails
5LA3179	723		37	2			995.25	☐	common	cut	complete (n	1		12		1830	1902	architecture	nails
5LA3179	724		37	2			995.25	☐	common	cut	head	1	1.4			1830	1902	architecture	nails
5LA3179	725		37	2			995.25	☐	common	cut	shank	1	0.5			1830	1902	architecture	nails
5LA3179	735	14	38	2			998.59	☐	common	cut	1 head/1 sh	2	5.2			1830	1902	architecture	nails
5LA3179	741	14	38	3			998.52	☐	horseshoe n		complete	1	3.1			1870	1885	transportation	horsetack
5LA3179	742	14	38	3			998.52	☐	common	cut	heads	2	2.4			1830	1902	architecture	nails
5LA3179	743	14	38	3			998.52	☐	common	cut	shank	1	4.3			1830	1902	architecture	nails
5LA3179	744	14	38	4			998.45	☐	common	cut	shank	1	3.6			1830	1902	architecture	nails
5LA3179	745	14	38	4			998.45	☐	horseshoe n		complete	1	3.6			1870	1885	transportation	horsetack
5LA3179	750	14	38	6			998.19	☐	common	cut	heads	2	2.6			1830	1902	architecture	nails
5LA3179	761	15	40	1			995.2	☐	common	cut	complete	1		5		1830	1902	architecture	nails
5LA3179	762	15	40	1			995.2	☐	common	cut	1 head; 1 s	2	4.6			1830	1902	architecture	nails
5LA3179	763	15	40	2			995.1	☐	common	cut	head	1	3			1830	1902	architecture	nails
5LA3179	767		41	1			995.23	☐	common	cut	head	1	2.2			1830	1902	architecture	nails
5LA3179	776		41	2			995.17	☐	common	cut	head	2	9.3			1830	1902	architecture	nails
5LA3179	777		41	2			995.17	☐	common	cut	head	1	2.1			1830	1902	architecture	nails
5LA3179	778		41	2			995.17	☐	common	cut	head	1	1.1			1830	1902	architecture	nails
5LA3179	790	9	42	2			994.78	☐	common	cut	head	1	2.2			1830	1902	architecture	nails
5LA3179	798	9	42	3			994.73	☐	common	cut	heads	2	13			1830	1902	architecture	nails
5LA3179	799	9	42	3			994.73	☐	common	cut	head	1	1			1830	1902	architecture	nails
5LA3179	802	9	42	3			994.73	☐	common	cut	head/mostly	1	8.8			1830	1902	architecture	nails
5LA3179	803	9	42	3			994.73	☐	common	cut	shank	1	2.5			1830	1902	architecture	nails
5LA3179	810	9	42	5			994.46	☐	common	cut	1 head; 1 s	2	4			1830	1902	architecture	nails
5LA3179	843	9	44	4			994.59	☐		wire	complete	1	1			1830	1902	architecture	nails
5LA3179	846	9	44	5			994.47	☐	common	cut	head	1	7.1			1830	1902	architecture	nails
5LA3179	859	9	44	7			994.21	☐	common	cut	complete	1		6		1830	1902	architecture	nails
5LA3179	890						point plot	☑	common	cut	complete	1		4 d		1830	1902	architecture	nails
5LA3179	893						point plot	☑	common	cut	complete	1		10		1830	1902	architecture	nails
5LA3179	950	1A	N 1/2	clea				☐	common	cut	complete	2		8 d		1830	1902	architecture	nails
5LA3179	951	1A	N 1/2	clea				☐	common	cut	head	1	2.7		1.25"	1830	1902	architecture	nails
