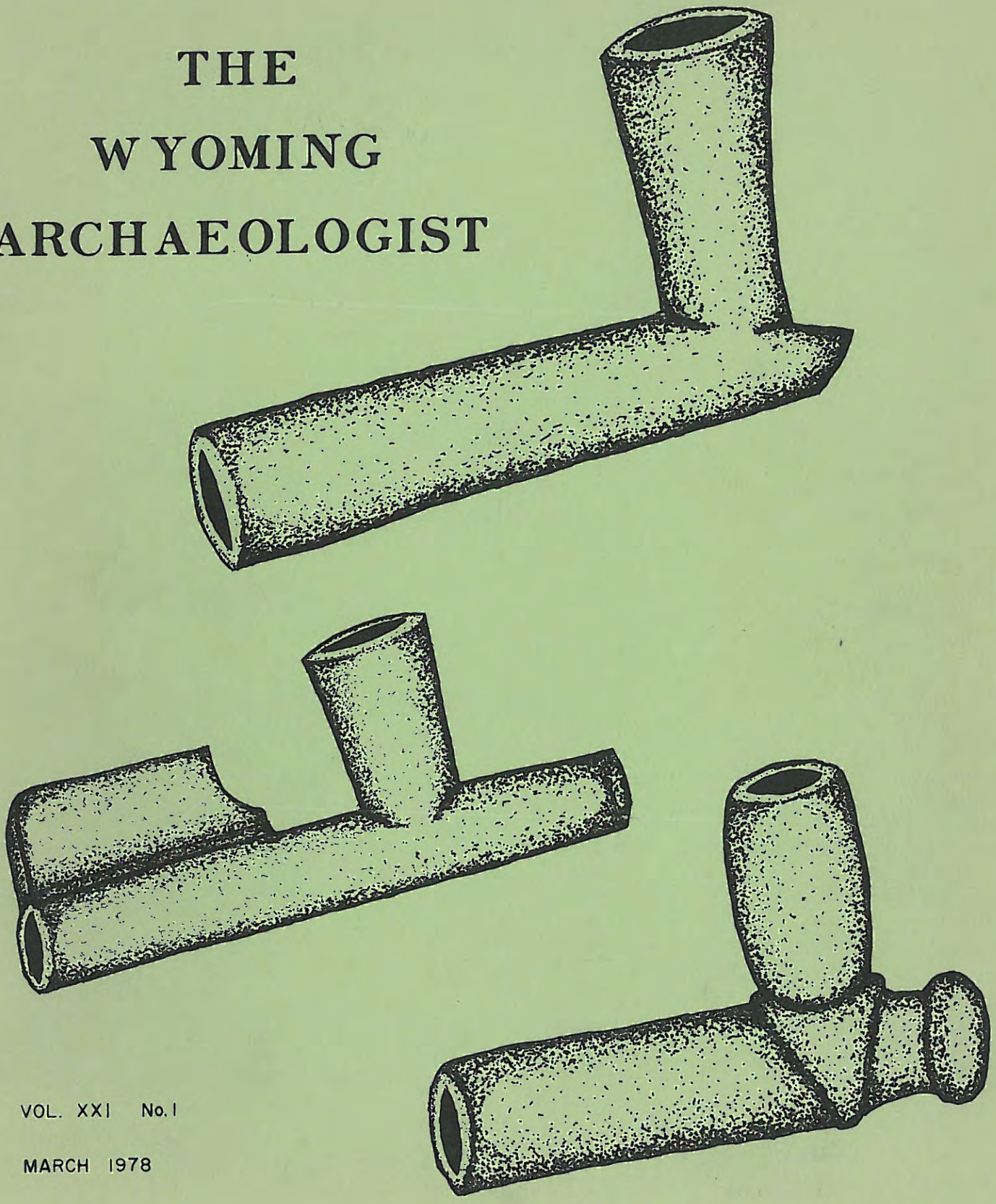
WYOMING
ARCHAEOLOGICAL
SOCIETY

THE WYOMING ARCHAEOLOGIST



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* *

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APPENDIX C

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EDITOR'S NOTE

A lack of thorough communication on my part is responsible for the brevity of the December ARCHAEOLOGIST. I failed to communicate with Jan Wilson in such a manner that she understood my thoughts. I apologize to her and promise to make greater efforts in future communications.

Communication is a key word and greater factor in our lives than many of us seem to realize, and often a cause of unnecessary concern. At least one chapter of this Society has been on the brink of a vote to disband, and cease membership in the Wyoming Archaeological Society; the reason given -- "We do not feel we are contributing to any worthwhile cause."

Each of us has a special talent, some latent, some developed. Whether your forte be the casting of artifacts, writing reports, completion of site reports, cataloging, reading maps -- whatever -- every bit contributed is a part of the overall picture. The broken sherd which you carry in your pocket is a portion of the entire vessel, which cannot be completely assembled until you bring your portion out into the light.

ARCHAE ANNIE

Archae Annie's purpose in THE WYOMING ARCHAEOLOGIST is to stimulate an interest in thoughtful discussions between reader-members. As amateurs we hope to contribute to our better understanding of current knowledge of prehistoric man in Wyoming. Anyone with questions, answers, thoughts or experiences relating to Wyoming archaeology, please send to:

ARCHAE ANNIE
P. O. Box 703
Saratoga, Wyoming 82331

Archae Annie has received no communication from readers concerning possible use of Jade or coal by prehistoric man, but the following questions are from Steven E. Lund of Casper, Wyoming, and the answers were dug up by Archae Annie.

Q. I have heard that a musk-ox was found in a site in the Big Horn Mountains associated with butchered bone and Paleo-Indian artifacts. Please summarize current knowledge.

A. Musk-ox and Lemming bones in direct association with human artifacts were found in a cave in the southern Big Horn Mountains. The bones and artifacts were found below a cultural level radio-carbon dated at 10,200 years before present. Further data will be provided by more complete study.

Q. What are some ways to differentiate between notched point types of the Altithermal and Late Middle Prehistoric periods?

A. Altithermal is a climatic term and the cultural evidence from that time period is now referred to as Early Plains Archaic. In general, the projectile points from the Early Plains Archaic are side-notched. Those from the Late Middle Prehistoric or Late Plains Archaic are corner-notched. This does not hold true in all cases, and context is still the only sure indicator.

Q. It seems to me that most of the Altithermal sites discovered within the past several years have been found in mountains like the Big Horns. Does this indicate the people from this time period were spending most of their time in the mountains rather than on the Plains?

A. Early Plains Archaic evidence at this time strongly suggests foothill-mountain oriented culture croups. The Hawken Site indicates large-scale bison hunting adjacent to the foothills in the area of Black Hills. More study is needed for conclusive evidence.

Q. Since most of the Late Period projectile points were small in size, does this mean that the shaft in which they were attached was smaller? How about the bow?

A. It is generally believed that the distance between the bottom of the notches of a projectile point is an indication of the shaft diameter. What prehistoric bows

that are known from this part of the country are short with a fairly light pull. Most were made of Chokecherry, Juniper or Skunkbrush and had a sinew backing. Horn bows were rare and regarded as superior to the wooden types.

Archae Anne sez.....If anyone has other conclusions to these questions - speak out! Share your thoughts with your fellow members of the Wyoming Archaeological Society. We don't have any bad Brownie points to hand out.

BRIEFS

JOHN P. ALBANESE, GEOLOGY OF THE CARTER-KERR McGEE SITE, CAMPBELL COUNTY, WYOMING

The site is situated on the west side of a first-order, northwest-flowing, ephemeral stream that drains a swale that is 300 feet wide and 25 feet deep. This is one of a series of north-flowing ephemeral streams that dissect a 100 foot high sandstone ridge, located on the southwest margin of a 2-mile wide, closed, circular, interior drainage basin. Modern arroyos, entrenched in former stream courses, are present adjacent to and west of the site. The Paleo-Indian occupation levels are contained within a small preserved wedge of sandy slope wash sediments that were deposited in a swale very similar in size and shape to the modern depression.

Four soils are present at the site, three formed after the Paleo-Indian occupation. Two cycles of arroyo cutting and alluviation occurred in the post-Cody time. Most of the original sediment containing the Paleo-Indian artifacts has been removed by erosion. Some of the artifacts and bone were redeposited in arroyo fill sediments. It is not possible to determine if arroyos were present downstream from the site at the time of Paleo-Indian occupation.

CAROLYN CRAIG, UNIVERSITY OF WYOMING
GREY ROCKS: A PLAINS-WOODLAND SITE IN SOUTHEASTERN WYOMING

Test excavations at the Grey Rocks Site, 48PL65, in southeastern Wyoming revealed a Plains-Woodland component dated A.D. 2000, containing ceramics and large quantities of bison bone. Comparisons are made with other Northwestern Plains-Woodland sites as well as selected sites in the Central and Middle Missouri Subareas.

GEORGE C. FRISON, UNIVERSITY OF WYOMING
POWDER RIVER BASIN

The recent emphasis on stripmining of coal in the Powder River Basin of Wyoming and Montana has led to intensive archaeological survey, testing and excavation in response. Together Carter and Kerr McGee mining companies funded excavations in a Paleo-Indian animal procurement site near Gillette, Wyoming in the summer of 1977. The results provide a record of Paleo-Indian in the Powder River Basin from Clovis through the Cody Complex. It also provides evidence of the use of the arroyo trap for both extinct bison and camel procurement.

JACK L. HOFMAN, UNIVERSITY OF WYOMING
GOUGE PRODUCTION STRATEGIES: TOWARD THE STUDY OF ARCHAIC LOCAL GROUPS ON THE SOUTHERN PLAINS

Clear Work Gouges are analyzed on the basis of production attributes in order to compare the production strategies represented by samples from four sites. Several gouge production varieties are defined which represent alternative ways of making gouges. Archaic local groups which were closely related or actively ineracting can be expected to share more ideas about tool production than groups which are distantly separated in time or space and were not in direct contact. If collaborated, inter-component analyses of production strategies for several tool types could potentially lead to the definition of Archaic local groups.

TOM LARSON, UNIVERSITY OF WYOMING
TWO EARLY ARCHAIC SITES IN SOUTHEASTERN WYOMING

Two Early Archaic Occupation Sites have recently been investigated along the North Platte drainage. The presence of a human burial at the Dunlop-McMurray Site an apparent living structure at the Shoreline Site have added new information concerning this prehistoric time period. The geographic location of these sites is also considered significant.

