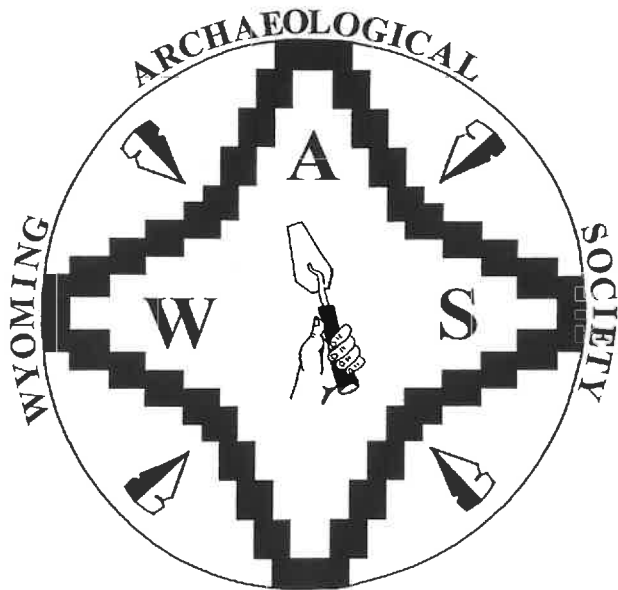


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5	Henry Jensen, Casper	1977
	unknown	1978
6	Jim and Lucille Adams, Lander	1979
7	Gerald Carbone, Sheridan	1980
8	George Brox, Rawlins	1981
	unknown	1982
	unknown	1983
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3	1962	Sharon Gray	Mulloy	\$100.00
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	1965	NO AWARDS		
	1966	NO AWARDS		
5	1967	Bob Edgar	Mulloy	\$100.00
	1968	NO AWARDS		
6	1969	Charles Reher	Mulloy	\$300.00
7	1970	John Lytle	Mulloy	\$300.00
8	1971	Ross Hilman	Mulloy	\$300.00
9	1972	George Zeimens	Mulloy	\$300.00

YEAR	RECIPIENT	SCHOLARSHIP	AMOUNT	
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11	1974	Debbie Foster	Mulloy	\$150.00
12	1974	George Zeimens	Mulloy	\$150.00
13	1975	Mark Miller	Mulloy	\$300.00
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20	1981	Allen Darlington	Mulloy	\$250.00
21	1981	David Reiss	Mulloy	\$250.00
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28	1985	Cristi Ann Zimple	Mulloy	\$350.00
29	1985	Karen G. Miller	Frison	\$350.00
30	1986	Jennifer Woodcock	Mulloy	\$350.00
31	1986	Elizabeth Cartwright	Frison	\$350.00
32	1987	NO AWARDS		
33	1988	Debra Ann Swearingen	Mulloy	\$300.00
34	1988	Kyle C. Baber	Frison	\$300.00
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39	1990	Laura Scheiber	WAS	\$300.00
40	1991	Don Davis	Mulloy	\$300.00
41	1991	Kristina McMahan	Frison	\$300.00
42	1992	Laura Scheiber	not designated	\$300.00
43	1992	Matthew Hill	not designated	\$300.00
44	1992	Barbara Barrows	not designated	\$300.00
45	1993	NO AWARDS		
46	1994	Karen Rogers	Mulloy	\$300.00
47	1994	Alan Wimer	Frison	\$300.00
48	1994	Laura Niven	WAS	\$300.00
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51	1996	Carol-Anne Garrison	Mulloy	\$400.00
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53	1997	Orin Shanks	Mulloy	\$400.00
54	1997	J. D. "Sam" Drucker	Frison	\$400.00
55	1998	Nicole Waguespack	Mulloy	\$400.00
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61	2000 David Byers	Frison	\$300.00
62	2000 Craig Lee	WAS	\$300.00
63	2001 Alison Hofbauer	Mulloy	\$350.00
64	2001 Molly Boeka	Frison	\$350.00
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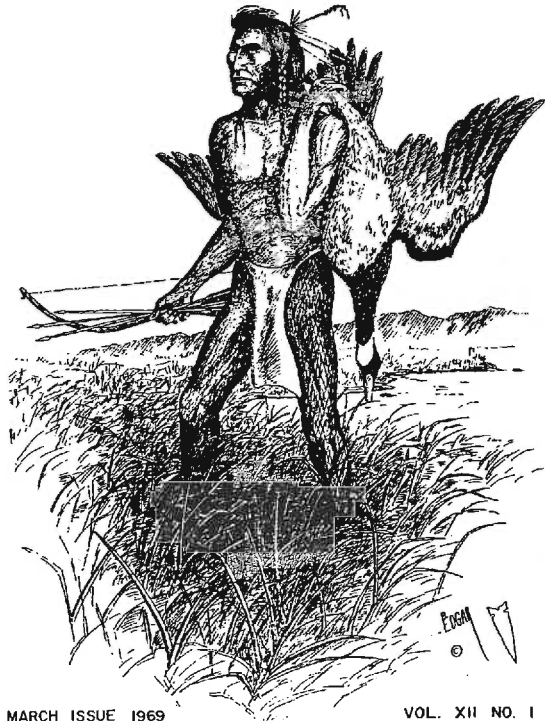
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JULY 1972

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LATE PREHISTORIC LIFE ALONG LAPRELE CREEK: EVIDENCE FOR BROAD SPECTRUM HUNTING AND GATHERING AT 48CO2672

by
Kelly J. Pool

In the summer of 2001, Metcalf Archaeological Consultants, Inc. (MAC) excavated a deeply buried campsite (48CO2672) along LaPrele Creek in Converse County, Wyoming. Charcoal from two hearths produced conventional radiocarbon ages of 1200 ± 60 BP and 1100 ± 60 BP. The cultural level dates to the Late Prehistoric period (Frison 1991), and results suggest at least two and as many as four use episodes may be represented.

During these use episodes, there appears to have been an emphasis on plant resources and small artiodactyls such as deer and pronghorn. No evidence was found for the dependence on bison, often considered the hallmark of High Plains subsistence (Frison 1991; McNees 1999). No projectile points were found. Instead, toolkits consisted largely of expedient flake tools with a few bifaces, cores, and pieces of ground stone. Overall, evidence is present at 48CO2672 for a broad spectrum hunting and gathering system during the Late Prehistoric period.

The results of MAC's excavations at this site are reported here to provide an example of the range of variation in settlement and subsistence systems of Northwestern Plains prehistoric peoples. This site may be an example of what McNees (1999:3-45) calls the "more mundane, less spectacular components" of a typical big game hunting adaptation, perhaps representing a short-term or seasonal disruption of this adaptation. On the other hand, it is possible the broad spectrum hunting and gathering system

evident at this time and place may represent an actual year-round adaptation, as others (e.g., Kornfeld 1997) have suggested.

SITE DESCRIPTION

This deeply buried prehistoric site was initially identified by MAC in 1999 during construction of Wyoming Interstate Company's (WIC) Medicine Bow Lateral (Adams et al. 2000), a 150-mile pipeline extending roughly between Cheyenne and Douglas. The site was found during examination of the walls of the open pipeline trench before pipe burial. Subsurface testing in the area revealed a well-sealed cultural level between 120 and 150 centimeters below ground surface (cmbs) containing Feature 1, a deep basin hearth dating to about 1100 yrs BP. Data recovery excavations were undertaken in 2001 before construction of the WIC Medicine Bow Lateral Loop, a parallel pipeline proposed to be built 15 meters south of the existing pipeline in the site area.

The site lies in the foothills/basin margin zone (Knight 1994) between the Laramie Mountains to the south and the Powder River Basin to the north. It is situated at an elevation of 5100 feet in the narrow strip of land between the northernmost extension of the Laramie Mountains and the east-trending North Platte River. It is about five miles south of the river, between the towns of Glenrock and Douglas (Figure 1).

Specifically, this buried Late Prehistoric camp with a surface historic component lies in the

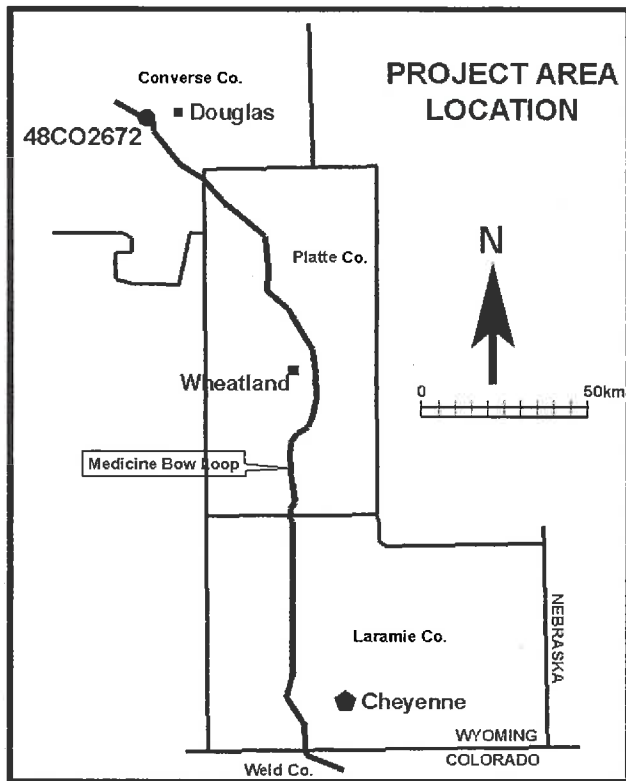


FIGURE 1: Site location map.

T2 alluvial fill terrace on the west side of La Prele Creek. Rolling hills form the western edge of the creek valley. An alluvial fan extends eastward from these hills, overriding and inter-fingering with the terrace below (McFaul 2003) (Figure 2). The prehistoric component occurs in this complex depositional environment, at the interface of the fan-mouth deposits with the alluvial terraces. Based on results from investigations, it appears it was the fan having the greatest effect on the data recovery area immediately before, during, and after the dated occupations.

East of the creek, rolling hills and table lands rise. The steep slopes of Table Mountain are in view less than one mile to the southeast. A well-established riparian zone of box elder, willow, and cottonwood occurs along the stream. Mixed grass prairie with sagebrush vegetates the upland areas.



Figure 2: Photographic overview of site area east from hills at west edge of La Prele Creek valley. 49CO2672 lies at near edge of creek. Table Mountain is at right of photograph.