5LA3179	959	1A	north	clea				☐	common	cut	nearly com	1	2.4		2"	1830	1902	architecture	nails
5LA3179	969		36	2			995.97	☐	common	cut	complete	1		6 d		1830	1902	architecture	nails

Assoc Cat #	Photo	Comments	H2O	Hot
	☐	poss no. 5, 2" horseshoe	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	prob 4 d	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	No. 5, 2"	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
741	☐	No. 5, 2"	☐	☐
	☐		☐	☐
	☐	bent	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	1 prob. 10 d; 1 prob. 12	☐	☐
	☐	nearly complete; prob. 7	☐	☐
	☐		☐	☐
	☐	likely 5 d or 6 d	☐	☐
	☐	from large nails	☐	☐
	☐		☐	☐
	☐	prob. 20 d	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	1.5" long	☐	☐
	☐	portion of lrg spike or bol	☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐		☐	☐
	☐	tip broken; prob 7 d	☐	☐
	☐		☑	☐

Other

Site #	Cat #	Feature	Unit	Lot	Northing	Easting	Elevation	Surface Coll	Material	Description	Portion	Quantity	Weight	Length	Width	Diameter	Thickness	Maker's Mark	Early Date
5LA3179	020	1C	1	4			998.78	☐	rubber	grey/black, melted		1	0.5	2	1		0.5		
5LA3179	041	1A	2	4			998.55	☐	plant	seed	complete	1	0.01						
5LA3179	044	1A	2	6			998.87	☐	kaolin	marble	complete	1	12.9			2.3			1850
5LA3179	048	1A	2	5			998.86	☐	plant	seeds	complete	13	0.2						
5LA3179	069	1A	3	3			991.03	☐	kaolin	marbles	complete	2	41.7			2.5			1850
5LA3179	070	1A	3	3			991.03	☐	leather	bag fragments	incomplete	2	0.2						
5LA3179	081	1A	3	3			991.03	☐	leather & metal	belt buckle w/leather	incomplete	1	6.5						
5LA3179	081.0	1A	3	3			991.03	☐	leather & metal	buckle w/partial strap		1	6.5	.9"	.9"				
5LA3179	086	1A	3	3			991.03	☐	plant	seeds	complete	20	0.9						
5LA3179	095	1A	4	5			998.86	☐	stone	white chalk		1	17.8	3	2		2		
5LA3179	097	1A	4	5			998.86	☐	wood	button	complete	1	1.2			1.5			
5LA3179	135	1A	5	8			997.867	☐	plant	seeds		2	0.1						
5LA3179	175	1A	7	8			998.48	☐	tin foil	tiny fragment		1	0.01	0.2					
5LA3179	194	1C	9	1			998.54	☐	plant	seed	incomplete	1	0.01						
5LA3179	317		14	2			995.12	☐	plant	seed	complete	1	0.01	1.3					
5LA3179	385		18	3			994.31	☐	plant	seed	complete	1	0.01			0.5			
5LA3179	438	10	21	1			998.795	☐	plant	seed; prickly pear	incomplete	1	0.01						
5LA3179	453	1A	22	4			998.95	☐	plant	seed; prickly pear		3	0.1						
5LA3179	460	1A	22	5			998.84	☐	plant	seed; prickly pear		1	0.01						
5LA3179	482		23	3			998.78	☐	plant	seeds; prickly pear		2	0.01						
5LA3179	492		23	4			998.49	☐	plastic	comb teeth		2	0.2	3.3	0.5				
5LA3179	519		23	10			998.32	☐	paper	sm; rolled into cone		1	0.1	2.9					