JULIE LONGENECKER AND PAULA ROSA, UNIVERSITY OF WYOMING
FORT PHIL KEARNY BURIALS

Several depressions adjacent to Fort Phil Kearny were thought to be human graves related to the occupation of the Fort. Excavations were met with an unusual sequence of events necessitating a rapid change in hypotheses and methodology as the investigation progressed.

ROBERT R. PETERSON, UNIVERSITY OF WYOMING
BISON POPULATION CHARACTERISTICS FROM KILL SITES IN AND NEAR WYOMING: X-RAY EXAMINATION OF METACARPALS

X-ray examination of bison metacarpals from eleven archaeological sites is utilized to determine the sexual breakdown of the samples and to examine long term variations in bison characteristics. The analysis reveals male/female ratios near those expected in a normal, living population in many of the samples. These findings are discussed in relation to bison behavioral characteristics and prehistoric procurement strategies. Variations in size and weight of buffalo populations over the 10,000 years covered by the samples are also discussed.

LAWRENCE C. TODD AND JACK L. HOFMAN, UNIVERSITY OF WYOMING
PRELIMINARY REPORT ON INVESTIGATIONS AT THE LONG'S BUTTE #2 SITE (48FR261), FREMONT COUNTY, WYOMING

An archaeological reconnaissance survey conducted on a contract basis for the Monsanto

Corporation led to the discovery of an Archaic Campsite covering an area of approximately 80,000 M^2. The surficial nature of the cultural materials at the site required a program to mitigate the adverse effects of increased human activity. The dominant features at Long's Butte #2 are firehearths and concentrations of thermally altered stone. These are common throughout Wyoming; however, the function of such features is presently unclear. The present study has been directed toward developing a research design aimed at an understanding of this recurrent site type in the resource procurement-utilization systems of Archaic groups.

SANDRA M. TODD, OFFICE OF STATE ARCHAEOLOGIST
THE WASHBURN FERRY SITE 32OL102

The Washburn Ferry Site is on the flood plain of the Missouri River, almost directly across the river from the present town of Washburn, North Dakota. Two burials (an adult male and female) and associated grave goods were recovered there; other graves, including those of both adults and infants, were nearby. The grave goods were not diagnostic enough to date the two burials, although they appear to be of the 19th century manufacture. A distance analysis of the skulls by Richard Jantz suggests the individuals are Dakota, in which case they may well relate to the nearby Ice Glider Site.

DANNY N. WALKER, UNIVERSITY OF WYOMING
AN OCCURRENCE OF MUSKOXEN IN A WYOMING ARCHAEOLOGICAL SITE

Recent excavations at Little Canyon Creek Cave, Washakie County, Wyoming, has resulted in the recovery of several elements of a single individual of Symbos, an extinct Pleistocene muskox genus. The deposits are below a level dated at $10,170 \pm 250$ radio-carbon years (RL641). This is the first record of Symbos in a cultural context. Artifactual and faunal associations will be discussed.

KIM SMILEY, UNIVERSITY OF WYOMING
POSSIBLE CULTURAL IMPLICATIONS OF CHANGES IN CURSORIAL ABILITY IN HOLOCENE BISON OF WYOMING

Bison skeletal material from samples covering most of the Holocene were examined from a functional - adaptational view point. A decrease in running or cursorial ability became evident over time in the form of changes in muscle-lever relationships. Such changes coupled with overall size decrease and horn-size reduction are postulated to indicate an increased tendency to greater herd sizes. Greater herd size may in turn have been responsible for changes in procurement strategies of Prehistoric Plains groups. This preliminary study then suggests that the change from arroyo trapping to pounding and jumping stems from functional evoluntionary changes in bison.

ANNUAL REPORT
FREMONT COUNTY CHAPTER - 1977

By Irene Morgan

Membership: 16 Family members and 12 Single members

Elected Officers:

President:	Dr. Ray Gossett
Vice President:	Larry Osborne
Secretary:	Irene Morgan
Treasurer:	Ora Hawkins
Directors:	Helen Lookingbill, Verda Mann
	Lorene Iverson, Irene Morgan

Meetings: 2nd Wednesdays - alternating between Lander - Lander Firehall
Riverton - Dobler Room, CWC

The January meeting began with the happy news from Jim Adams that Dr. Frison had submitted a proposal to the WYOMING ARCHAEOLOGICAL FOUNDATION to bring the entire collection of the HORNER SITE materials from Princeton University to the University of Wyoming for a definitive report on the Horner Site. Mission accomplished.

An interesting program was presented by Allan Maybe. He showed slides and accounts of the group of 7 people who re-traced the Oregon Trail the summer of 1975. Allan Maybe was Head Scout and originator of the 2,200 mile odyssey to Oregon.

The February meeting had an excellent program givin by Jim Kerr. Pictures taken by him in December 1975 of the Holy Land and Me-gid-do. He illustrated with drawings the immense undertaking of the Archaeological dig begun in 1920.

We also enjoyed slides of Hyattville and Laddy Creek taken by Dr. Ray Gossett and Larry Osborne. Good reports were given on the successful pottery work-shop held in Rock Springs, January 28 and 29.

Chuck Reher, from the University of Wyoming, was our guest speaker at the March meeting. Slides and narration of the Vore Site was excellent and all were impressed with the importance of this magnificent discovery, which some day may become a museum.

Plans were finalized to increase our casting supplies so that Lander and Riverton will each have available supplies at hand.

Special meeting March 20th
A workshop on casting was held at the Firehall. A delicious carry-in dinner was served at noon to 18 members and one guest, Jon Bellar.

11 molds were completed that afternoon. On March 28 the Riverton members met at the Lookingbill home and made casts from their molds.

The April meeting consisted of reports by members of the State Meeting in Casper and future plans for the summer.

David Cookson of CWC presented an educational program on Historic Preservation at the May meeting. This program stressed the importance of retaining past architectural heritage and archaeological evidence.

May 22, Field Trip
An enthusiastic group met early Sunday morning in Riverton to be guided down the Wind River to view many unusual petroglyphs. Our guides were Roy and Margaret Peck and Henry Jensen. Several stops were made where our guides pointed out places of interest, including the first Riverton town-site. Some excellent pictures were taken of the many petroglyphs. We enjoyed a leisurely lunch in the shade and visited with guests, who were: Henry Jensen, Helen Bryant, Lavida Hogan and Chas. Ellis from Casper and Lysite and Ruby Lippencott, Thermopolis. The 37 members enjoyed this trip and learned much from our gracious guides.

June 10, 11, 12 - Survey
Jim Adams and Irene Morgan co-chairmen, organized plans for a survey of one section of BLM land in the Bison Basin area for a state report from our chapter. Again there was a splendid turn-out and cooperation.

Camp was set up the night of the 10th, Early on the 11th, 26 members started the survey under Jim's well organized plan. It was a weary but happy group that gathered around the bonfire that night for a songfest. When the survey was completed the next afternoon, we were amazed at all the information that had been found to go to the State Archaeologists and to be included in our report.

July 30, 31 Rendezvous on (or near) The Little Snake River. Larry Osborne attended and reported some interesting archaeological matters which were discussed with the club.

In September our program was a film "End of the Trail" narrated by Walter Brennan, depicting the decline of the Plains Indians, beginning in 1849.

Dr. Gossett urged us again to get an arrangement of all the various type casts made by members and display them in frames and catalog them. This is being done.

Chas. Love was a most welcome guest and speaker at the October meeting, with the presentation of slides of "The Rise and Fall of the Inca Empire". Guests, students and members were entranced with every word and picture.

On October 9th, 14 members met and assisted the University team of 3 on a quick survey in the Gas Hills.

At the November meeting, Albert Page, chapter member and instructor at CWC, gave a very informative program on "The Survey of Early Shoshoni History". Mr. Page has just completed an extensive study on the origin of the Shoshoni people, our neighbors.

We welcomed our President back, Dr. Ray Gossett, after his recent surgery.

Officers for 1978 were elected, as follows:

President:	Dr. Ray Gossett 818 Lombardy Circle Riverton, WY 82501	Phone 856-5180
Secretary:	Janet Johnson Route 1, Box 68 Riverton, WY 82501	Phone 856-5222
Treasurer:	Ora Hawkins 266 Washington Lander, WY 82520	Phone 332-3754

The Annual Christmas dinner of the Fremont County Chapter was held at Svilars in Hudson, December 2, 1977 at 7:00 P.M. with 37 members in attendance.

Following the dinner, Dr. Frison gave us a very educational, entertaining slide program, assisted by June, showing the progress and new discoveries made in Wyoming the past year. Namely: South Big Horn Cave, The Colby Site, Carter, Kerr-McGee Site, The Horner Site and Agate Basin. Also discoveries in neighboring states, Idaho and Colorado.

1977 ended with sadness for Fremont County Chapter members and others in the loss of a highly esteemed member, Art Lookingbill.

May 1978 bring Good Health and Good Fortune to All...

ABSTRACT

THE CHARITY SITE: A PLAINS ARCHAIC SITE IN SOUTHEASTERN WYOMING

Mary Lou Larson and Larry C. Todd
University of Wyoming

The "Charity Site", a Plains Archaic Period Site, was discovered during a survey for the Wyoming State Board of Charities and Reform on the eastern border of the Wyoming Basin and the Red Desert. Firehearths, fire-cracked and reddened rocks, manos, metates and lithics were discovered in a 4100 m^2 area on an alluvial terrance of an intermittent drainage. The archeology of the site and its contribution to the development of a methodology for such sites will be discussed.

ACKNOWLEDGEMENTS

This paper and the work at this site would not have been possible without the help and cooperation of many people. The State Board of Charities and Reform contracted the State Archaeologist's Office to do the initial survey, as well as funding the necessary mitigation (Todd, et.al. 1977). George Frison and George Zeimens have allowed us to use the material from the site for publication, as well as serving as editors and advisors.

Thanks are in order for Dave Pomerinke of the Rawlins District Bureau of Land Management for showing us the area during the initial survey and to George Brox for his invaluable assistance in archeological matters. The format for the analysis of the material gathered was developed by Jack Hofman and Larry Todd for use on Long's Butte #2 (Todd and Hofman 1977). Our photographer was Kim Smiley.

The crew present during the survey and excavation (excluding the authors) was Bob Peterson, Judy Pinner and Sandy Todd.

THE CHARITY SITE 48FR481

INTRODUCTION

During the spring and summer of 1977, the Wyoming State Archeologist's Office conducted an archeological survey of 640 acres in southern Wyoming. The survey was done for the State Board of Charities and Reform on land designated for a new penitentiary, and as a result, an archeological site from the Plains Archaic Period (8000-1500 B.P.) (Frison, n.d.) was located and tested. This site is named the Charity Site (48CR481).