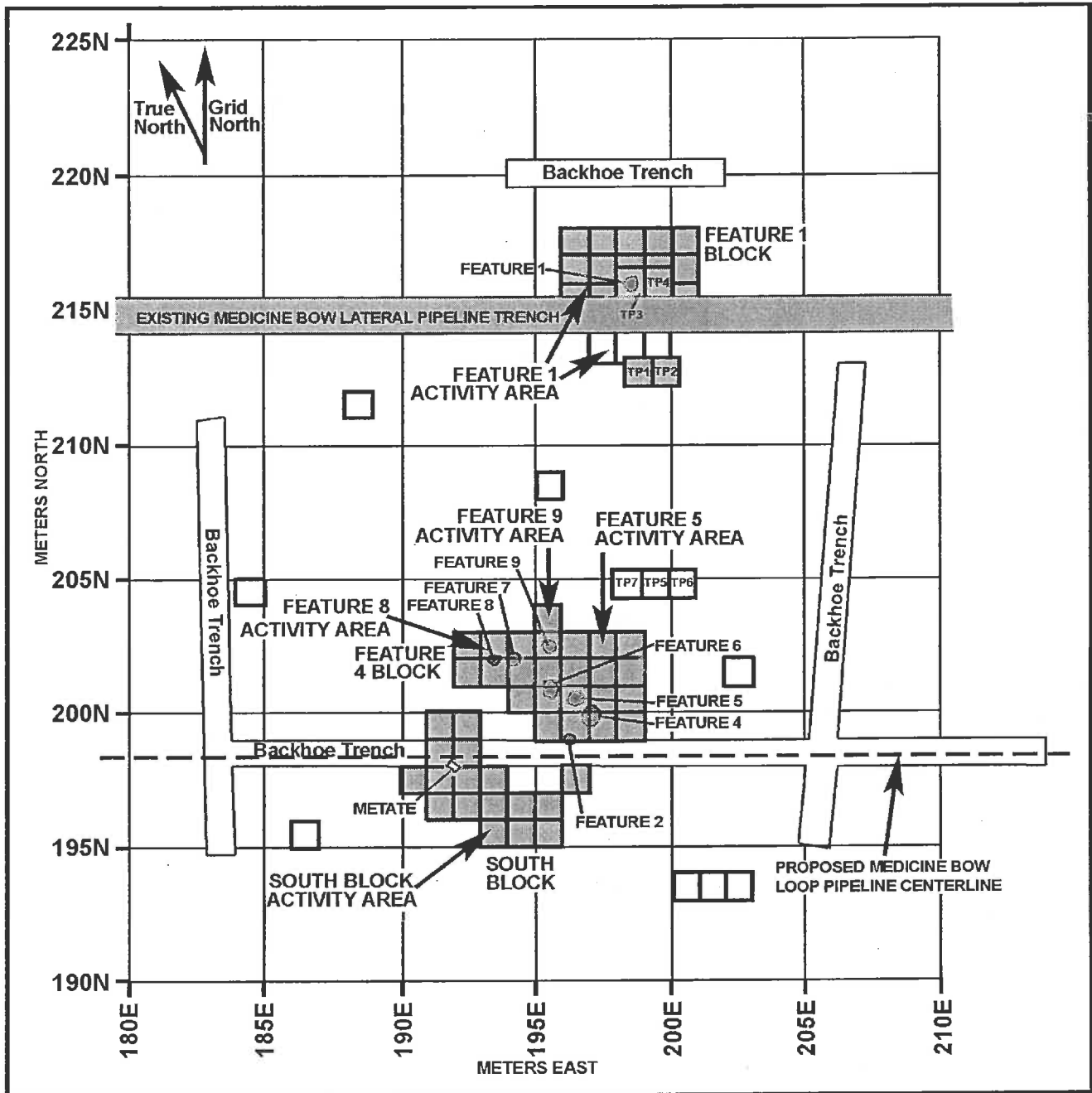


FIGURE 3: 48CO2672 Excavation plan map showing activity areas.

EXCAVATIONS

MAC excavated 69.5 sq m, contained in three blocks and 11 scattered test units (Figure 3). Initially, three backhoe trenches were dug, boxing in the suspected site area between the existing and the proposed pipelines. A hearth was uncovered in the southern east-west trench, and an excavation block (the Feature 4 Block) was opened around it.

The South Block was also opened in the south half of the site to investigate an area exhibiting a high flake and fire-cracked rock (FCR) density. In the northern half of the site, the Feature 1 Block was centered around the hearth discovered during evaluative testing.

Five activity areas or analytical units were defined in these three blocks, and four of these

were centered around hearths. In all, six hearths as well as two distinct FCR concentrations (features 6 and 7) were found (Table 1). Two types of hearths were identified: basin hearths and rock-filled hearths. On this site, definition of the latter is a hearth containing one or more dense rock layers for use as a heating element within the basin rather than a hearth solidly packed with rocks.

Selected artifacts and samples from features were submitted for five types of analyses following excavations. Flotation samples from each pit feature and seven pieces of ground stone with associated soil samples were submitted to Paleo Research Institute, Golden, Colorado, for macrofloral and pollen analysis (Puseman and Cummings 2003). Faunal remains were sent to Danny Walker at the University of Wyoming (Walker 2003). FCR fragments from each feature were submitted for lipid analysis to Mary Malainey of Brandon University, Manitoba, who uses gas chromatography to identify types of food residues (Malainey and Malisza 2003). Finally, two charcoal samples from the north and south halves of the excavated area underwent standard processing by Beta Analytic to obtain radiometric ages (Table 2).

The two radiocarbon ages fall into the Late Prehistoric period, specifically during the peak in radiocarbon dates Frison (1991:111) notes between about 1200 and 1000 BP. The two ages overlap, indicating they could represent the same occupation. Characteristics of the artifact assemblages differ so greatly between the two dated activity areas they are assumed to represent two different use episodes.

**DISCUSSION OF ACTIVITY AREAS
FEATURE 5 ACTIVITY AREA**

The Feature 5 Activity Area (F5AA) was one of three analytical units identified in the Feature 4 Block (Figure 4). It was located at the edge of the dropoff to a lower terrace and was defined on the basis of artifacts and FCR clustering around hearth features 2, 4, and 5. Feature 4 was radiometrically dated to about 1200 BP (Table 2).

Features 4 and 5 were rock-filled hearths (Figures 5 and 6), and it is possible Feature 2 may have also contained a substantial rock layer before disturbance by the backhoe. Feature 4 exhibited a layer of 26 large cobbles on top of a charcoal lens in the middle of the fill. The north half of this

TABLE 1: 48CO2672 pit feature dimensions and contents.

F#	TYPE	ACTIVITY AREA*	DIMENSIONS (CM)			FCR		OXIDATION?	ARTIFACTS
			N-S	E-W	DEPTH	#	MASS (KG)		
1	rock-filled hearth	F1AA	60	60	43	47	29.8	ring around south and east margins	flakes, bone
2	basin hearth	F5AA	37	41	11	5	1.7	slight amount on north margin	flakes
4	rock-filled hearth	F5AA	75	73	33	38	51.5	around perimeter	flakes, bone
5	rock-filled hearth	F5AA	80	67	38	35	29.3	no	flakes, mano
8	basin hearth	F8AA	42	53	12	2	0.6	no	none
9	basin hearth	F9AA	53	54	13	10	2.8	no	flakes

*F1AA, F5AA, F8AA, F9AA are the Feature 1, Feature 5, Feature 8, and Feature 9 activity areas.

TABLE 2: Radiocarbon dates from 48CO2672.

F#	MEASURED RADIOCARBON AGE	13C/12C RATIO	CONVENTIONAL RADIOCARBON AGE	2 SIGMA CALIBRATION (95% PROBABILITY)	BETA #
1	1130 +/- 60 BP	-26.4 o/oo	1100 +/- 60 BP	cal AD 790 to 1030 (cal BP 1160 to 920)	146420
4	1190 +/- 60 BP	-24.6 o/oo	1200 +/- 60 BP	cal AD 680 to 980 (cal BP 1270 to 970)	160294

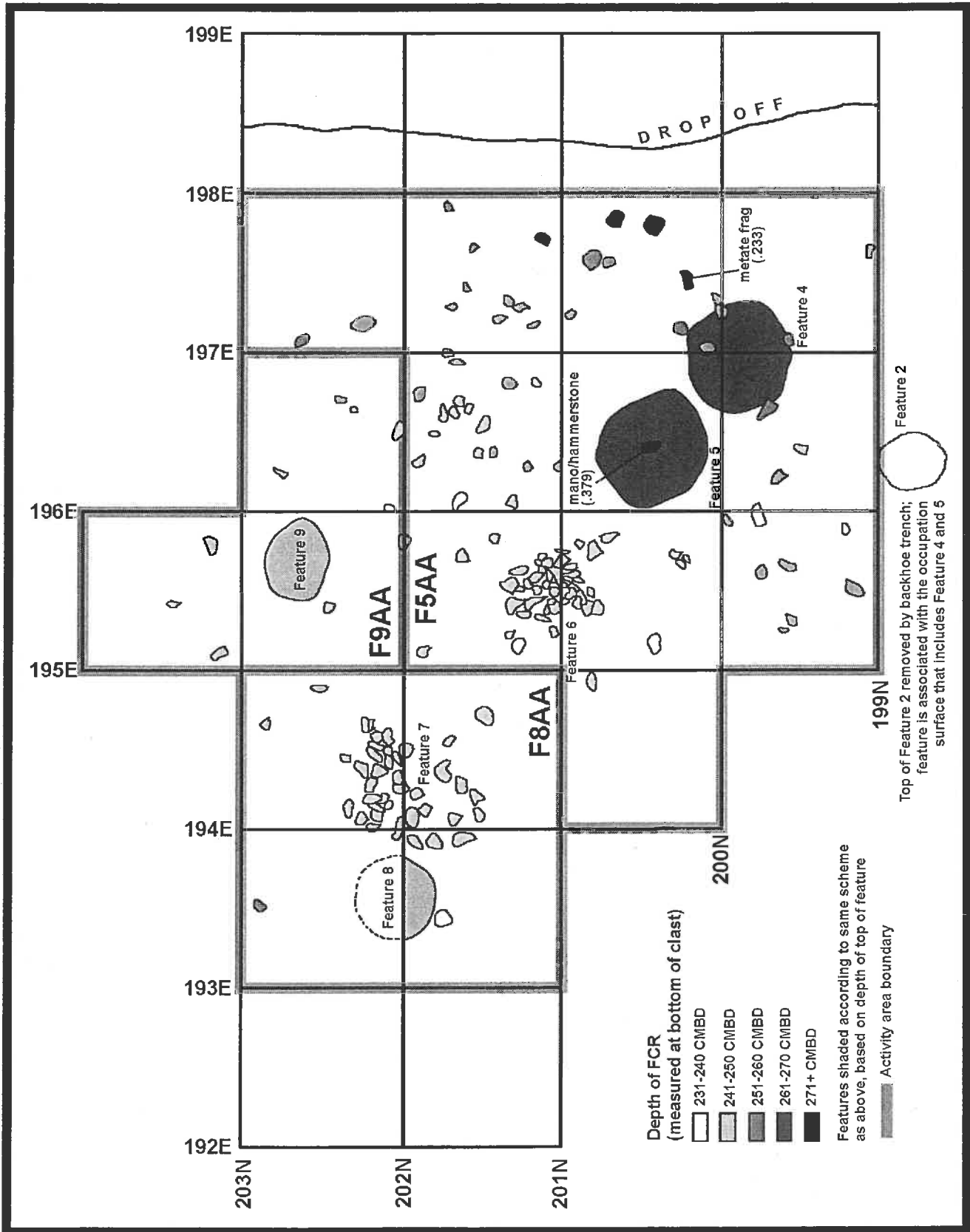
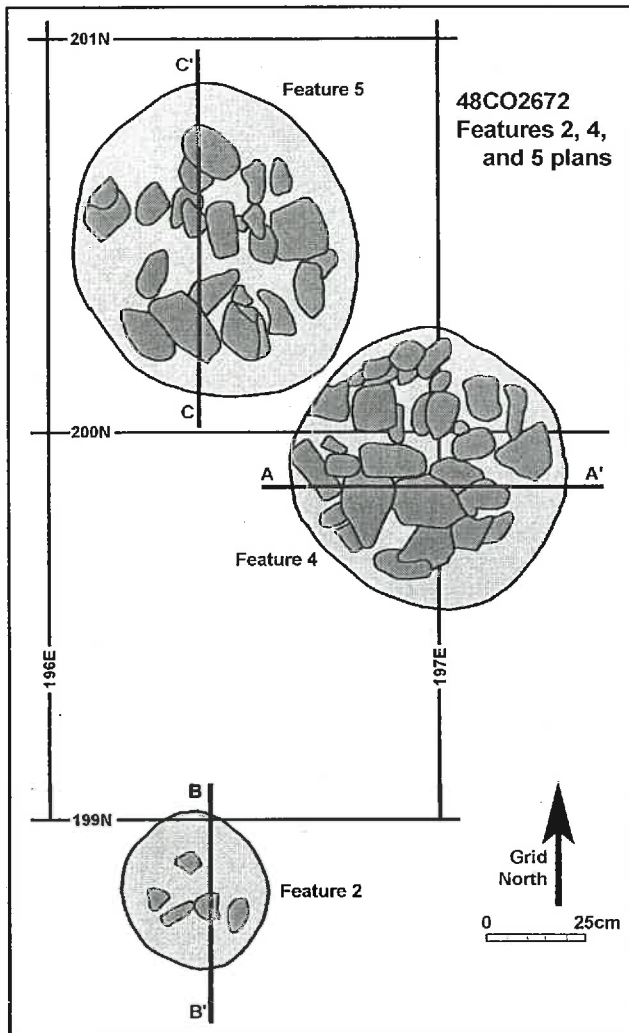


FIGURE 4: 48CO2672 Feature 4 Block planview showing activity areas.