5LA3179	520		23	10			998.32	☐	plant	desicated cactus pod		1	1.1						
5LA3179	625	15	28	10			994.597	☐	stone	fire-cracked rock		9	14						
5LA3179	629	9	29	2			994.84	☐	glass/porcelian	button	complete	1	0.7			0.5"			
5LA3179	688		33	5			994.07	☐	plant	dessicated cactus pod		1	0.4						
5LA3179	804	9	42	3			994.73	☐	stone	shale fragments		25	8.5						
5LA3179	835	9	44	2			994.82	☐	rubber	pcs boot rubber		2	0.1						
5LA3179	905		25	3			994.8	☐	stone	fire-cracked rock		4	23.4						
5LA3179	912	15	28	8			994.857	☐	stone	fire-cracked rock		3	1.2						
5LA3179	920	9	44	5			994.47	☐	plant	prickly seeds		2	0.01						
5LA3179	924		20	5			995	☐	stone	fire cracked rock		5	7.5						
5LA3179	946	9	42	2			994.78	☐	plant	prickly pear seeds		4	.01						
5LA3179	949	9	42	2			994.78	☐	stone	fire-cracked rock		1	2.5						
5LA3179	963		39	3			995.92	☐	plant	prickly pear seeds		2	.01						
5LA3179	966	1C	27	6			997.529	☐	plant	prickly pear seeds	complete	2	0.01						
5LA3179	972	1A	22	2			998.99	☐	plant	prickly pear seeds		2	0.01						
5LA3179	974		35					☐	plant	prickly pear seeds		2	0.01						

Late Date	Category	Class	Photo	Comments	H20	Hot
	indeterminate	indeterminate	☐	tank tread?	☐	☐
	floral	seed	☐	charred	☐	☐
1900	recreation	toy	☐		☐	☐
	floral	seed	☐	charred prickley pear	☐	☐
1900	recreation	toys	☐		☐	☐
	recreation	toy	☐	marble bag	☐	☐
	personal	clothing	☐	buckle nearly whole	☐	☐
	personal	clothing	☐	could be tack hardware; SAMANTH	☐	☐
	flora	seed	☐	not charred	☐	☐
	natural	stone	☐		☐	☐
	personal	clothing	☐	two-holed; coat	☐	☐
	flora	seed	☐	type unknown	☐	☐
	indeterminate	indeterminate	☐		☐	☐
	flora	seed	☐		☐	☐
	flora	seed	☐	type unknown	☐	☐
	flora	seed	☐		☑	☐
	flora	seed	☐		☐	☐
	flora	seed	☐		☑	☐
	flora	seed	☐		☑	☐
	flora	seed	☐	charred	☐	☐
	personal	accessories	☐	2nd tooth = 1.9 x 0.3	☐	☐
	indeterminate	indeterminate	☐	some green color appears	☐	☐
	flora		☐		☐	☐
	indeterminate	indeterminate	☐		☐	☐
	personal	clothing	☐		☐	☐
	flora		☐		☑	☐
	indeterminate	indeterminate	☐	shale sample	☐	☐
	indeterminate	indeterminate	☐		☑	☐
	indeterminate	indeterminate	☐		☑	☐
	indeterminate	indeterminate	☐		☑	☐
	flora	seed	☐		☐	☑
	indeterminate	indeterminate	☐	various sizes	☑	☐
	flora	seeds	☐		☑	☐
	indeterminate	indeterminate	☐		☑	☐
	flora	seeds	☐		☑	☐
	flora	seeds	☐	1 whole; 1 half	☑	☐
	flora	seeds	☐	1 possibly charred	☑	☐
	flora	seeds	☐	Lot # not marked on H20 bag	☑	☐

Bone/Shell
(for complete faunal analysis by Dr. Erica Hill, see chapter 9)

Site #	Cat #	Feature	Unit	Lot	Elevation	Material	Description	Quantity	Weight	Species	Burned	Category	Class	Comments	H2O	Eat