The section where the site is found is one mile south of Rawlins, Wyoming. The area is within the "Rawlins Uplift", which is the eastern boundary of a large triangular area of basins in southern Wyoming (Blackstone 1971:16).

The Charity Site covers an area of approximately 4100 square meters, along an intermittent drainage of Coal Creek. The entire site area is on an alluvial terrace, cross cut by erosional channels. According to Suhr (1977), of the Soil Conservation Service in Rawlins, the site area has "deep loamy saline and alkali soils on nearly level slopes which are subject to flooding periodically." Found at the site were manos, metates, lithic material and twenty six firehearths of the Late Plains Archaic Period.

FIREHEARTHS

The hearths were mapped and subdivided into "good" and "bad" categories. A "good" hearth had obvious surficial potential for testing. This included firealtered rock (reddened, cracked or charred), charcoal bits or stain, and evidence of soil deposits in the area. The presence of manos, metates and lithics also enhanced the test potential. A "bad" hearth lacked the charcoal bits or stain and the artifactual material. "Bad" areas may have been severely eroded. A total of 14 "good" and 10 "bad" hearths were located during the testing and mapping. A month and a half later, following more erosion, 2 more "good" hearths were located. The area could easily be divided into three sub-areas, as can be seen on the site map (figure 1). Erosion probably caused the separation, but the results of radio-carbon dating may reveal that the area was inhabited several times. After the hearths had been classified as either "good" or "bad", a random selection of features to test were made. No importance was placed on whether or not the hearth was "good" or "bad". As a result, 3 "good" and 2 "bad" hearths were selected for test units.

Five 2x2 meter test units were dug in 5 centimeter levels. Seven hearths were tested and six charcoal samples were collected (figure 2). Each firehearth was surface collected within a five meter radius of the center of the hearth. Although the entire area was surface collected as well, the large majority of lithics and grinding stones were located within the five meter collection areas on all hearths. Only a small amount of lithic material was found below ground surface, and nothing below 5 centimeters.

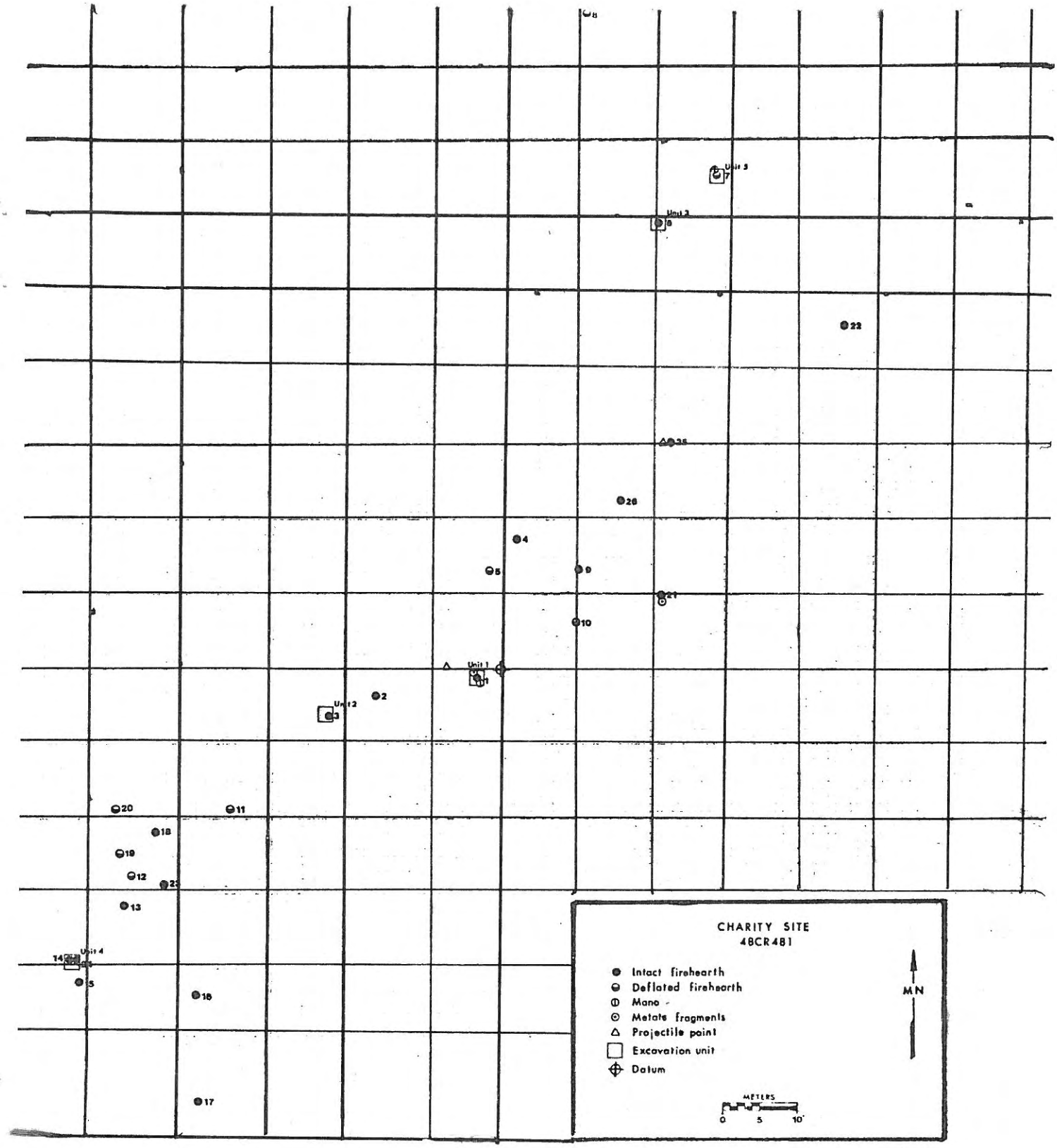
CHARITY SITE
48CR481
Intact fireheart
Deflated fireheart
Mano
Metate fragments
Projectile point
Excavation unit
Datum
MN
METERS
0 5 10
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5

Figure 1

48CR481

EXCAVATED FIREHEARTHS

East - West Profiles

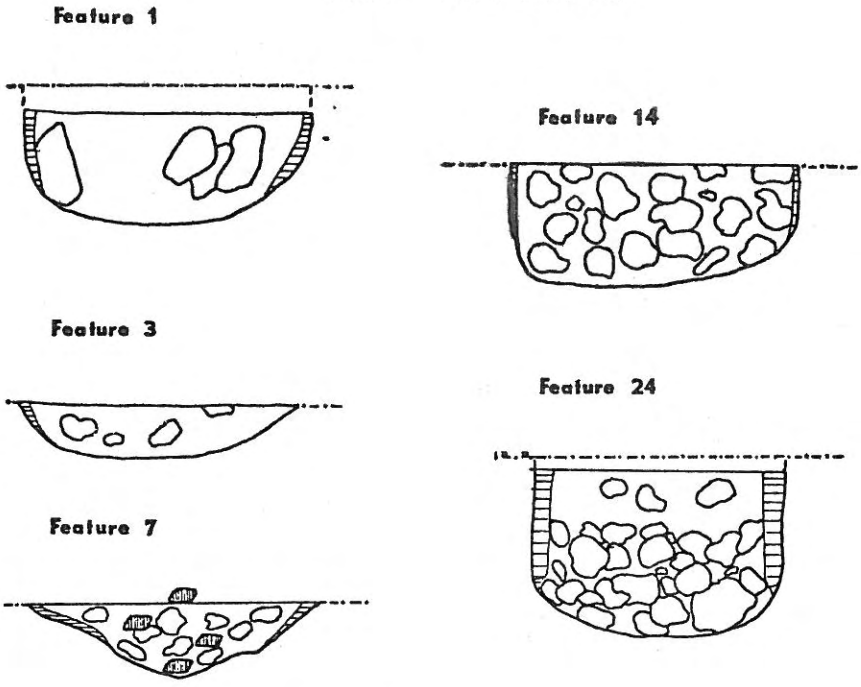

Figure 2

Testing revealed (see figure 2) two deep, bowl-shaped pits (features #14 and #24), both with rocks within the pit and oxidation on the sides. Feature #24 was located one centimeter below the ground surface. It is not known at this time whether these two hearths represent contemporaneous or repeated occupation. Feature #1 was a bowl-shaped hearth (not as deep as #24 or #14) with oxidation and some rocks throughout. Features #3 and #7 were both very shallow basin-shaped hearths (maximum depth of 11 cm.) with thin oxidation on the sides and rocks throughout. Feature #6 was a basin-shaped hearth reaching to a depth of 20 cm. with oxidation and a small number of rocks scattered throughout the hearth. Features #3 and #7 were highly eroded and could have been similar to Feature #6 at one time. It appeared that the fuel used in the hearths was sagebrush.

ARTIFACT MATERIAL

The artifactual material was scant around most of the non-tested hearths. Manos and metates were found around each of three hearth areas. Feature #1 had both manos and metates. One sandstone mano fragment and 8 sandstone metate fragments were recovered from the surface. Several of the metate fragments were fractured or charred, probably due to fire. Feature #3 had one granite mano from the surface. Feature #7 had one sandstone mano broken into four pieces, probably by fire. Two projectile points were located, one on the surface of Feature #25 and the other on the surface between hearths #1 and #2. The projectile point from Feature #25 could be classified as being from what Mulloy (1958:151) calls the Late Middle Prehistoric Period and Frison (1962, 1965 and 1968) labels the Late Plains Archaic Period. This time is described as "a widespread horizon of true corner-notch points over the northern Plains" (Reher 1976:13).

The collected flakes were small in size as well as number, apparently retouch or thinning flakes, which had been exposed at the surface by erosion. A variety of materials were found, including agate, jasper, quartz (including three nodules, possible cores), oolite, metamorphosed shale, quartzite and chert. In addition there was one brown quartzite biface from Feature #3, and a pink agate flake tool from Feature #22. No evidence of living structures was found, leading one to believe that if structures existed they were temporary, of brush or skin.

ANALYSIS OF DATA

Due to the small amount of cultural material collected at this site, only limited inferences could be made. A list of materials collected is shown in Figure 3. The lithic debitage was analyzed with the results shown in Figures 4, 5, and 6. We feel that our analysis of grinding stones and tools is not useful at this time, due to the extremely small sample size. Thus, the only thing to be discussed here will be the flake debitage.