48CO2672 Features 2, 4, and 5 planviews.

charcoal lens was underlain by an additional layer of seven cobbles. A second loose lens of charcoal was found under that layer, and a few cobbles and more charcoal covered the base of the pit. The base of Feature 5, on the other hand, exhibited a single layer of FCR covering a dense charcoal lens.

Results of lipid analysis suggest plant processing may have been undertaken in or around the three hearths. FCR from features 2 and 4 produced residue reflective of processing or preparation of low fat plant foods such as roots or plant greens. These results could indicate roots or plant greens were processed in the two hearths. Alternatively, they might indicate plant greens

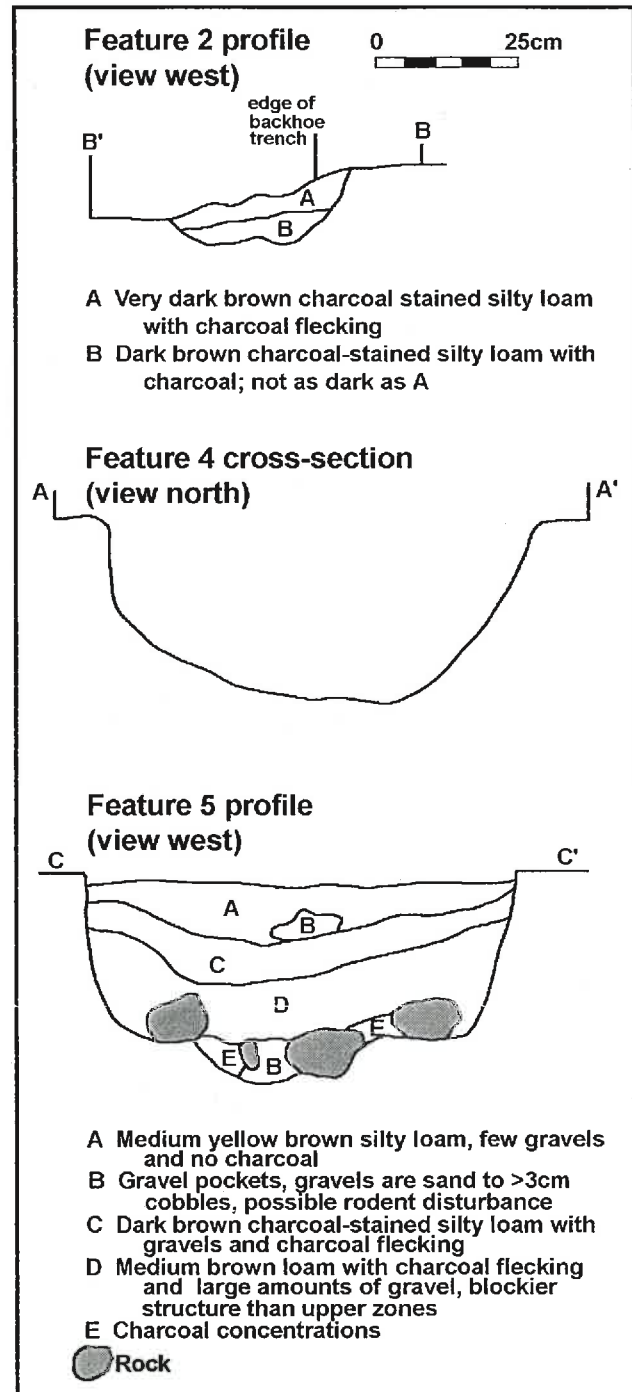


FIGURE 6: 48CO2672 Features 2, 4, and 5 cross-section and profiles.

were used as a moist lining in the hearths or were used as a buffer between the heat source and some other food such as roots in the hearth. FCR from Feature 5 produced residue possibly from medium fat foods (similar to mesquite or corn) or from

medium-low fat foods (certain plant fruits such as prickly pear tunas). A sample from FCR concentration Feature 6 (Figure 4) also produced residue with a medium fat content. This pile of FCR may have been removed from Feature 5.

Additional evidence for plant use was recovered in and around Feature 4. About 20 charred saltbush seeds were identified among the macrofloral remains from the hearth fill. Ethnographic data indicates saltbush seeds can be ground into a meal, mixed with water and drunk as a beverage, mixed with some other meal and used as flour, or even used to add flavor to meat (Puseman and Cummings 2003). Also, a metate fragment laying beside the hearth produced pollen evidence a member of the parsley/carrot family, which includes biscuitroot, had been processed in the area.

Feature 4, as well as Feature 2, might have specifically been used in root or tuber processing based on hints from pollen and lipid analyses. The oxidation and large mass of rock in Feature 4 (as well as Feature 5) indicate heat could have been maintained in the basin for a long time. Such sustained heat would have been needed for processing roots or tubers such as biscuitroot, sego lily, and camas requiring heat treatment in order to be fully digestible (Wandsnider 1997). Other hearths on the Medicine Bow Loop pipeline project (Pool 2003) and across the region (Francis 2000; Graham 1998; Thoms 1989) proposed for root processing are larger and more solidly packed with rocks than these from F5AA. Perhaps the F5AA hearths were not intended for bulk processing, as were the large rock-packed hearths. Instead, the hearths in this activity area may have been used to process only small amounts of roots or tubers, sufficient for immediate consumption.

Artifactual evidence for plant use in the activity area consists of three pieces of ground stone, including the previously mentioned metate fragment, a mano fragment, and a mano-hammer stone in Feature 5. Because the mano and mano-hammer stone had been last used as heating elements in hearths rather than as ground stone.

Any pollen recovered from them could not be concretely tied to this occupation. The chipped stone toolkit includes only a bifacial blank fragment, three flake tools, a core, and a core scraper.

Twenty-nine faunal remains were found in this activity area (Table 3). Economic fauna probably consisted of deer or pronghorn (mammal, Body Size Class III). Portions of a small artiodactyl rear leg were found which may have been processed for marrow.

Characteristics of the FCR assemblage, which can be used to aid in determination of intensity and length of use of the area (Jensen et al. 1999), indicate short-term use of F5AA. The presence of the FCR discard pile (Feature 6) as well as the FCR loosely scattered around the three hearths suggests several uses of these features, but the tight clustering of stones in Feature 6 indicates the area was abandoned fairly soon after this hearth cleanout was deposited. Otherwise, this pile probably would have been more widely scattered and further fragmented by the effects of trampling and weathering.

FEATURE 8 ACTIVITY AREA

Evidence of more limited but potentially more focused activity was recovered from the Feature 8 Activity Area (F8AA), also located in the Feature 4 Block (Figure 4). It was defined to capture evidence of tasks undertaken immediately around a basin hearth. This activity area was separated from F5AA because of the lack of a continuous artifact scatter between the two as well as differing artifact assemblages. Based on its similar stratigraphic depth to F5AA in the deposits, F8AA probably also dates near 1200 BP.

The activity area included a basin hearth (Feature 8) and an adjacent FCR concentration (Feature 7) that had probably been removed from the hearth (Figure 7). Lipid analysis of FCR from Feature 7 revealed residue consistent with high fat plants such as seeds or nuts. Feature 8, on the other hand, contained a few rocks producing residue consistent with processing of low fat plants such

TABLE 3: Unmodified faunal remains in Feature 5 Activity Area, 48CO2672.

TAXON	NISP	ELEMENT
ground squirrel (<i>Spermophilus</i> sp.)	2	upper incisors
mammal, body size class I/II	1	bone fragment
mammal, body size class II	1	bone fragment
mammal, body size class III	20	1 tibia shaft fragment 11 long bone shaft fragments 3 long bone fragments
mammal, indeterminate	5	5 bone fragments
<i>Total Count</i>	29	

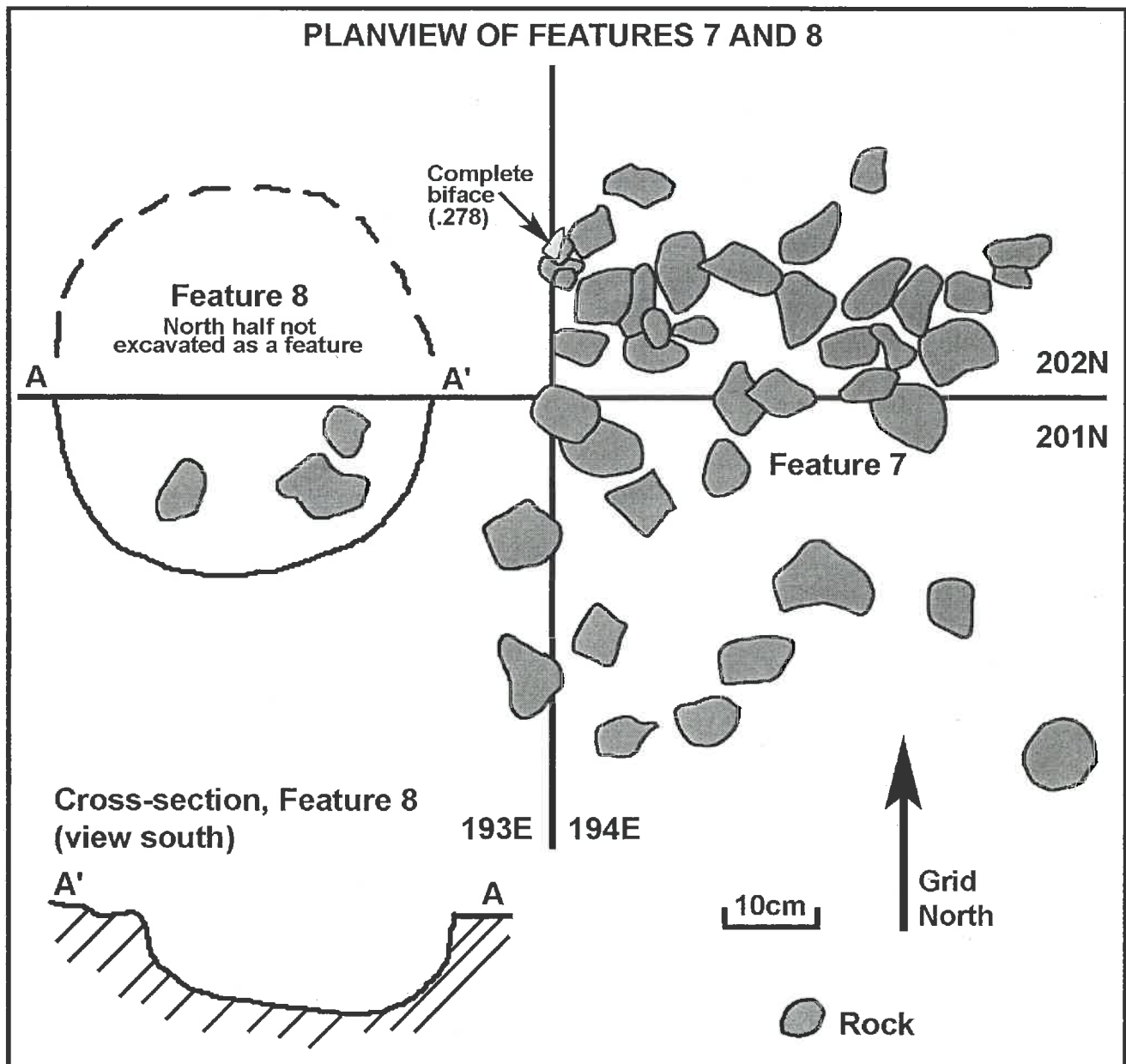


FIGURE 7: Plan and cross-section of Feature 8 and plan of Feature 7, 48CO2672.

as roots or greens. In addition, a charred monocot stem fragment was identified among the macrofloral remains from the hearth, indicating plants such as grasses may have been used as tinder or in a buffering vegetation layer when processing foods (Puseman and Cummings 2003).

Thus, the results of lipid analysis suggest at least two different uses of basin hearth Feature 8 occurred. Seeds or nuts were initially cooked in the hearth, and the rock was removed (Feature 7). Next, roots or plant greens were processed or used in the hearth (Feature 8). Both these uses are assumed to have been quite short in duration because the FCR was still clustered and not too scattered by post-depositional events such as human trampling.