5LA3179	071	1A	3	3	991.03	bone	fragments	3	0.6		☐	faunal	bone		☐	☐
5LA3179	083	1A	3	3	991.03	bone	ulna	1	0.6		☐	faunal	bone	small bird?	☐	☐
5LA3179	083.01	1A	3	3	991.03	bone	fragment	1	0.1		☐	faunal	bone		☐	☐
5LA3179	146	1B	6	4	998.683	bone	mammal	1	0.2		☐	faunal	bone		☐	☐
5LA3179	180	1A	7	9	998.17	bone	fragment	1	8.1		☐	faunal	bone	large mammal	☐	☐
5LA3179	208	1C	9	3	998.34	bone	articular end	1	1.6		☐	faunal	bone		☐	☐
5LA3179	238		11	2	998.59	bone	mammal fragments	2	2		☐	faunal	bone		☐	☐
5LA3179	291	1B	13	4	998.75	bone	mammal	3	4.1		☐	faunal	bone	3 bone frags	☐	☐
5LA3179	318		14	2	995.12	bone	fragment	1	0.5		☐	faunal	bone		☐	☐
5LA3179	351		16	2	994.54	bone	small frag	1	0.3		☐	faunal	bone	bird? Cut ends	☐	☐
5LA3179	380		17	5	993.856	shell	snail shell	1	0.1		☐	faunal	shell		☐	☐
5LA3179	424		20	6	994.88	shell	snail shell	1	0.01		☐	faunal	shell	1 shell and 4 frags	☐	☐
5LA3179	458	1A	22	5	998.84	bone	long, thin frags	2	0.4		☐	fauna	bone	rodent?	☑	☐
5LA3179	497		23	4	998.49	bone	flat fragments	2	1.6		☐	faunal	bone		☐	☐
5LA3179	512		23	5	998.45	bone	fragment	1	0.2		☐	fauna	bone		☐	☐
5LA3179	518		23	8	998.22	bone	long bone frag	1	7.4		☐	faunal	bone	4" x .75" at base	☑	☐
5LA3179	565	13	26	11	997.919	bone	fragment	1	0.1	bird?	☑	faunal	bone		☐	☐
5LA3179	569		26	4	998.479	bone	small fragments	7	0.2		☑	faunal	bone		☑	☐
5LA3179	574	1C	27	3	998.767	bone	fragments	7	0.8		☐	faunal	bone		☐	☐
5LA3179	624	15	28	10	994.597	bone	small fragments	2	0.1		☑	faunal	bone	found under FCR; 1 pc burned	☑	☐
5LA3179	634	9	29	2	994.74	bone	large; cut piece	1	9.6	mammal	☐	faunal	bone	butchered	☐	☐
5LA3179	635	9	29	3	994.74	bone	fragments	3	2.7	mammal	☐	faunal	bone	butchered	☐	☐
5LA3179	636	9	29	4	994.81	bone	sheep femur proximal	1	16.6		☐	faunal	bone		☐	☐
5LA3179	637	9	29	4	994.81	bone	sternum rib pieces	4	428	mammal	☐	faunal	bone	large pieces	☐	☐
5LA3179	638	9	29	4	994.81	bone	small rib	1	3.3	mammal	☐	faunal	bone		☐	☐
5LA3179	639	9	29	4	994.81	bone	fragments	31	13.9	unknown	☐	faunal	bone		☐	☐
5LA3179	643	9	29	5	994.7	bone	fragments	10	2.9	mammal	☐	faunal	bone		☐	☐
5LA3179	645	9	29	5	994.7	bone	tiny fragments	22	1.5	bird/rodent	☐	faunal	bone		☑	☐
5LA3179	647	9	29	7	994.6	bone	tiny fragment	1	0.01		☐	faunal	bone		☑	☐
5LA3179	649	9	30	1	994.68	bone	fragments	5	4.4	mammal	☐	faunal	bone	cut	☐	☐
5LA3179	657	9	31	3	994.66	bone	cut frag	1	1.6	mammal	☐	faunal	bone		☐	☐
5LA3179	674		32	1	994.186	bone	small frag	1	0.3		☐	faunal	bone	one side flat and smooth	☐	☐
5LA3179	791	9	42	2	994.78	bone	long-bone fragments	16	12.2	mammal	☐	faunal	bone		☐	☐