Our analysis of the debitage cannot be expected to show different activity areas, due

CHARITY SITE: 48CR481

MATERIAL COLLECTED

CATEGORY		SAMPLE SIZE
Lithic Material:		
Bifaces		1
Projectile points		2
Retouched flakes		1
Debitage		59
	Total	63
Grinding Stones:		
Manos		3
Metates		9
	Total	12

Figure 3

LITHIC MATERIAL TYPES

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ	CUM FREQ
Brown Patinated Flint	1	13	22.0	22.0
Brownish Yellow Flint	2	14	23.7	45.8
Grey Metamorphosed Shale	3	5	8.5	54.2
Clear Agate	4	3	5.1	59.3
Greyish White Chert	5	7	11.9	71.2
Grey Quartzite	6	3	5.1	76.3
Grey Flint	7	2	3.4	79.7
Brown Chert	8	2	3.4	83.1
White Quartzite	9	2	3.4	86.4
Black Chert	10	1	1.7	88.1
Oolite	11	6	10.2	98.3
Morrison Quartzite	12	1	1.7	100.0
	Total	59	100.0	

AMOUNT OF DORSAL CORTEX

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ	CUM FREQ
Absent	0	31	52.5	52.5
100%	1	6	10.2	62.7
Greater than 50%	2	5	8.5	71.2
Less than 50%	3	17	28.8	100.0
	Total	59	100.0	

Figure 4

PLATFORM CHARACTERISTICS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ	CUM FREQ
Broken	0	30	50.8	50.8
Single faceted	1	15	25.4	76.3
Multifaceted	2	12	20.3	96.6
Crushed	3	2	3.4	100.0
	Total	59	100.0	

TYPE OF PLATFORM PREPARATION

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ	CUM FREQ
No Preparation	0	41	69.5	69.5
Edge Preparation	1	18	30.5	100.0
	Total	59	100.0	

FLAKE TYPE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ	CUM FREQ
Core Reduction	1	15	25.4	25.4
Bifacial Reduction	2	14	23.7	49.2
Shatter	3	3	5.1	54.2
Broken	4	27	45.8	100.0
	Total	59	100.0	

Figure 5

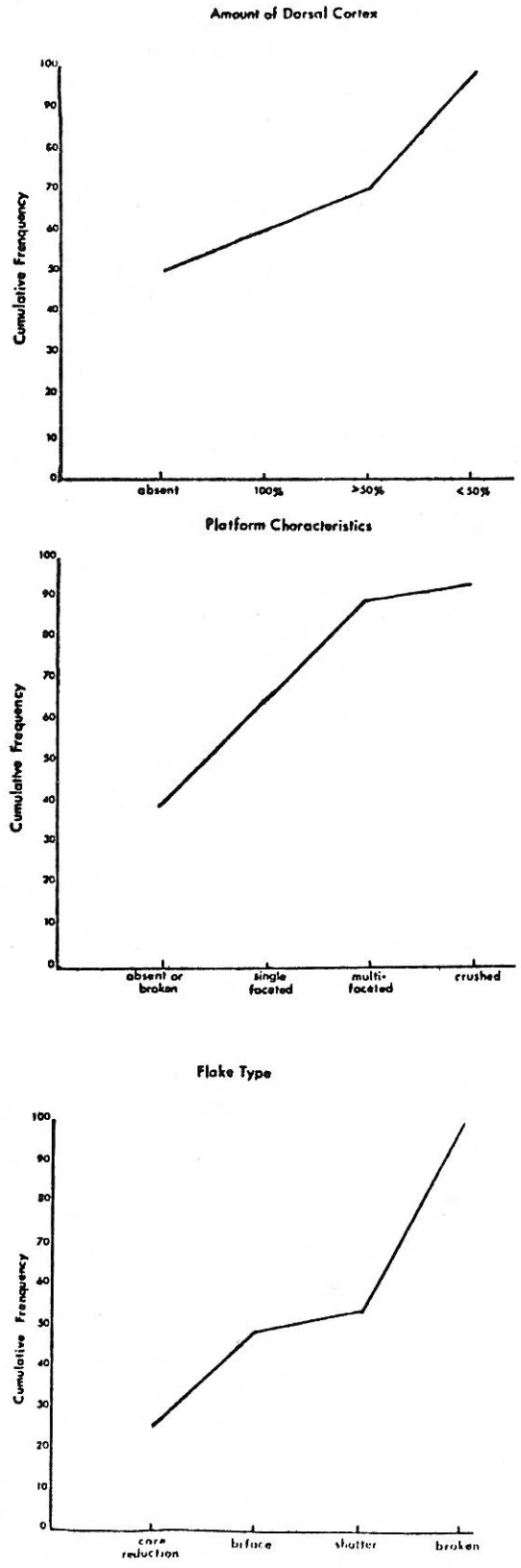
Amount of Dorsal Cortex
Cumulative Frequency
absent
100%
>50%
<50%
Platform Characteristics
Cumulative Frequency
absent or broken
single faceted
multi-faceted
crushed
Flake Type
Cumulative Frequency
core reduction
biface
shatter
broken

Figure 6

to the high degree of erosion, and the possibility of previous collection at the site by unknown persons. We hope that the total assemblage can provide some insight into the variety of use and function of site types on the northern Plains. By analyzing debitage (and other material) with this format we hope to be able to show differences in the activities carried out at these sites. Our main objective is to develop a model for investigation of such sites and provide a basis for comparisons with other sites. Lithic manufacturing sites should yield a significant amount of core reduction, shatter, amount of dorsal cortex, flakes, etc. For example with a lithic manufacturing site, when compared with the graphs in Figure 6, one would expect the cumulative frequencies to be considerably higher in the categories of "core reduction", "100%" or "greater than 50% dorsal cortex", and "single faceted". Although this methodology is only in the beginning stages, we hope to be able to test the model as soon as possible.

48CR481 appears to be a site with little manufacture, most work appears to have been in the maintenance of tools. The lithics present at the site all appear to have been brought in, as there are no nearby sources for the material. Although, there is sandstone and granite present in the area, the differential selection of these materials could be functional, but not enough information is available at this time for such a determination. Hopefully, the data from the Charity Site can be utilized in future research into site function, area utilization, as well as other problems.

CONCLUSIONS

The Charity Site could be placed in the Late or Middle Plains Archaic Period (5000-1500 B.P.) as Wedel states (1961:250) that the Middle Prehistoric Period sites after 3000 or 2500 B.C. consist of "open campsites on stream terraces...There are hearths of several kinds...some are little more than fire-darkened spots; others may be basin-like, of varying sizes and shapes, and line or floored with stones". On the basis of one projectile point found at the site, it is possible that this site fits within this time period.

Wedel also states that "manos and metates are plentiful in sites dating 1500 B.C. and later" (Wedel 1961:251). The appearance of manos and metates would suggest that the people were utilizing vegetable products of the area.

The results of our testing suggest need for a change in testing methodology which has been followed in the past. The two hearths which were labeled as "bad" resulted in good charcoal samples and profiles, thus indicating that they were not as severely eroded as the other hearths in the area, and could not be classified merely according to their surficial appearance. Therefore, unless a hearth appears to be totally destroyed, one will have to continue with random sampling of such areas, in order to develop an idea about the past record of erosion, as well as the hearths themselves of a specific site.

The firehearth is one of the main indicators of the Plains Archaic Period on the

Northwestern Plains. It is also one of the most dominant features (8000-present) although widespread in sites in this area, the utilization of the firehearth is one of the least studied facets of this time period. Their morphology and related functional utility is little understood. Such variation in hearth shapes is very common as stated by Wedel (1961:250) during this period, but is poorly understood. Experiments and ethnographic references (Grinnell 1972; Reagan 1929) have shown that the appearance of stones in the hearth could be usage as a stone boiling pit, where the stones are heated in one pit and added to another. Another suggested usage of such pits is as roaster ovens. A fire is built within the pit and the stones are well heated. After the charcoal has reached a suitable temperature, the food is added and the hearth may be capped with stones. A six-pound roast can be cooked easily in three hours using this method. Perhaps this was the function of Feature #14 and #24, although all hearths had a good amount of stone within them.

Oxidation is the result of the presence of iron in the soil. In order for oxidation to take place, the clay must reach a certain temperature. This temperature according to Frison (1977) is between 250° and 310° Centigrade. The thickness of such oxidation is no doubt determined by the temperature (Zeimens et. al. 1977:258) as well as, the length of time that the fire burned.

Due to the severe erosion in the area, I do not believe that the lithic material found represents a true sample of the material present at the time of occupation. Other less eroded sites within a half mile radius have considerably more lithic material present, although direct temporal and spatial relationships cannot be determined at this time. Because of the severe erosion, no statement can be made about the lithic assemblage of the people at this specific site.

So little has been written on open eroded campsites typified by firehearths and lithics of this type. The majority of sites include bison kill sites (e.g. the Ruby Site (Frison 1971) and the Mooney Site (Zeimens et. al. 1977), or cave sites (e.g. Wedding of the Waters Cave (Frison 1962), Daugherty Cave (Frison 1968), Danger Cave (Jennings 1957), or Hogup Cave (Aikens 1970)). The Plains Archaic open campsite has come into its own in Wyoming due to the great amounts of archeological survey now taking place. These sites contain the potential for studies in ecological adaptations, seasonal utilization of ecological zones, settlement patterns and demography, which leads to a correlation with the Desert Culture of the Great Basin area. As Aikens suggests (1970: 188) these sites represent a portion of "a broadly adapted way of life based on seed-gathering and diversified small and large game hunting".

The Charity Site represents one facet of the Plains Archaic Period. In order to implement more fully the study of this time period, an ordered pattern of survey, testing and excavation of these sites is needed. Random sampling and statistical studies of the findings from each site are needed in order to develop any correlations between sites. Thus, by using such methods, we can develop a model for investigating sites from interior basin areas.

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A CONTINUATION OF THE ARCHAEOLOGICAL RECORD OF CASPER MOUNTAIN, NATRONA COUNTY, WYOMING

By Steven E. Lund

The following report of archaeological investigations is a continuation of the archaeological survey of the Casper Mountain area as reported in "The Archaeological Record of Casper Mountain," (Lund 1977).

This most recent survey was conducted by the writer during the summer of 1977. In addition to areas of Casper Mountain unexplored during the earlier investigation, the survey covered a large part of nearby Coal Mountain, and some of Muddy Mountain.

The methods and objectives employed during this investigation were the same as in the earlier survey. Archaeological sites were located by exploration on foot, and the surface artifacts recovered in these sites were recorded.