Few artifacts were preserved around the hearth. A complete bifacial blank (catalog .278, Figure 7) may have been cached among the FCR, and a bifacial knife fragment had been discarded. The few unmodified faunal remains include fragments of a rabbit long bone shaft, the rib shaft of a mammal, Body Size Class III (meaning any animal larger than a coyote or bobcat including the small artiodactyls), three skull fragments from a ground squirrel, a freshwater mollusk shell fragment, and an indeterminate mammal fragment.

FEATURE 9 ACTIVITY AREA

Even less evidence of activity was preserved around basin hearth Feature 9, on the north edge of the Feature 4 Block (Figure 4). The Feature 9 Activity Area (F9AA) was defined to isolate tasks undertaken around the single hearth (Figure 8), and it was again separated from the other activity areas by the lack of a continuous artifact scatter. Based on its similar depth to F5AA in the deposits, F9AA probably dates near 1200 BP. Lipid analysis of FCR from the hearth resulted in identification of residue consistent with the preparation of low fat plants, possibly roots or plant greens. No charred macrofloral remains were found in the hearth fill. Only a few pieces of

debitage and two indeterminate mammal bone fragments were found in this activity area.

SOUTH BLOCK ACTIVITY AREA

Although no hearth was found in the South Block Activity Area (SBAA), the presence of FCR in the block (Figure 9) suggests one or two hearths must have been present in or around the immediate area. Because the FCR was in loose clusters rather than tight concentrations, the occupation continued following FCR discard, allowing piles to be trampled and somewhat scattered. Depths of this FCR and the artifacts uniformly increased toward the center of the South Block, and their vertical distribution defined a narrow swale oriented southwest-northeast across units 196-197N 192-193E (Figure 9). FCR lay on its sloping sides, and only flakes were found along the base. This swale may represent fingering on the alluvial fan south edge, or perhaps a topographic feature associated with the creek.

The widest variety of artifacts on site were found in this area, and unique occurrences include a bone awl (Figure 10) and a discrete chipping station. The latter consisted of roughly 180 flakes in a pile measuring 50 cm in diameter, with a small round hammer stone (catalog .112, Figure 9) lying to the immediate southeast. A large bifacial blank of tan quartzite and several smaller pieces of chert appear to have been reduced. At least two tan quartzite bifaces which may have been produced by this flintknapping episode were left on the site, and one was found in the chipping station. The rest of the chipped stone tool assemblage includes a bifacial blank, a scraper fragment, a knife fragment, three flake tools, and two cores.

This activity area also contained most non-chipped stone tools on the site. Seven of these ten artifacts (some depicted on Figure 9) clustered around the southern and eastern sides of a loose FCR concentration on the southeast side of the swale. Five are ground stone fragments last functioning as heating elements in a hearth. It is uncertain if the other two pieces, an anvil stone

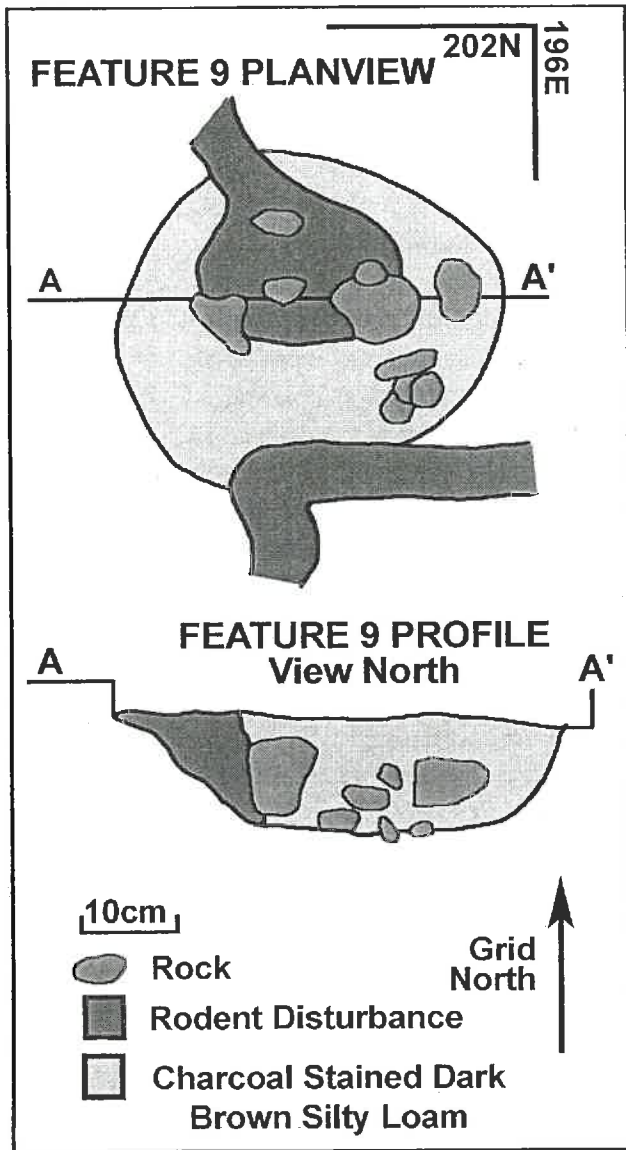


FIGURE 8: Plan and profile of Feature 9, 48CO2672.

and a large cobble hammer stone, were last used as percussion tools or if they were also components of the FCR discard pile. On the opposite side of the swale from this concentration lay a nearly complete metate with two concave use faces. A mano fragment was found north of the metate in another FCR scatter (Figure 9). Because most of this ground stone had last been used as FCR, the recovered pollen was not able to be directly associated with this occupation.

Compared to the Feature 4 Block, a large

number of faunal remains were present in SBAA (Table 4). Bones of small mammals and shells of bivalves were found, although none exhibit evidence of cultural use. At least one pronghorn was probably consumed, and even low utility bones were processed to extract the marrow. Based on the presence of the bone awl, the hide of the pronghorn may have been processed as well. Light pronghorn hides were sometimes the hide of choice for use as clothing among Native Americans (Lubinski 1997). In fact, this may have sometimes been a reason for hunting pronghorn, as it has been observed some considered pronghorn meat less desirable than deer or bison (Lubinski 1997).

FEATURE 1 ACTIVITY AREA

The Feature 1 Activity Area (F1AA) was a discrete faunal processing location on the north half of the site, associated with the hearth discovered during evaluative testing. Faunal remains clustered on the west side of this feature (Figure 11). Charcoal from Feature 1 was radiometrically dated to about 1100 BP (Table 2).

Feature 1 was a steep-walled rock-filled hearth divided vertically in half by a layer of 47 cobble FCR (Figure 12). This rock element was underlain by black charcoal-stained sediments and charcoal, and the upper portion of the basin contained dark gray-brown sediments and charcoal. Residue extracted from the FCR showed fatty acids consistent with the cooking of lean large herbivore meat (Malainey and Malisza 2001).

Unmodified faunal remains represent most of the activity area artifact assemblage (Table 5). In fact, these remains account for over one half of the excavated faunal collection from the site. In this analysis, the Body Size Class II to IV bone fragments are considered food bone, and deer and pronghorn can be classified as either Body Size Class II or III. Body Size Class IV is bison-sized bone.

This activity area appears to have been a processing locus for at least one deer, one

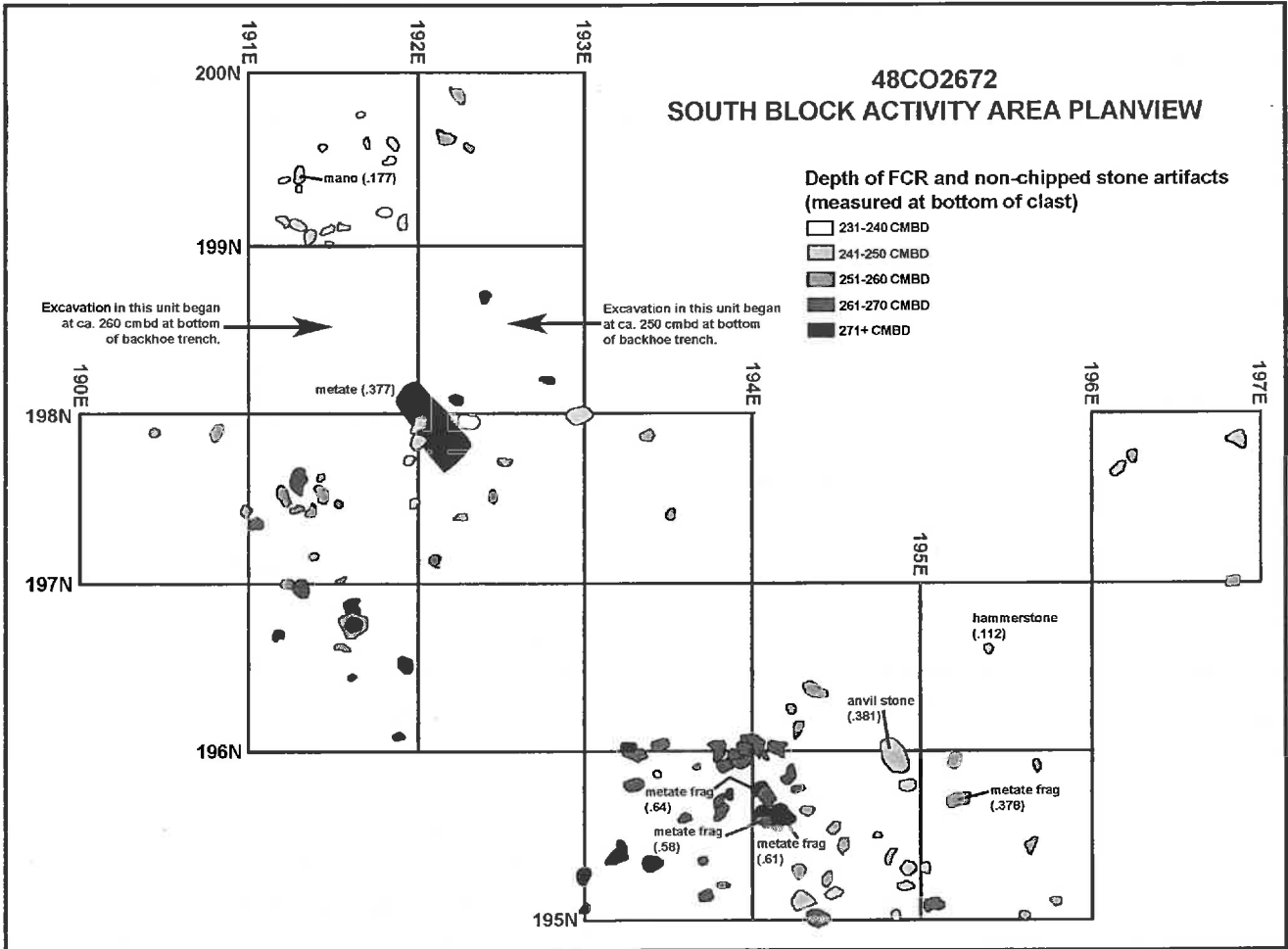


FIGURE 9: 48CO2672 South Block Activity area planview.



FIGURE 10: Bone awl from South Block Activity Area, 48CO2672.

(possibly two) pronghorn, and probably one bison. The deer and pronghorn were butchered, and marrow was extracted. Few bison-sized bones were found (Table 5), so the exact role that animal

played in this area is less clear. While there was no direct evidence for use of the bird or smaller mammals, cultural use might be suggested by the fact these bones were all found in the same 1 x 2 m area where the Body Size Class II to III bone clustered (Figure 11). The shell, on the other hand, exhibited the opposite horizontal distribution from the bird and mammal bone. It almost exclusively occurred north and east of the hearth and south of the pipeline trench.

Characteristics of the small artiodactyl assemblage suggest this activity area was probably quite near the kill site. Portions of lower limbs such as phalanges and carpals are present, as well as crania and a mandible fragment. The presence of such low utility elements of both deer and pronghorn suggests whole carcasses were

TABLE 4: Unmodified faunal remains from South Block Activity Area, 48CO2672.