5LA3179	792	9	42	3	994.73	bone	fragments	14	2.2	mammal	☐	faunal	bone		☐	☐
5LA3179	800	9	42	3	994.73	bone	small rib	1	2	mammal	☐	faunal	bone		☐	☐
5LA3179	801	9	42	3	994.73	bone	fragments	2	0.5		☑	faunal	bone	1 pc poss burned	☐	☐
5LA3179	806	9	42	4	994.61	bone	fragments	3	2	mammal	☐	faunal	bone		☐	☐
5LA3179	807	9	42	4	994.61	bone	small frag	1	0.1	bird	☐	faunal	bone		☑	☐
5LA3179	811	9	42	5	994.46	bone	fragment	1	0.2		☐	faunal	bone		☐	☐
5LA3179	824		43	1	996.422	bone	small frags	2	0.2		☑	faunal	bone		☐	☐
5LA3179	831	9	44	2	994.82	bone	sm frags	2	0.2		☐	faunal	bone		☐	☐
5LA3179	836	9	44	2	994.82	bone	sm frag	1	0.1		☐	faunal	bone		☐	☐
5LA3179	838	9	44	3	994.71	bone	fragment	1	0.2		☐	faunal	bone		☐	☐
5LA3179	841	9	44	4	994.59	bone	fragments	11	5.2	mammal	☐	faunal	bone		☐	☐
5LA3179	844	9	44	4	994.59	bone	fragments	3	2.3	mammal	☐	faunal	bone		☐	☐
5LA3179	845	9	44	5	994.47	bone	large fragments	10	53.2	lrg mam.l	☐	faunal	bone		☐	☐
5LA3179	851	9	44	6	994.36	bone	long bone frags	15	10.5	mammal	☐	faunal	bone		☐	☐
5LA3179	852	9	44	6	994.36	bone	tooth?	1	0.5		☐	faunal			☐	☐
5LA3179	854	9	44	6	994.36	bone	fragments	3	0.5		☐	faunal	bone		☑	☐
5LA3179	858	9	44	7	994.21	bone	fragment	1	0.2		☐	faunal	bone		☐	☐
5LA3179	863	9	44	8	uknown	bone	fragments	5	2.5	mammal	☐	faunal	bone		☐	☐
5LA3179	906		25	3	994.8	bone	fragment	1	0.01		☐	faunal	bone		☑	☐
5LA3179	910	11	28	3	995.177	bone	fragments	5	0.9		☑	faunal	bone		☐	☑

Site #	Cat #	Feature	Unit	Lot	Elevation	Material	Description	Quantity	Weight	Species	Burned	Category	Class	Comments	H2O	Plot
5LA3179	915	15	28	8	994.857	bone	small fragments	3	0.2		☐	faunal	bone		☑	☐
5LA3179	916		20	9	994.62	bone	small frags	2	0.1		☐	faunal	bone		☑	☐
5LA3179	918		24	5	994.82	bone	tiny frag	1	0.01		☐	faunal	bone		☐	☐
5LA3179	923		20	5	995	bone	small frag	1	0.2		☐	faunal	bone		☑	☐
5LA3179	930		26	2	998.507	shell	egg shell fragments	2	0.01		☐	faunal	shell	Cat # changed from 542	☐	☐
5LA3179	937		26	4	998.479	bone	mammal frag	1	0.4		☐	faunal	bone	Cat # changed from 549	☐	☐
5LA3179	938		26	4	998.479	bone	fragments; mammal	7	1.3		☑	faunal	bone	Cat # changed from 550	☐	☐
5LA3179	941		26	6	998.239	bone	small fragments	5	0.5	bird?	☑	faunal	bone	Cat. # changed from 553	☐	☐
5LA3179	944	13	26	7	998.169	bone	fragments	2	0.6	bird?	☑	faunal	bone	Cat # changed from 556	☐	☐
5LA3179	948	9	42	2	994.78	bone	fragments	6	2.1		☐	faunal	bone	2 pcs cut	☑	☐
5LA3179	967	1C	27	6	997.529	bone	fragment	1	0.01		☐	faunal	bone		☑	☐
5LA3179	975		35			bone	fragment	1	0.01	rodent?	☐	faunal	bone	Lot # not marked on H20 bag	☑	☐
5LA3179	977	13	26	12	997.829	bone	fragment	1	0.1		☐	faunal	bone		☑	☐