GEOGRAPHY OF THE AREA

Casper Mountain, Muddy Mountain, and Coal Mountain are located at the northern end of the Laramie Mountain Range in Natrona County, central Wyoming. Casper Mountain (16 miles long) is the northern most of the three mountains. Muddy Mountain (11 miles long) is situated a half mile south of Casper Mountain, and Coal Mountain (7 miles long) is located a half mile southwest of Casper Mountain.

Geologically, these east-west running mountains are the result of vertical movement along several faults which resulted in steep north faces, and gentle south slopes. The peak elevations of the mountains range from 7,000 feet on Coal Mountain to 8300 feet on Muddy Mountain.

THE SITES

Of the nine sites included in this paper, two are from the Goose Egg area (adjacent to southwest Casper Mountain), three are from Coal Mountain, three are from Casper Mountain, and one is from Muddy Mountain. A summary of each site, with locations narrowed down to sections is given. Also included is a brief note about the discovery of a tang knife from Jackson's Canyon.

GOOSE EGG AREA SITES

1. The Scott Site

Location: Township 32N., Range 81W., Section 1

The Scott Site is located on a level field adjacent to a sandstone ridge near Matheson

Creek. At least four Middle Period type projectile points were found here. The top half of a fifth projectile point, a biface, and two end scrapers were the other artifact tools found. Pieces of river cobbles, clam shells, and flakes of agate, chert, and quartzite were also found on the surface.

Additional flakes and one Late Middle Period projectile point were unearthed when post holes were dug for a corral near the creek.

2. The Randall Site
Location: Township 32N., Range 81W., Section 12
Also near Matheson Creek, the Randall Site is situated on a small level field on the Randall farm. Much of this site is apparently covered with sediment deposited by the creek. Artifact tools and flakes have frequently turned up here during plowing, irrigating, or building construction. An Early Middle Period projectile point made of white quartz, two pressure flaked quartzie bifaces, and one side scraper were found at this site. One of the bifaces was found in the creek.

COAL MOUNTAIN SITES

3. The Cottonwood Creek Site
Location: Township 32N., Range 81W., Section 27
This extensive site on the southern edge of Coal Mountain has evidence of being occupied 8,000 years ago. Its location along Cottonwood Creek, a half mile from the North Platte River, may have made the area particularly attractive to prehistoric peoples.

The upper half of a parallel oblique Paleo-Indian projectile point was discivered on the crest of the south bank of the creek. This solidified limestone chert lanceolate point shows excellent workmanship. It is approximately 8,000 years old.

Other tools found on the south side of the creek include a Late Middle Period projectile point, a Late Period projectile point, two preforms, and several flake tools. Flakes of agate, chert, and quartzite, several clam shell pieces, and both broken and complete river cobbles were randomly scattered throughout the area.

An ellipse shaped tipi ring (stone circle) consisting of some 50 sandstone rocks and some river cobbles is located on a rise north of the creek. Within the borders of this 16 X 20 foot structure is located a hearth with a diameter of about three feet. A line of rocks cuts across the west edge of the main structure. Four other circular and semi-circular rock cairns, ranging from two to five feet in diameter are situated on this hill. Scattered flakes, clam shell parts, and isolated river cobbles were associated with these features. A chert core, a midsection of a projectile point, and other flakes were collected near a sandstone outcrop east of the rock structures.

Two hearths, one consisting almost entirely of river cobbles, are located on a second hill west of the stone structures. No flakes or other artifacts were found here.

4. The Howe Site
Location: Township 32N., Range 80W., Section 31
Three Middle Period projectile points were found near a spring in a protected area at the mouth of a broad canyon. A side scraper, a biface, and a scattering of mostly quartzite flakes were also found.

5. The Crescent Ranch Site
Location: Township 31N., Range 80W., Section 3
This site borders a large part of Little Red Creek where it flows between Coal and Muddy Mountains. Due to the large numbers of artifacts found along the creek, the area was evidently a favorite camping site. The largest concentration of artifacts was found by the Crescent Ranch. Flakes of predominately quartzite and chert are common here. The projectile points recovered include an Early Middle Period point, a Late Period point, and a preform. Two non-diagnostic tools, a graver, and a few flake tools were also recovered.

CASPER MOUNTAIN SITES

6. The Wolf Creek Site
Location: Township 32N., Range 80W., Section 12
Located at the headwaters of Wolf Creek, this site is only a half mile east of the Layton-Dinsmore Site at the headwaters of Squaw Creek (Lund 1977). Like the Layton Dinsmore site, and other Squaw Creek area sites, the Wolf Creek Site is characterized by containing an abundance of quartzite and chert flakes. This indicates the site was a tool making camp. Most of the lithics probably came from nearby sources on the mountain.

Although artifacts were found in an area covering many acres, most of them occured on a ridge above the creek. Three projectile points were found: one is Middle Period, one is a preform, and the other is a midsection. Bifaces, cores, broken tools, and retouched flakes were fairly numerous here.

7. The K2 Tower Site
Location: Township 32N., Range 79W., Section 20
A small site was found in a forest clearing near the K2 radio tower. Although small in area, this site yielded two Middle Period points, two broken bifaces, a flake tool, and many flakes. This site also appears to have been a tool manufacturing camp.

8. The Archery Site
Location: Township 32N., Range 79W., Section 19
One of the most extensive sites discovered during the survey, the Archery Site, stretches for a quarter of a mile along upper Red Creek. It also branches out onto some neighboring hills.

This site, which is near a modern campground, appears to have been heavily collected upon. No diagnostic projectile points were found, although two preforms were

discovered. Other tools found include a broken biface and an end scraper. Large numbers of waste flakes are present at this site.

MUDDY MOUNTAIN SITE

9. The Cheney Cow Camp Site
Location: Township 31N., Range 79W., Section 15
The Cheney Cow Camp is the location of a very productive site in the center of Muddy Mountain. Situated in a grass covered field near some natural springs, this site has also been collected upon in the past. Most of the known projectile points are Early Middle Period type. Some Late Middle Period points and at least one Late Period point have also been found here. A variety of tools and quantities of flakes have been found in the area.

Because much of the area in the vicinity of the cow camp is covered with vegetation, it is probable that most of the site remains hidden from view. Future investigation and excavation at this site should yield great dividends.

SPECIAL NOTE: A Tang Knife From Jackson's Canyon

In December 1977, the author found a corner-tang knife in the juniper - pine foothills on the south slope of Jackson's Canyon (southwest Casper Mountain).

The purple chert specimen was lying flat on the surface of a sandy depression on a small ridge with side B up (see illustration plate 9). The tool is four inches long, it has a break at the tip, and is partly covered with patina. Side A has a beveled edge, probably caused by repeated sharpenings. Side B displays several dish shaped depressions caused by percussion flaking.

According to Davis (1975) tang knives are very rare, being restricted to states in the Rocky Mountain and plains area. They are found more often in mountain foothills than on the open plains. He further noted that there is disagreement between archaeologists on their actual use, but most believe their appearance is contemporaneous with that of corner notched points. Therefore, tang knives are thought to be between 2,000 and 500 years old.

If the Jackson's Canyon tang knife is indeed between 2,000 and 500 years old, then it was probably used by the same people who left numerous projectile points in the area that also date from this time period.

SUMMARY AND CONCLUSIONS

Archaeological investigations of Casper Mountain, Coal Mountain, and Muddy Mountain were conducted during the summer of 1977. Nine sites were discivered and explored. All appear to have been occupied during the Middle Prehistoric Period

(4,500-1,500 B.P.). However, a few had evidence of being occupied during the Late Prehistoric Period (1,500-300 B.P.), and one site was inhabited during the Early Prehistoric Period or Paleo-Indian (pre 7,000 B.P.).

Although neither Coal Mountain or Muddy Mountain were explored as thoroughly as Casper Mountain, it was found that Coal and Muddy Mountains contained comparatively fewer sites than did Casper Mountain. The only sites discovered on Coal Mountain were found on its southern edge. No sites of any significance were found on the rest of Coal Mountain.

It is possible that prehistoric peoples were attracted to Casper Mountain more than Muddy Mountain or Coal Mountain because of the occurrence of quartzite on Casper Mountain. Numerous sites on Casper Mountain are associated with quartzite quarries. Neither Muddy or Coal Mountains have quartzite exposed on the surface.

ACKNOWLEDGEMENTS

Special thanks are forwarded to the following people who aided in this project: Mr. John P. Albanese and Mrs. Barbara Dobos for critical reading of the manuscript; Dr. Charles Reher and Mr. John P. Albanese for identification of artifacts; Edward and Bryce Randall for assistance in collecting artifacts; and Susan Crouch for assistance in collecting artifacts.

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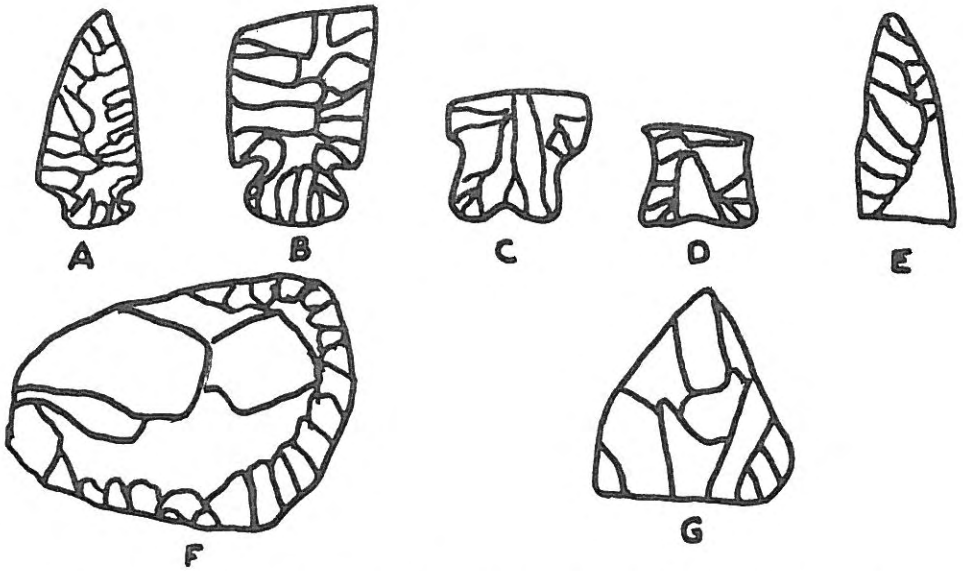

Plate 1. Artifacts from the Scott Site. A-D are Middle Period projectile points; E is a broken projectile point; F is an end scraper; G is a biface.