TAXON	NISP	ELEMENT
PELECYPOD		
freshwater mollusk (<i>Lampsilis</i> sp., <i>L. radiata</i>)	9	shell fragments
MAMMALIAN		
Northern Pocket Gopher (<i>Thomomys talpoides</i>)	1	right mandible w/P3-4
Sagebrush Vole (<i>Lemmyscus curtatus</i>)	2	1 right mandible w/M1-2 1 left mandible w/M1-2
13-lined Ground Squirrel (<i>Spermophilus</i> sp., cf. <i>S. tridecemlineatus</i>)	1	proximal femur shaft fragment
Ground Squirrel (<i>Spermophilus</i> sp.)	1	upper incisor
rodent, medium, indeterminate	5	long bone shaft fragments
Pronghorn Antelope (<i>Antilocapra americana</i>)	1	third phalanx fragment
mammal, body size class II	2	1 long bone shaft fragment 1 proximal rib shaft fragment
mammal, body size class II/III	58	38 long bone shaft fragments 15 long bone fragments 5 bone fragments
mammal, body size class III	43	2 rib shaft fragments 40 long bone shaft fragments 1 bone fragment
mammal, indeterminate	37	bone fragments
Mammalian Total	151	

brought to this site for processing. If the animals had been dressed at a kill location and then transported to this spot, such body parts probably would have been discarded before transport (Binford 1978).

The food bone is heavily fragmented. Some of this extensive breakage probably occurred due to natural processes following abandonment of the site, but it is clear the animals were intensively exploited for more than just meat. Indicators of cultural processing include the presence of only a few high density bone fragments such as the articular ends of long bones as well as fragments of bones such as phalanges usually found in one piece. Bones were probably broken to extract marrow and perhaps grease.

Elements of the upper front leg which retain a great deal of meat were not identified in the small artiodactyl-size bone assemblage, nor were scapulae, which attach to the upper front leg. Most other portions of the skeleton, however, were represented and identified (Table 5), however fragmentary. While the apparent lack of these elements could certainly be related to the heavily fragmented nature of this assemblage or low bone density and subsequent poor preserva-

tion (see Lyman 1985), it is worth consideration the front quarters of the small artiodactyls may not have been processed here. They may have been removed as complete meat packages from the camp or another unexcavated portion of the site.

Chipped stone tools from F1AA probably used in faunal processing include an end-scraper, a side-scraper, and four flake tools. All have a high number of use edges, many of which exhibit heavy intensity use wear. Little evidence of other activity besides faunal processing was preserved. No ground stone or bifaces were present.

CONCLUSIONS

Based on assemblage characteristics and the distribution of artifacts among the five activity areas, at least two and up to four different uses of the excavated area took place during the Late Prehistoric period.

Two use episodes were associated with radiocarbon ages. Dating to about 1100 BP in the north half of the site, the Feature 1 Activity Area is distinct, both spatially and in its focus on faunal processing. It probably represents a short-term hunters' camp in which several animals were processed, with the products being returned to the

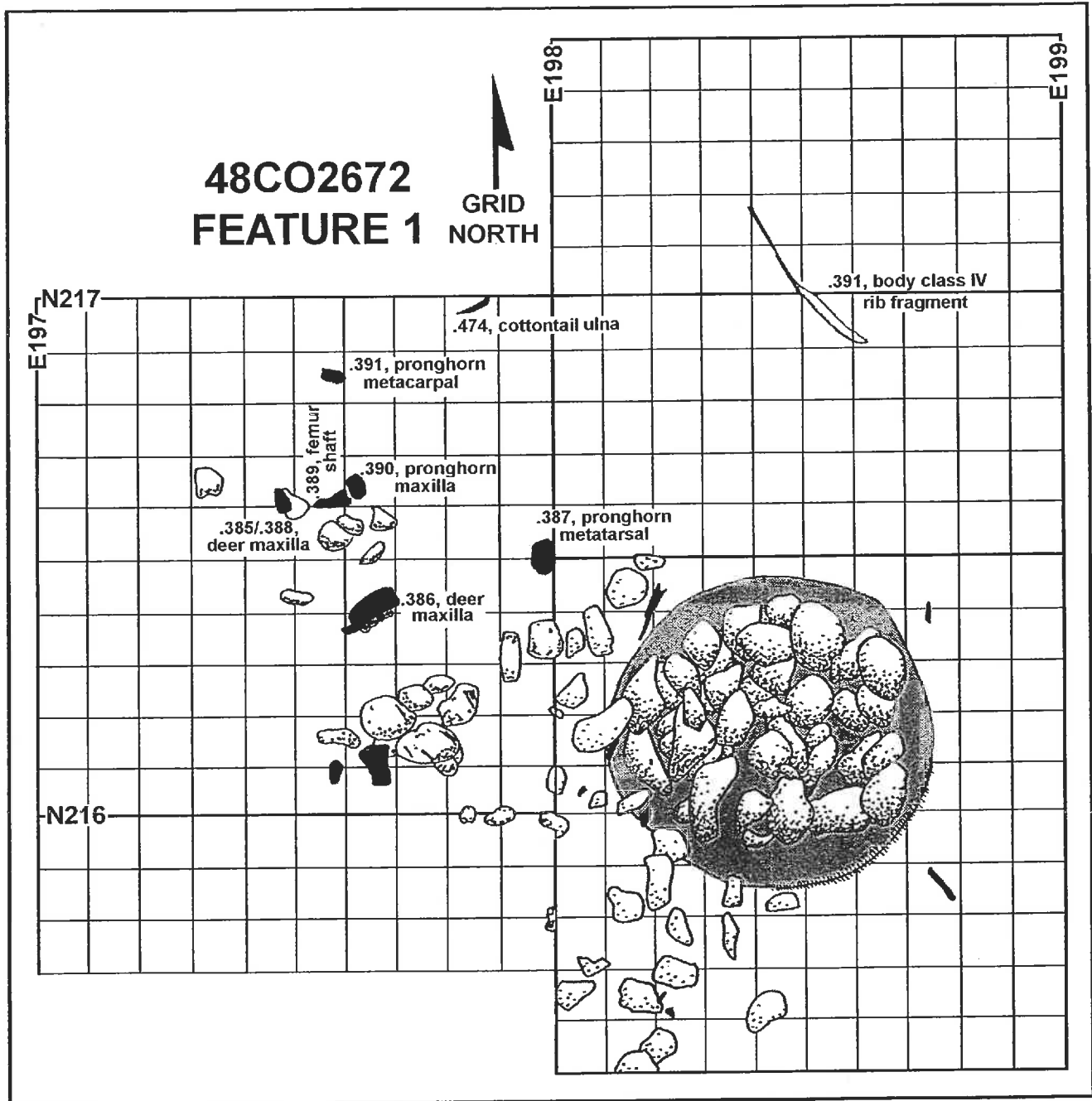


FIGURE 11: Planview of Feature 1 and adjacent area, 48CO2672.

base camp. Dating to about 1200 BP in the south half of the site, the Feature 5 and the South Block activity areas exhibited similar characteristics to each other and are assumed to be the remains of a single occupation. Because of the wide variety of activities represented, this use episode most closely resembles a short-term base camp. It was probably situated in this area beside the creek to

exploit a specific resource, perhaps roots or tubers, at a specific time of the year.

Two additional undated use episodes appear to be present in the Feature 8 and Feature 9 activity areas, also in the south half of the excavated area and adjacent to the Feature 5 and South Block activity areas. They were each centered around single hearths and probably

TABLE 5: Unmodified faunal remains in Feature 1 Activity Area, 48CO2672.

TAXON	NISP	ELEMENT
PELECYPOD		
freshwater mollusk(<i>Lampsilis</i> sp., <i>L. radiata</i>)	14	shell
AVIAN		
bird, medium, indeterminate	1	cervical vertebra fragment
MAMMALIAN		
Cottontail Rabbit (<i>Sylvilagus</i> sp.)	2	1 ulna shaft fragment 1 distal scapula fragment
Prairie Dog (<i>Cynomys</i> sp.)	2	1 clavicle 1 right innominate
rodent, medium, indeterminate	2	1 long bone shaft fragment 1 femur shaft fragment
Pronghorn Antelope (<i>Antilocapra americana</i>)	4	1 left distal metatarsal fragment 1 right maxilla w/P3-M2 1 left metacarpal distal fragment 1 molar fragment
Deer (<i>Odocoileus</i> sp.)	4	1 second lower premolar 1 second upper premolar 1 right maxilla w/P2-M3 1 left maxilla w/P3-M3
artiodactyl, body size class III	13	1 thoracic vertebra spine 1 first phalanx distal fragment 1 tibia shaft fragment 2 femur shaft fragments 1 ilium crest fragment 1 distal metapodial fragment 1 complete premaxilla 1 mandible condyle fragment 1 fused 2nd-3rd carpal, 2 proximal metacarpal fragments
artiodactyl, body size class IV	4	1 vertebra thoracic spine fragment 1 rib posterior mid-shaft fragment 3 teeth fragments
mammal, body size class II	3	long bone shaft fragments
mammal, body size class II/III	77	14 long bone shaft fragments 63 bone fragments
mammal, body size class III	60	3 femur shaft fragments 7 long bone shaft fragments 5 long bone fragments 2 rib shaft fragments 2 tibia shaft fragments 1 lumbar vertebra fragment 40 bone fragments
mammal, body size class III/IV	117	long bone shaft fragments
mammal, indeterminate	60	bone fragments
Mammalian Total	348	

represent single-use procurement and processing episodes for plant products such as roots, seeds, or nuts. Based on artifact type and distribution, they each appear to have been separate entities from the short-term base camp previously described, but based on proximity, it is not out of the question they may have been part of that occupation.

In sum, results of excavations along the

west side of LaPrele Creek suggest repeated uses of this sheltered valley during the Late Prehistoric period, specifically during a span of several hundred years to which many other components in the region have been dated (Frison 1991). Frison (1991) suggests this spike in radiocarbon dates may have occurred during exceptionally favorable environmental conditions. The location of

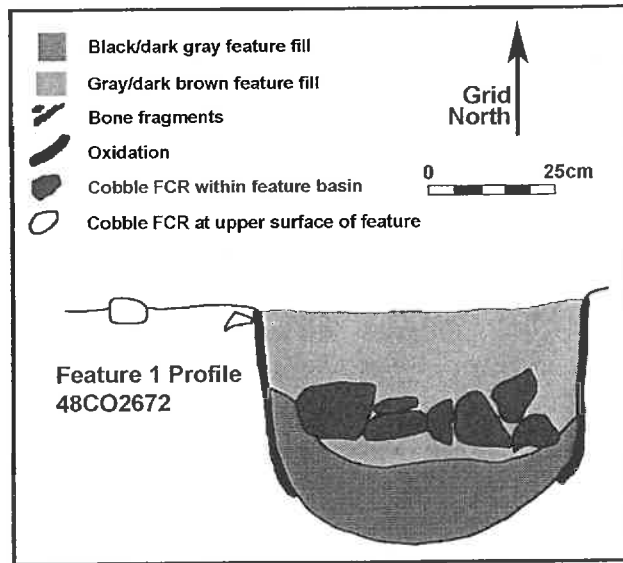


FIGURE 12: Feature 1 profile, 48CO2672.

48CO2672, however, may always have been an exceptional ecological environment, with the low and dry sagebrush-covered foothills sheltering green and sometimes marshy tree-covered creek bottoms. It lies at the intersection of two major physiographic regions, the Great Plains and the Rocky Mountains, and, specifically, it is situated at the juncture of the north edge of the Laramie Mountains and the south edge of the Powder River Basin, just south of the North Platte River.

Quite a wide range of resources would have been available for exploitation, and results of excavations have provided evidence a broad spectrum hunting and gathering economy was practiced during the times this site was occupied. Evidence of bison exploitation was only marginal, while indications of the use of roots, seeds, and/or nuts as well as deer and pronghorn and possibly even freshwater mollusk were prevalent. Data recovery at this site has contributed another example of the range of variation in the settlement and subsistence systems undertaken by prehistoric inhabitants of the Northwestern Plains by showing bison were not always the center of subsistence.

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THE RAID LAKE SHEEP MASSACRE

by

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The Wind River Mountain Range is composed of a massive granite core uplifted during the Cenozoic period some 65 million years ago. The mountain range contains 43 summits higher than 12,500 feet with many mountain passes in excess of 11,000 feet. More than 1,300 lakes are spread along the west slope of the range, many of which are found on a broad flat plateau at

the base of the Continental Divide. Most of this plateau is above tree line, or above 9800 feet, and the vegetation community is dominated by arctic alpine tundra with perennial herbs and grasses (Figure 1).

These lush, high elevation parks were to become prime grazing lands for the early livestock operations in western Wyoming. During the late



FIGURE 1: Raid Lake area, 1914, Wind River Mountains.

1800s, the cattle ranchers grazed their herds on the lower elevations of the Wind River Mountains and in the Green River basin. By the turn of the century, the lower ranges were becoming crowded. Sheep and cattle from Utah and Idaho were being brought into the Green River Basin and the local livestock interests had to compete with them. Grass was at a premium and an ungrazed area was almost a thing of the past. Sheep herders started pushing their flocks higher into the mountains, and into the summer pastures at the base of the Wind River peaks (Figure 2).

As was typical of the range wars common in Wyoming at the time, the local cattle rangers did not take kindly to sheep grazing in their territory, let alone sheep from Utah. The Forest Reserves had not been created then and there was

no real control over grazing on public land, so in an attempt to take control of the grazing situation, the cattlemen established arbitrary “deadlines” to keep the sheep out of their territory. They let it be known sheep would be killed if found behind these deadlines.

In 1902, the conflict between the sheep herders and cattle men reached a peak. During the summer there were five bands run by the Peterson brothers from Utah grazing near the headwaters of Silver Creek high in the Wind River Mountains. The Thompson Sheep outfit out of Rock Springs was also running several bands in the same area. These bands had become mixed so the sheep herders built corrals where the sheep could be separated. These sheep had been grazing in an area behind the so called established “deadline,” and

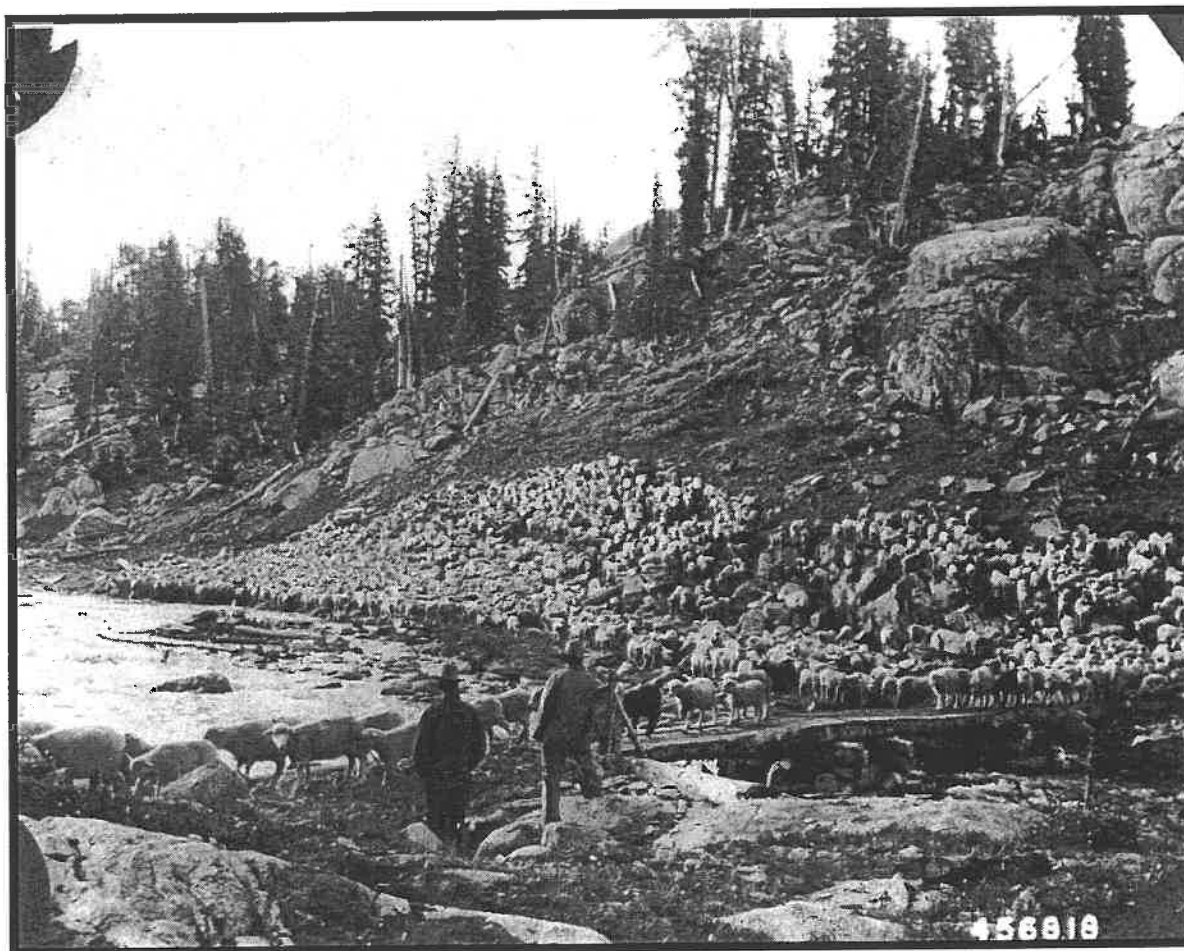


FIGURE 2: Fremont Crossing.

the local cattle men took notice. Then, on one summer day in 1902, a group of about 30 local cattle men and rough necks rode into a sheep herder's camp and proceeded to rough up the herders and camp jacks, tied them to trees and began to cut and bust up pack and camp equipment. They also broke several of the herder's rifles over rocks. From here they went out to a sheep corral. Recognizing the brand of one of their neighbor's sheep, they drove the local sheep from the corrals replaced them with the Utah band, which had been feeding nearby. Safely corralled, the cattlemen proceeded to kill the Utah sheep with guns, clubs, rocks, and whatever else was available (Figure 3). When this proved to be too slow an operation, they tried to round up all remaining sheep, including the herd of the local sheep men, and drive them into a nearby lake to be drowned.

Although this last effort proved to be

unsuccessful, the end result was more than 2000 head of sheep killed (Figure 4). This event became known as the Raid Lake Sheep Massacre, and a nearby lake has been named to reflect this incident.

The accounts of this massacre vary somewhat with the numbers of sheep reported being killed ranging from 1000 to 2000 head. Some accounts state guns and clubs were used in the massacre, while an interview with one of the sheep herds reports only clubs were used. Although none of the sheep herders were killed in the incident, it was reported a sheep herder working nearby took his own life upon hearing of the incident rather than face the violence of the raiders. There were no repercussions toward the individuals who took part in the raid, although it is said one of the raiders met with a fatal accident after an argument with a sheepman at the bar at Leckie Ranch.



FIGURE 3: Raid Lake Massacre Site.



FIGURE 4: Raid Lake Massacre Site.

After the incident neither cattle nor sheep grazed in this area for several years, however sheep were to return to this area. By 1913, shortly after the area became part of the Forest Reserve, it was reported the area had been largely over grazed.

The Raid Lake Sheep Massacre site has been fairly well documented over the years. The site was revisited by the Forest Service in 1911, 1914, 1916, and during the 1960s. Photographs taken during those visits show an extensive bone bed inside the corral where the sheep were killed (Figures 5-9).

We returned to the Raid Lake Sheep Massacre Site in 2001, 99 years after the incident, to photograph, map and record the site and to find out what happened to all the bone clearly visible on the site in the years following the massacre. The sheep bone has almost completely disappeared from the surface of the site.

The actual sheep corral is still visible; however the logs that made up the corral are in an advanced state of deterioration (Figures 10-15).

The corral measures approximately 60 meters north/south by 40 meters east-west. The early photographs of the site indicate the corral was constructed of sub-alpine fir and lodgepole pine logs with the log ends interlocking, as opposed to notched corners or nailed corners. Tree stumps, or in some cases, log posts were used at the corners. The northern third of the corral is separated from the southern portion by a system of log partitions appearing to have been used to sort and separate the sheep. The historic photographs suggest the sheep were corralled in the northern section when they were killed. Close inspection of the ground surface in this area did reveal small bone fragments within this pen, but certainly nothing compared to the bone bed as seen in the early 1900s. The only bone fragments observed on



FIGURE 5: View of bone bed to west in 1911.



FIGURE 6: View of bone bed to west in 1911.



FIGURE 7: View of bone bed in 1914.



FIGURE 8: View of bone bed to east in 1916.



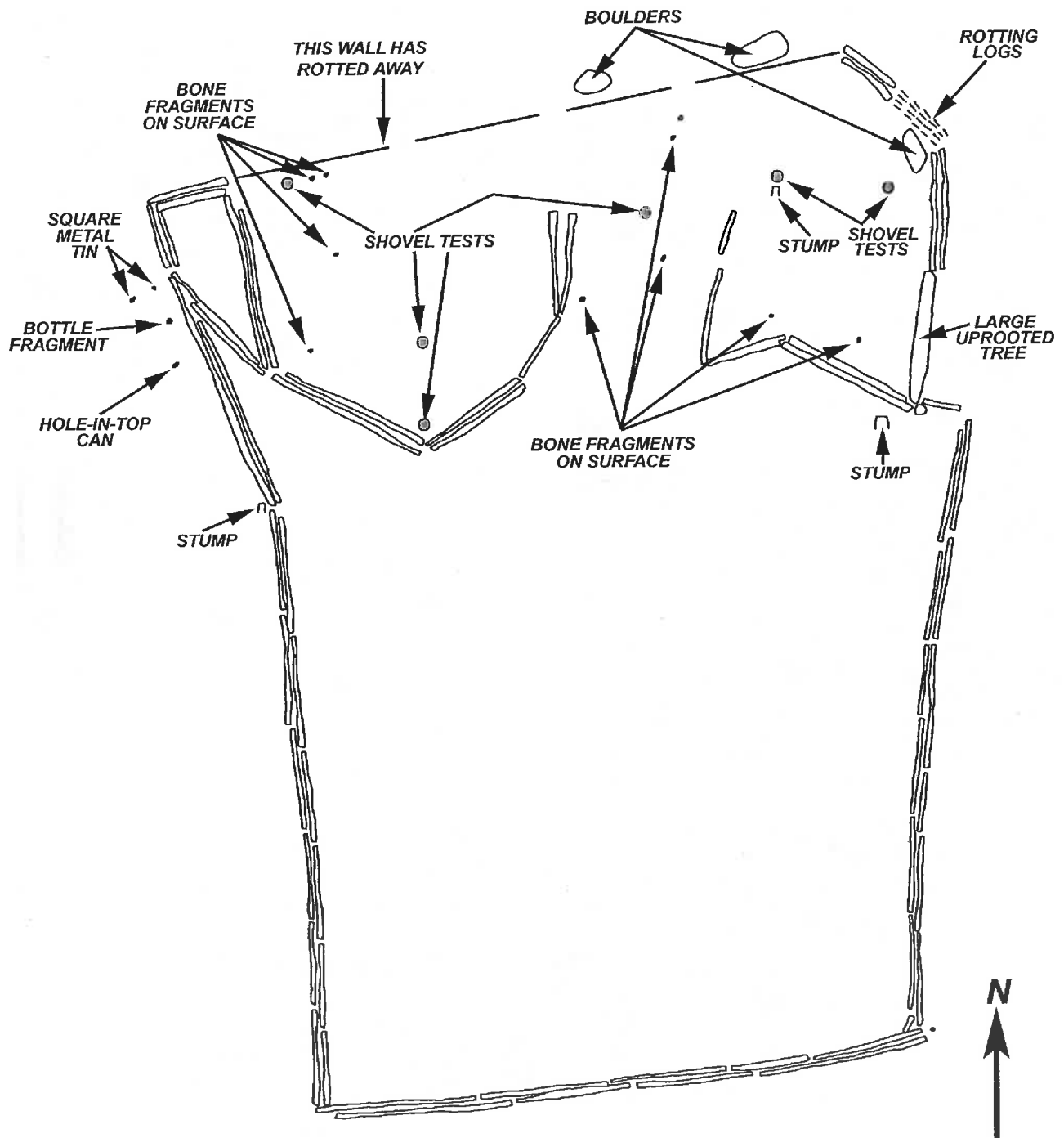
FIGURE 9: View of bone bed to north in 1916.

the surface in 2001 were one vertebra, five tooth fragments, four rib fragments, 17 long bone fragments, one carpal, and one skull fragment. The greatest concentration of bone was located in the northeast portion of the corral. Historic artifacts were largely absent with only a square metal tin, a brown bottle glass fragment, and a one-quart size hole-in-top can. These artifacts were found outside the corral near the northwest corner of the corral. No bullet casings or bullets were found.