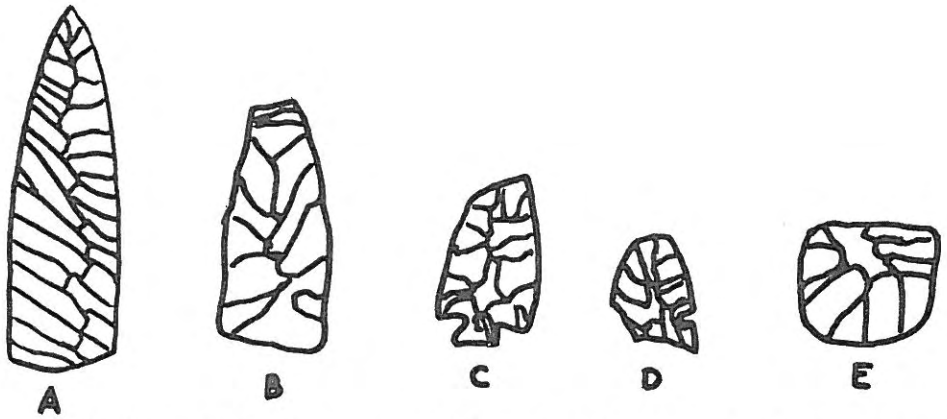

Plate 2. Artifacts recovered from the Cottonwood Creek Site. A is a Paleo-Indian parallel oblique lanceolate projectile point; B and E are preforms; C is a Late Middle Period projectile point; D is a Late Period projectile point.

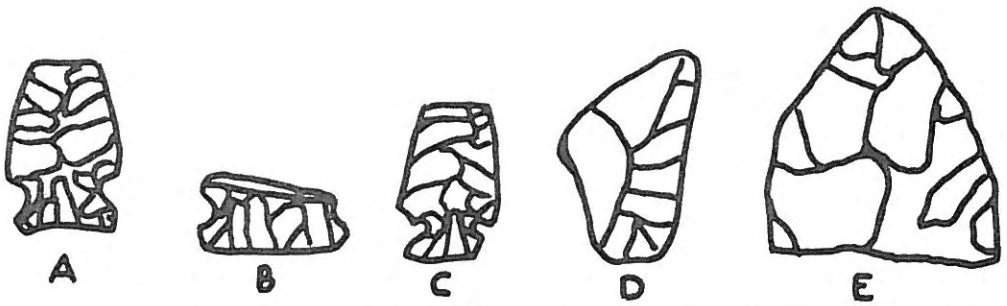

Plate 3. The Howe Site artifacts. A-C are Middle Period projectile points; D is a side scraper; E is a biface.

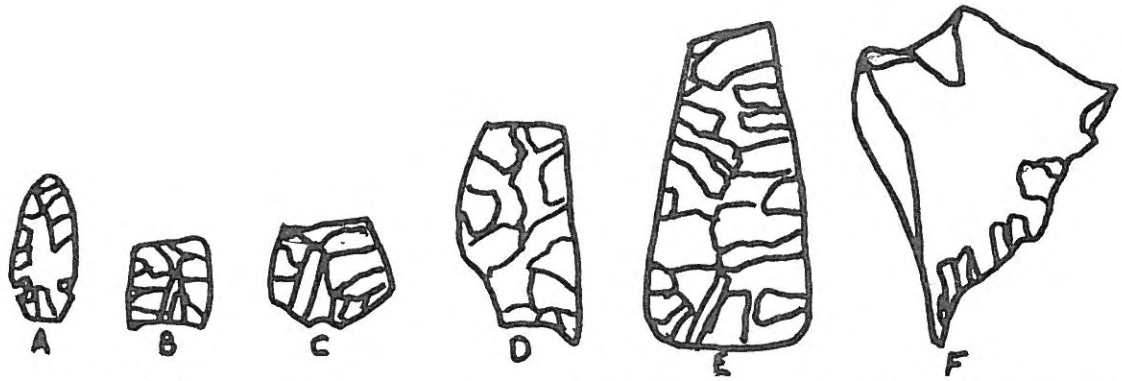

Plate 4. Artifacts from the Crescent Ranch Site. A is a Late Period projectile point; B is non diagnostic; C is a midsection of a projectile point; D is an Early Middle Period projectile point; E is a preform; F is a graver.

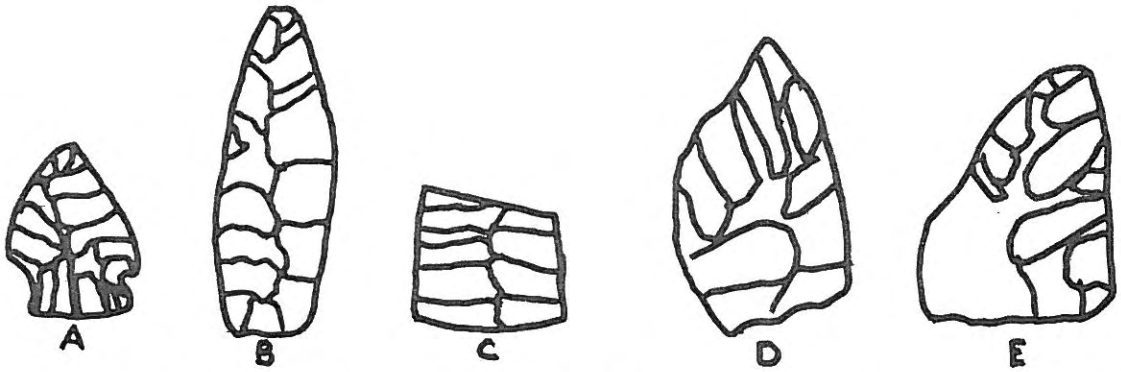

Plate 5. Artifacts collected from the Wolf Creek Site. A is a Middle Period projectile point; B is a preform; C is a projectile point midsection; D and E are bifaces.

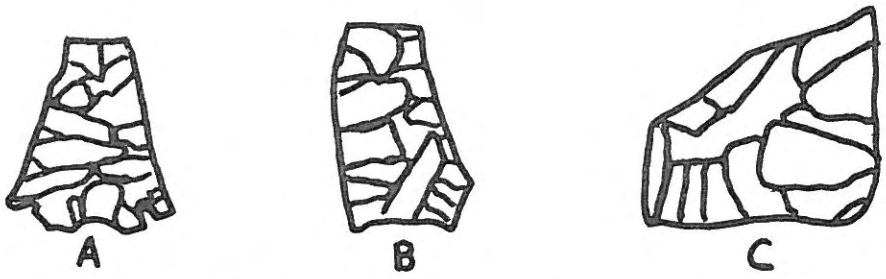

Plate 6. The K2 Tower Site artifacts. A and B are Middle Period projectile points; C is part of a biface.

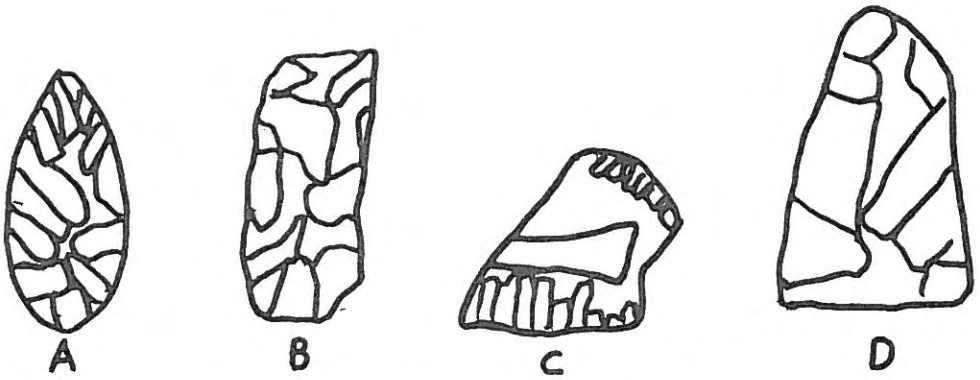

Plate 7. Artifacts from the Archery Site. A and B are preforms; C is a side scraper; D is a biface.

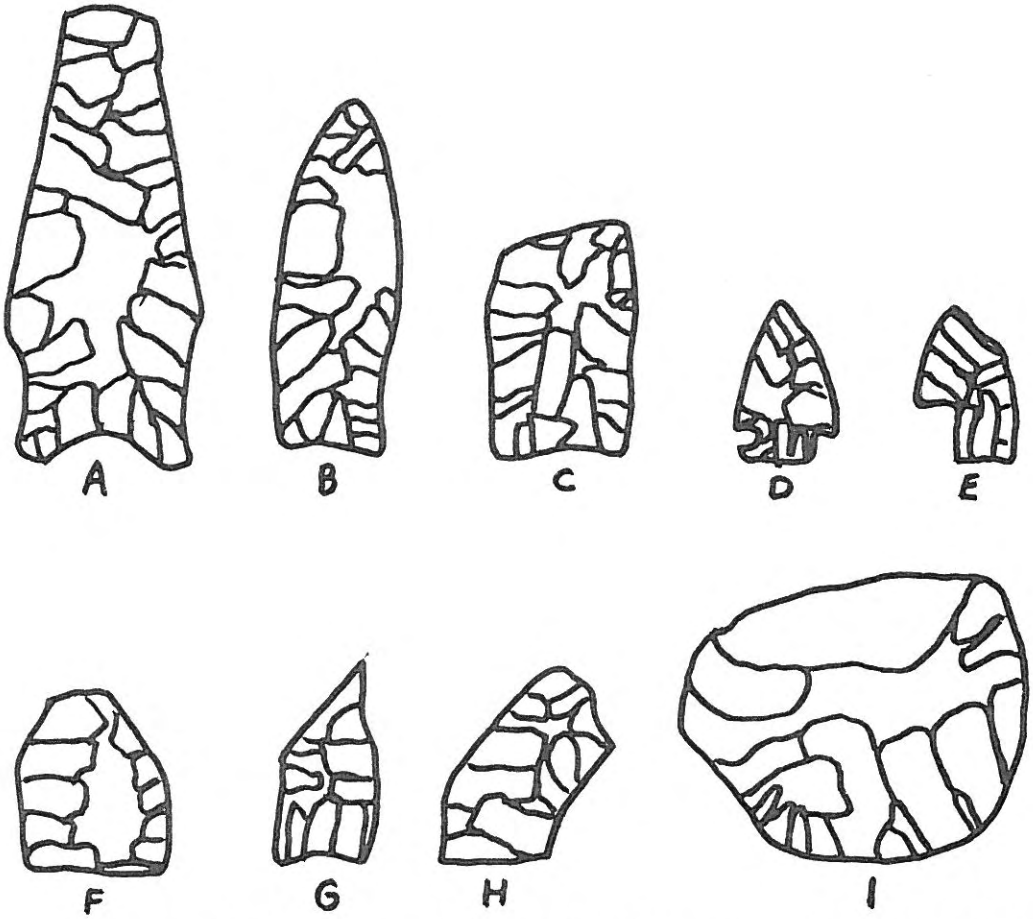

Plate 8. Artifacts recovered from the Cheney Cow Camp Site. A-C are Early Middle Period projectile points; D and E are Late Period projectile points; F and G are broken projectile points; H is a biface; I is a uniface.