One of the main goals of our project at the Raid Lake Sheep Massacre Site was to find out what had happened to all the bone clearly visible on the surface in the early 1900s. Did this bone disintegrate, wash away, or was it buried by subsequent soil deposition? In order to answer this question, we dug six small shovel tests at the site, all of which were located in the northern portion of the corral. Bone was encountered in three of the six shovel tests. In shovel test #two, the top of the

bone was encountered at four cm below ground surface, just under the root zone (Figure 16-17). This bone extended to nine cm below ground surface.

In shovel test five, the bone was encountered just below ground surface, or at a depth of 2-3 cm. This bone was highly fragmented and some was actually turning to powder (Figure 18). The granitic soils in the area are extremely acidic with a pH rating of 4.0-4.5 which is causing the bone to deteriorate. The depth of the bone below the ground surface is likely the result of frost heaving, rodent activity and natural soil building processes as opposed to alluvial or Aeolian soil deposition. This suggests the bone is not being covered with new sediment, but rather is slowly sinking into the ground as frost heaving and rodent activity moves the bone up and down through the soil matrix. It is also likely the extensive bone bed acted like a fertilizer to promote vegetation growth which is aiding in the



**SITE SKETCH - 48SU1757 (BT-34)
THE RAID LAKE SHEEP MASSACRE SITE**

FIGURE 10: Sketch map, Raid Lake Sheep Massacre site, 48SU1757 (BT-34).

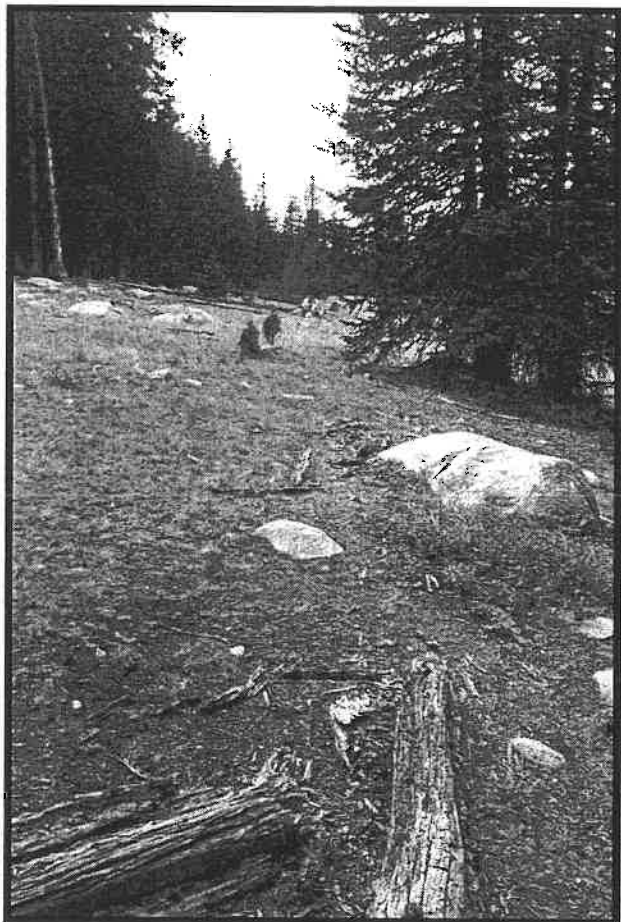


FIGURE 11: View to southwest of corral north wall, in 2001.



FIGURE 12: View to south showing portion of west wall, in 2001.



FIGURE 13: View to south of northeast corral corner, in 2001.

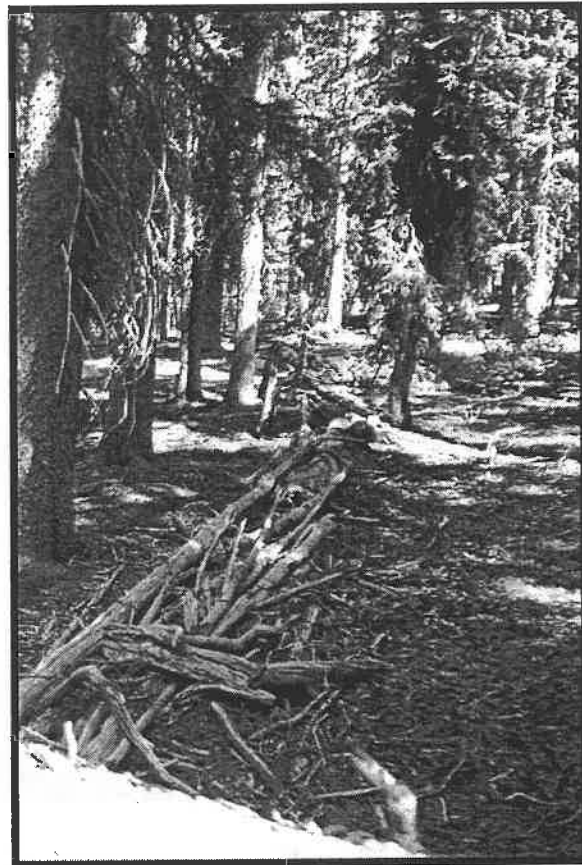


FIGURE 14: View of south wall, in 2001.



FIGURE 15: View of northeast corral corner where most of bone fragments were visible on surface, in 2001.



FIGURE 16: Bone encountered in Shovel Test Two, 2001.

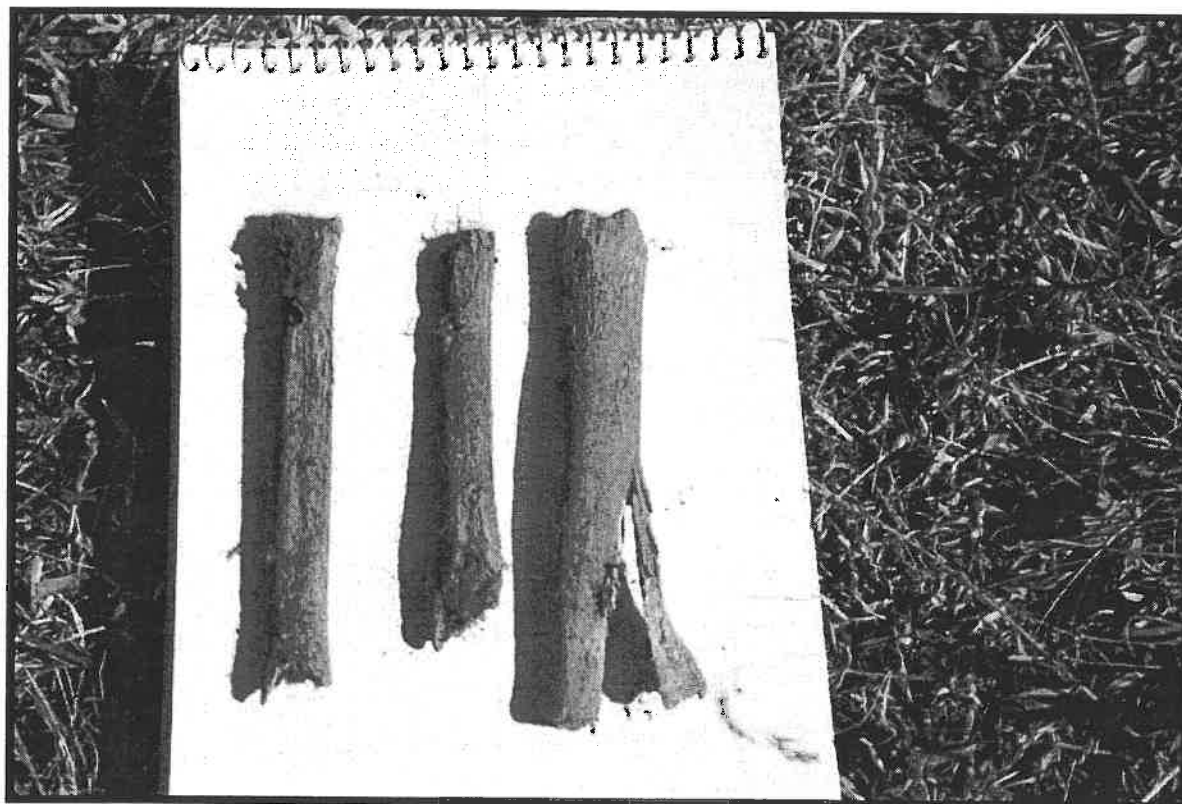


FIGURE 17: Lone bone fragments encountered in Shovel Test Two, 2001.



FIGURE 18: Bone encountered in Shovel Test Three, 2001.

soil building process. The bone may also be neutralizing the acidity of the soil, which in turn is helping to promote vegetation growth (Eric Winthers, Personal Communication, 2004). It is anticipated soil accumulation in the rate of two to three cm per hundred years will continue at this location, and the acidic soil will continue to break down the bone.

Our investigations at the Raid Lake Sheep Massacre Site also allow us to rephotograph the site from the same vantage point as the earlier photographs. In some cases, the vegetation change is significant, primarily in the growth of lodgepole pine, spruce and fir (Figures 19-29).

Just north of the corrals is another set of photographs showing a dramatic change in the vegetation cover over the last 99 years (Figure 30-32). The first photograph was taken in 1911, just nine years after the Raid Lake Sheep Massacre. This area was heavily grazed, and close inspection

of the vegetation in the foreground shows willow had been grazed to the ground. In 1915, the Forest Service built a guard station near the sheep massacre site, and built a corral for their horses. This corralled area prevented sheep from grazing in this area, which allowed the willow to become reestablish. A photograph taken in 1969 shows the deteriorated horse corral with increased willow and spruce growth, followed by a photograph taken in 2001 showing a dramatic increase in willow and spruce cover.

The Raid Lake Sheep Massacre is certainly eligible for the National Register of Historic Places, not only because of its association with the range wars of the early 1900s, but also because the site has the potential to yield additional information on soil forming processes in high elevation settings (9800 feet above sea level) and rates of bone deterioration in these acidic soils. The Raid Lake Sheep Massacre



FIGURE 20: Raid Lake Sheep Massacre Site in 1902.



FIGURE 20: Raid Lake Sheep Massacre Site in 2001.



FIGURE 21: Raid Lake Sheep Massacre Site, to west, in 1911.



FIGURE 22: Raid Lake Sheep Massacre Site, to west, in 2001.



FIGURE 23: Raid Lake Sheep Massacre Site, to west, in 1911.