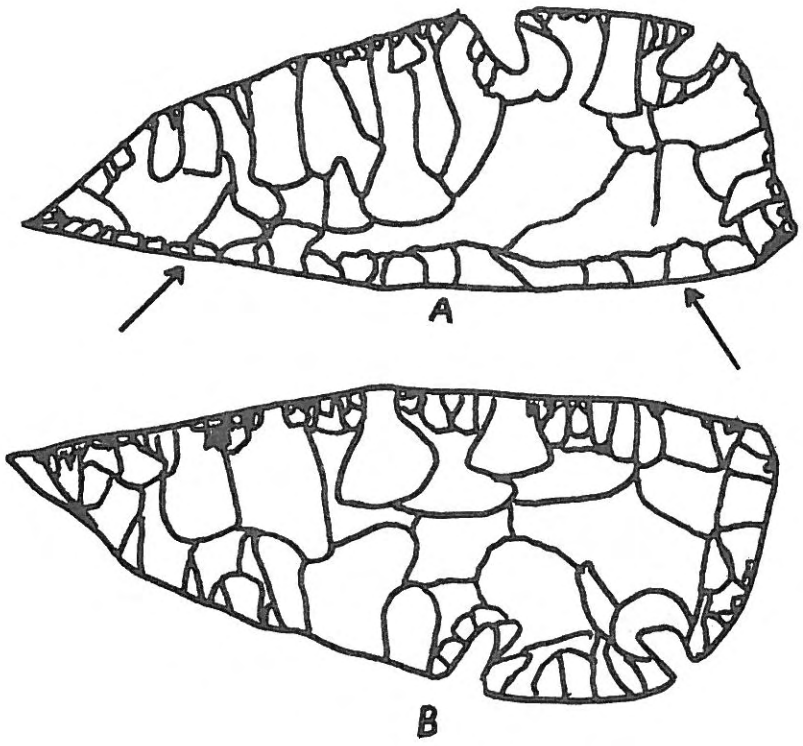

Plate 9. The Jackson's Canyon Tang knife. Arrows point to the artifact's beveled edge on side A. Side B shows dish shaped flake depressions.

Plate 10. A scene from the Scott Site. Most of the artifacts were found on the level field in the center of the picture. Matheson Creek is on the left.

Plate 11. The main stone circle from the Cottonwood Creek Site. Actually elliptical in shape, the circle can be seen in the center of the photograph in the immediate foreground. The Paleo-Indian projectile point was discovered on the opposite bank of the creek.

Plate 12. One of the hearths from the Cottonwood Creek Site. This structure is comprised mostly of river cobbles. Others were mostly sandstone rocks.

Plate 13. Part of the Archery Site on Casper Mountain. This site is located at the headwaters of Red Creek. Although no projectile points were found here, flakes are abundant in the sage brush slopes.

Plate 14. The Cheney Cow Camp Site. This site has yielded an abundance of artifacts over the years. Three projectile points were found in and near the corral in the foreground in June 1977.

FIREHEARTH EXCAVATION METHODS

by

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ABSTRACT

During the last two field seasons, large numbers of Archaic and Late Prehistoric surface hearths have been investigated. A summary of various approaches to excavation of these surface hearths; the merits and drawbacks of each method are discussed.

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November 17-19, 1977. Lincoln, Nebraska

During the last few years environmental impact statements requiring an inventory of archeological materials on public lands where mining, drilling or other construction is to take place have provided us a unique opportunity to locate and study sites that previously would not have warranted extensive work. Most of the sites in this category are small, surficial and often quite eroded. One feature commonly found in Wyoming is the lone firehearth or a small group of hearths. Some of these have a few artifacts associated, usually of the type classified as Archaic or Late Prehistoric. Occasionally, the contents of hearths are studied to try to ascertain the fauna and vegetation present at a given time (Hester et.al. 1975:141). But outside of these limited areas little attention has been given to surface firehearths.

Recently questions have been raised concerning these hearths. They include the possibility of a correlation between shape and/or depth and the age of the pit. Also, with enough data it may become possible to determine the purpose of the hearth, that is, was it an open camp cooking fire, roasting pit, a lodge warming fire, or was it used for some other function (Frison, 1977).

Thus, it has become feasible to excavate large numbers of surface firehearths. But very little material is available on the best method of excavation. In order to obtain the most useful data, several approaches have been tried on these small sites. Coring has not been used extensively because of its limitations. Although it does give a stratified sequence of the hearth's contents, at a given point, it yields little information on the shape of the pit or the arrangement of rocks within it.

Because of the drawbacks of coring, the method of investigation has been to excavate hearths at least partially. Several approaches are employed depending on the expected quality and quantity of the hearth remnant and the time available. The location of the pit also helps determine the method used. For instance, a group of hearths in a graded road have already been partially removed. Since the surface is exposed there is usually little need to do more than excavate the hearth itself in a unit-level method (Hester, et.al. 1975:79). This involves carefully removing the entire contents, saving soil samples, bone fragments, flakes or other lithics and, if possible, charcoal samples for carbon-14 dating. When present the living floor or remaining surface is left intact. If there is some deposition, the entire square is dug to the upper level of the pit.

Photographs are taken before and after excavation and careful notes and drawings are a required part of the record. This method yields much information with a small amount of effort. However, there are some drawbacks. Since there is no profile it is difficult to accurately draw the pit, especially if it is deep and/or irregularly shaped. Also, it is often difficult to take photographs that provide a detailed record of the shape. Many of the hearths found in Wyoming have an oxidation layer near the surface. Without a profile it is difficult to determine accurately how thick this layer is, or if it continues for the entire depth of the hearth. Often times this oxidation occurs only on one side or is spotty. Again, a profile would help.

Many times hearths contain rocks both on the surface and in the pit itself. These are

relatively easy to excavate and record if they appear as a uniform layer or as a lining to the pit. However, they often seem to be randomly placed. Using the horizontal excavation method described above, it is difficult to accurately record the placement of these rocks or to determine if they were deliberately positioned, due to the small, narrow nature of the pit.

One other drawback of this method is the lack of excavation of the surrounding area. In a few cases buried materials such as chert being heat treated have been found just outside hearths (Frison 1977). Since this area is not being removed, these materials would not be located although if the surface indicates a disturbance, this is also dug to determine the cause. Occasionally, too, the soil content of the pit is different from that of the surrounding area and could be misleading. The hearth may have been dug into a sandy loam soil, then later filled with sand that covered the area.

In an effort to overcome these problems, a vertical approach has been tried (e.c., Webster 1963:89). This is a total excavation of an area usually 2 meters square, centered on the hearth. It involves clearing the entire surface of vegetation and materials that are obviously not in situ. Then one-fourth of the square is dug horizontally to at least several centimeters below the bottom of the pit, again collecting soil and charcoal samples. After completion of this quarter the two perpendicular profiles of the hearth are drawn and photographed. A second quarter of the square is then dug as before and the new profile drawn. This process continues until the entire 2 meter square has been excavated. A slight modification of this method can be used if there are any irregularities such as a second, underlying pit, that would be destroyed by total removal of the quarter being dug. If this is encountered the hearth or irregularity can be pedestalled by removing all material from around the sides and top. After recording the artifact or feature it can then either be removed or left for later reference. Leaving one section of the hearth pedestalled will make it easier to see the overall qualities such as shape, contents and oxidation layer. This method, in addition to the other advantages, clearly shows soil changes and may provide data about the relationship between the shape of the pit and the type of soil.

While providing good information on the shape of the hearth, its stratigraphy and the surrounding area, this method is very time consuming. The material removed from around the pit is generally sterile, especially below the top few centimeters. This means a large quantity of dirt is being moved while gaining little data from it.

A compromise between these two extremely different methods of excavation seems to yield good results for a minimum of time spent. This approach is to dig a portion of the pit and surrounding area, from a quarter to a half of the hearth, in the vertical or profile method. The remainder of the pit's contents are then removed in a horizontal manner, leaving the shape of the pit and the rest of the surface intact. Occasionally this method is dictated by the condition of the hearth when found. In this way the profile of the hearth can be clearly and accurately photographed and drawn while a minimum of superfluous material is moved. Part of the original living floor is also preserved, giving a good perspective on the appearance of the pit from the viewpoint of the original builder.

After trying these various techniques, it appears the combination horizontal-vertical method yields the most information for the least amount of time spent in excavation. These small sites, so long by-passed in favor of larger, more impressive ones, may eventually contribute significant information on the prehistory of North America by revealing what role the apparently short-lived camps played in the life-style of early man.

AN INVENTORY OF ARCHEOLOGICAL RESOURCES IN
THE GAS HILLS URANIUM MINING DISTRICT

SUMMARY

Thirty-one sites or archeological resources have been documented for the first time in this report. Of these, 23 sites have provided certain basic information (locations, site type, etc.) important to studies of subsistence patterns and settlement patterns but are considered to be of no further value. They contain no subsurface deposits and have no potential to contribute further to the archeological record.

Four sites may be of further value, but excavations will be necessary to determine their potential for development. Until the time that tests can be conducted, they should be protected as though they are significant resources.

Four sites were determined to be eligible for nomination to the National Register of Historic Places. They contain the kind of information that will be needed by those studying the prehistory of the area in the future. They should be protected at least until it has been determined whether or not they will be listed on the National Register.

The Gas Hills apparently played a significant role in the lives of its prehistoric occupants. All sites were apparently used several times, probably on a seasonal basis. With the information presently available, it cannot be determined why these sites were so attractive. They probably provided easy access to some valuable resources, possibly vegetable foods. The presence of fire pits at all sites suggests that some sort of food processing was involved. The pits reflect special efforts in construction and surely functioned as something other then providing heat from the cold. Milling stones are generally associated with vegetable food production but were absent here in most cases. Local collectors report that they removed some quantities of manos from the area through the years, but still, there should be more evidence present in the form of broken metates, etc. At any rate, one can speculate endlessly on these problems until more sophisticated studies are conducted.