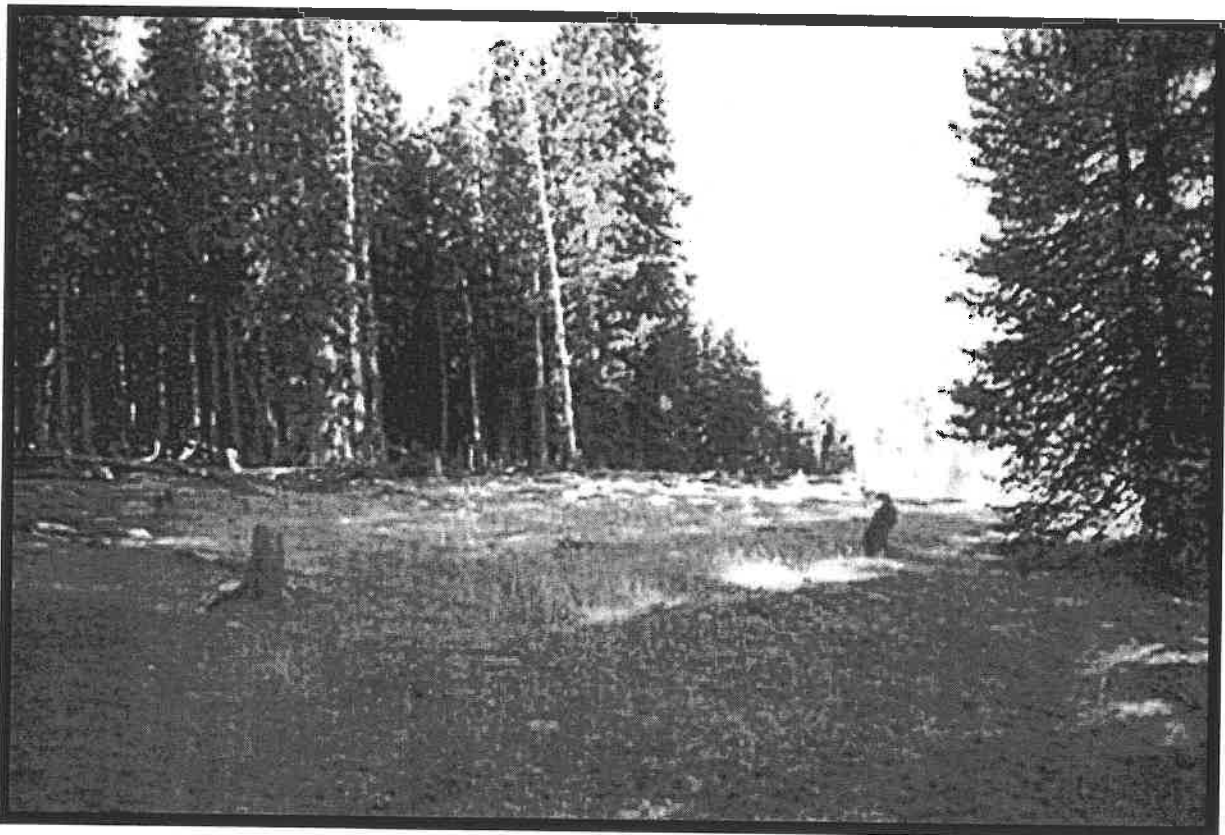


FIGURE 24: Raid Lake Sheep Massacre Site, to west, in 2001.



FIGURE 25: Raid Lake Sheep Massacre Site, to east, in 1916.



FIGURE 26: Raid Lake Sheep Massacre Site, to east, in 2001.

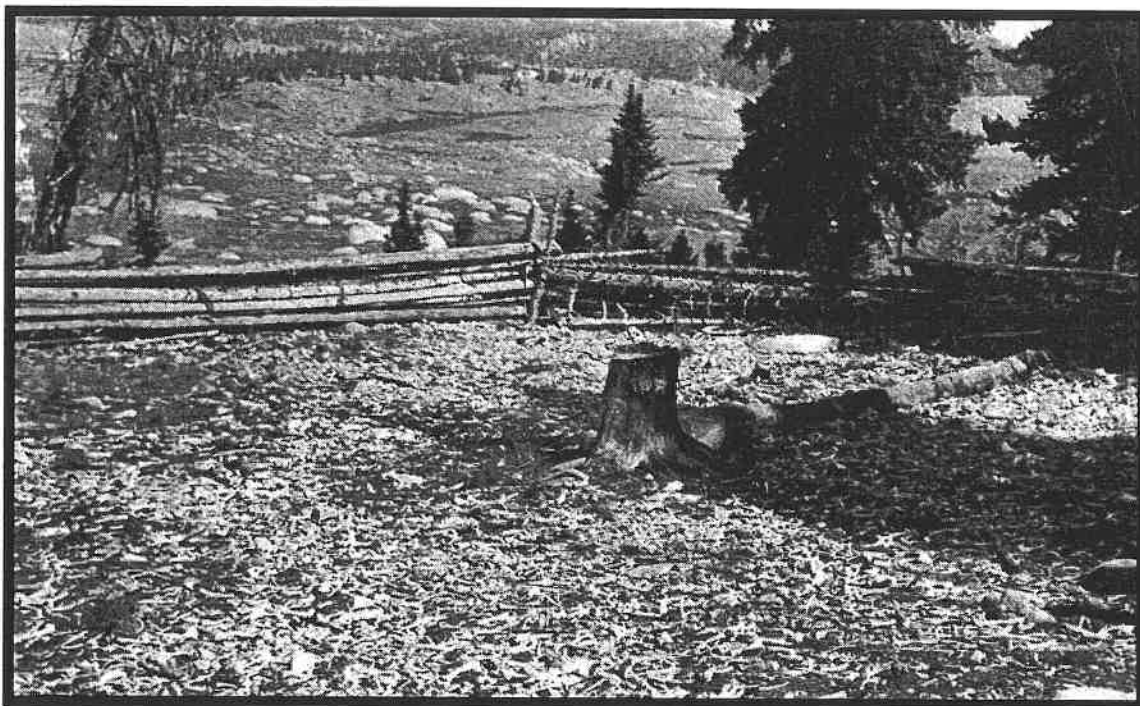


FIGURE 27: Raid Lake Sheep Massacre Site, to north, in 1916.

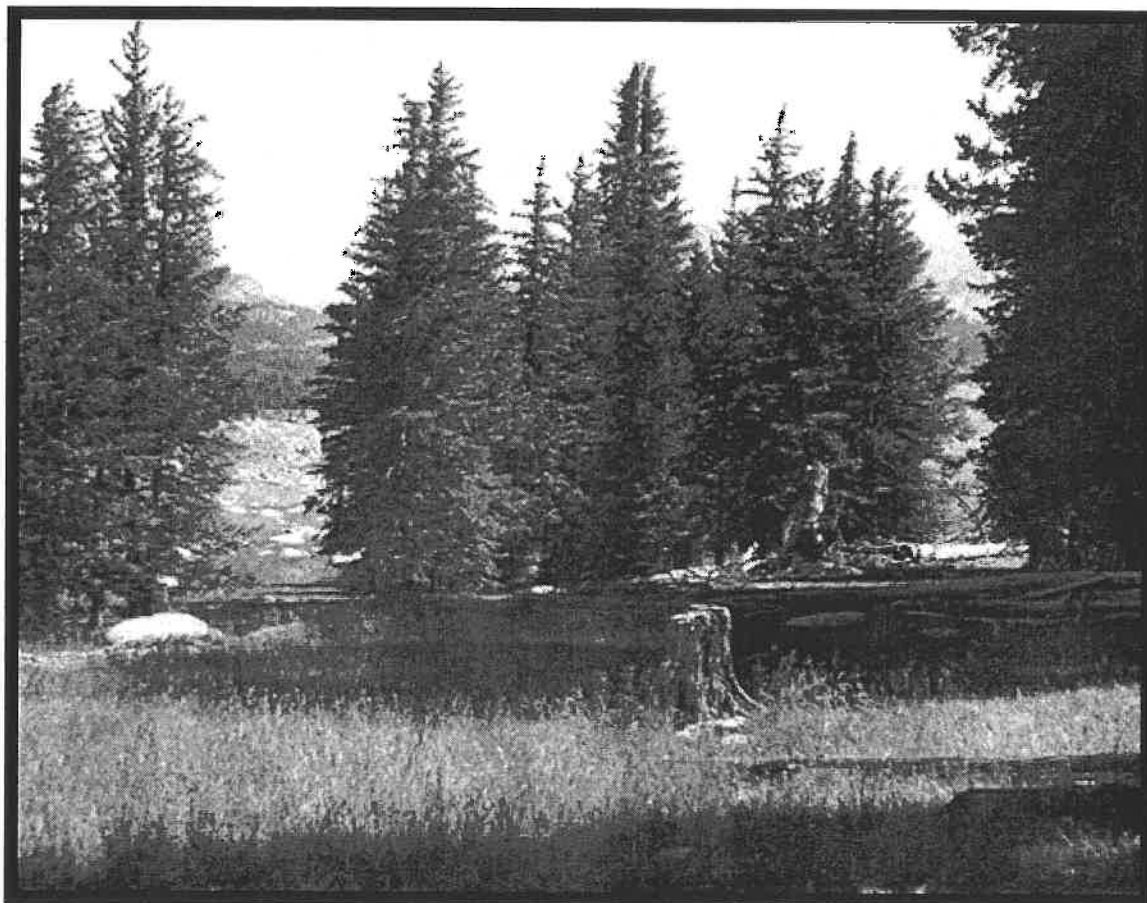


FIGURE 28: Raid Lake Sheep Massacre Site, to north, in 1969.



FIGURE 21: Raid Lake Sheep Massacre Site, to north, in 2001.

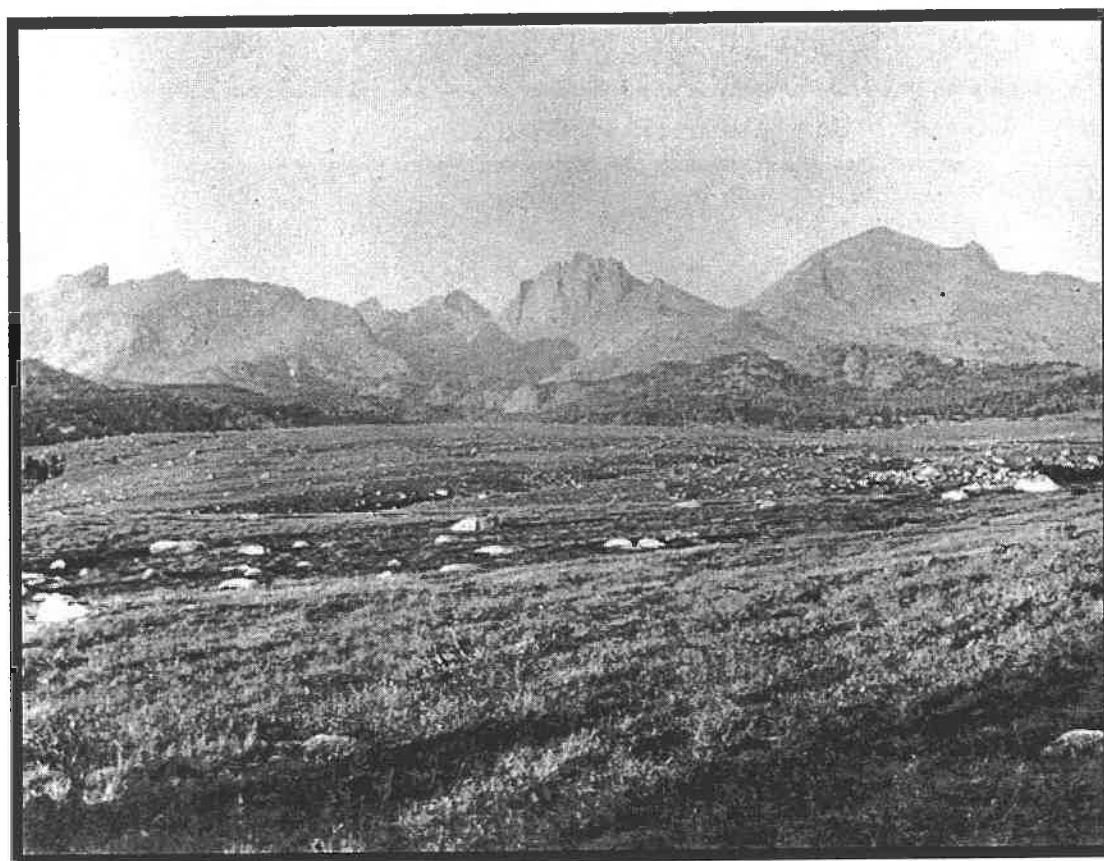


FIGURE 30: View to north of Raid Lake area in 1911.



FIGURE 30: View to north of Raid Lake area in 1969.



FIGURE 30: View to north of Raid Lake area in 2001.

serves as a time capsule, preserving archeological data concerning a specific event occurring at a known location at a known time. Future taphonomic studies of the remaining bone bed have the potential assist other archeologists who may be studying archeological sites with extensive, buried bone beds of unknown origins or time periods. It is hoped the site can be revisited again in another 10-15 years to document these rates of deposition and bone condition.

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