It is not easy to measure what affect mining will have on these resources without some knowledge of the mining plan. Some sites will probably be totally destroyed as the topsoils are removed. Others will probably be partially damaged by access roads, utility lines, etc. All of them have already been subjected to the collecting activities of mining personnel. It can safely be stated that all the sites will be adversely affected to some degree or another unless some sort of preventative measures can be taken.

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Table I
Site Evaluation

Site #	Cultural * Period	Type	Recommendations	Eligible for Nomination
48FR117	Unknown	Open Camp	Preserve	Yes
48FR118	PI, PC, C	Open Camp	Preserve	Yes
48FR119	PC, C	Open Camp	None	No
48FR120	Unknown	Open Camp	None	No
48FR124	PC, C	Open Camp	None	No
48FR125	PC, C	Open Camp	None	No
48FR126	PI, PC, C	Open Camp	Preserve	Testing Needed
48FR127	Unknown	Open Camp	None	No
48FR131	PI, PC, C	Open Camp	Preserve	Testing Needed
48FR132	PI, PC, C	Open Camp	Preserve	Yes
48FR133	PC, C	Open Camp	None	No
48FR134	PC, C	Stone Circle	None	No
48FR135	C	Stone Circle	None	No
48FR136	Unknown	Stone Circle	None	No

Site #	Cultural * Period	Type	Recommendations	Eligible for Nomination
48FR137	PC, C	Open Camp	None	No
48FR138	Unknown	Quarry	None	No
48FR139	Unknown	Open Camp	None	No
48FR142	PC	Open Camp	None	No
48FR143	PI, PC, C	Open Camp	Preserve	Yes
48FR144	PC, C	Open Camp	None	No
48FR145	Unknown	Open Camp	None	No
48FR146	PC, C	Open Camp	None	No
48FR147	Unknown	Stone Circle	None	No
48NA98	Unknown	Open Camp	None	No
48NA99	Unknown	Open Camp	None	No
48NA100	Unknown	Open Camp	Preserve	Testing Needed
48NA101	Unknown	Stone Circle	None	No
48NA102	PC	Stone Circle	None	No
48NA103	PC, C	Open Camp	Preserve	Testing Needed

Site #	Cultural * Period	Type	Recommendations	Eligible for Nomination
48NA174	Unknown	Flaking Station	None	No
48NA175	Unknown	Flaking Station	None	No

* PI = Paleo-Indian
PC = Post Altithermal-Preceramic
C = Ceramic

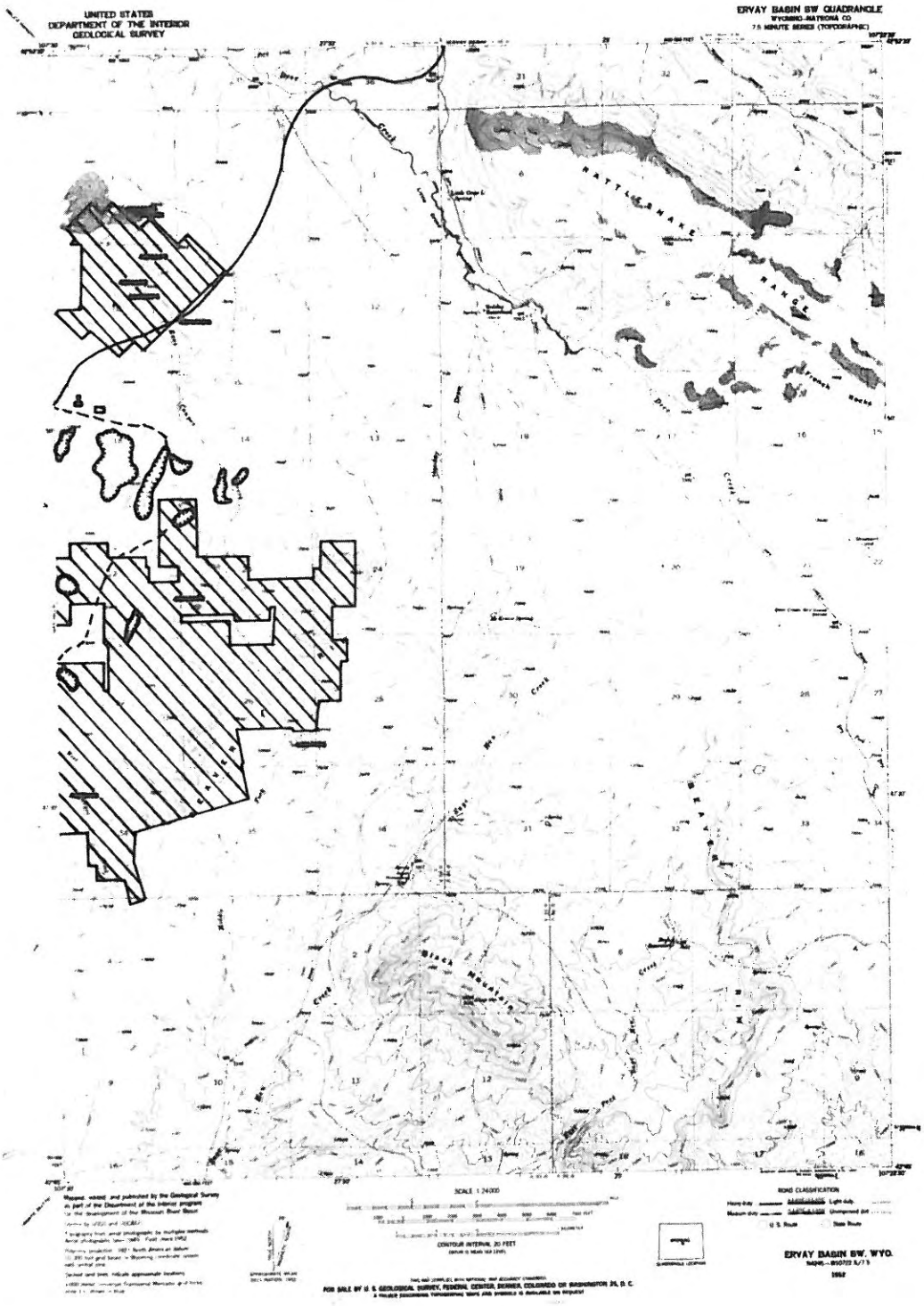

Plate 1. Map of surveyed land showing site locations.
Lands included in the study

Existing mines

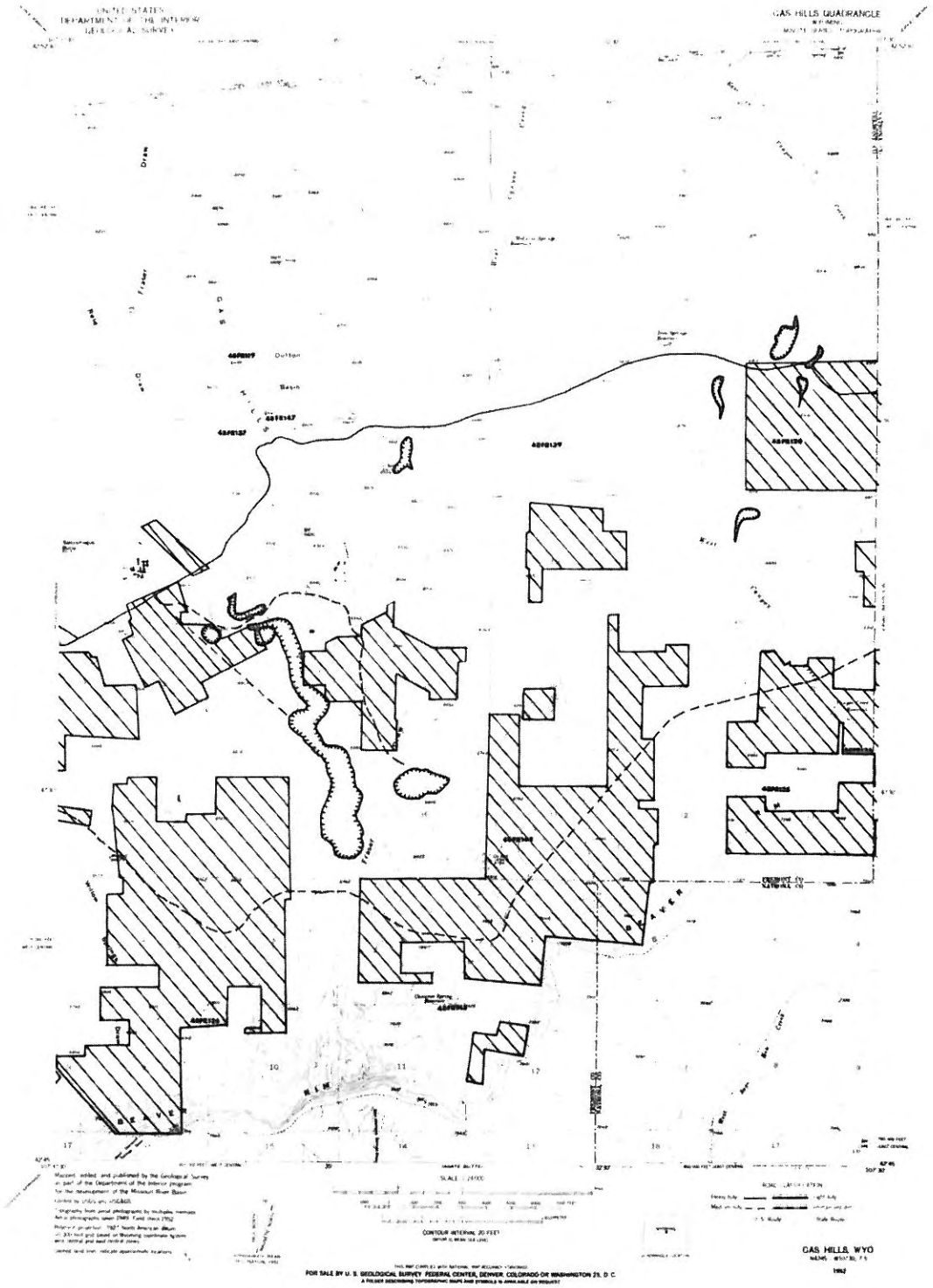

PLATE 2.

Lands included in the study.

Archeological site locations are marked by site number.

Existing mines.

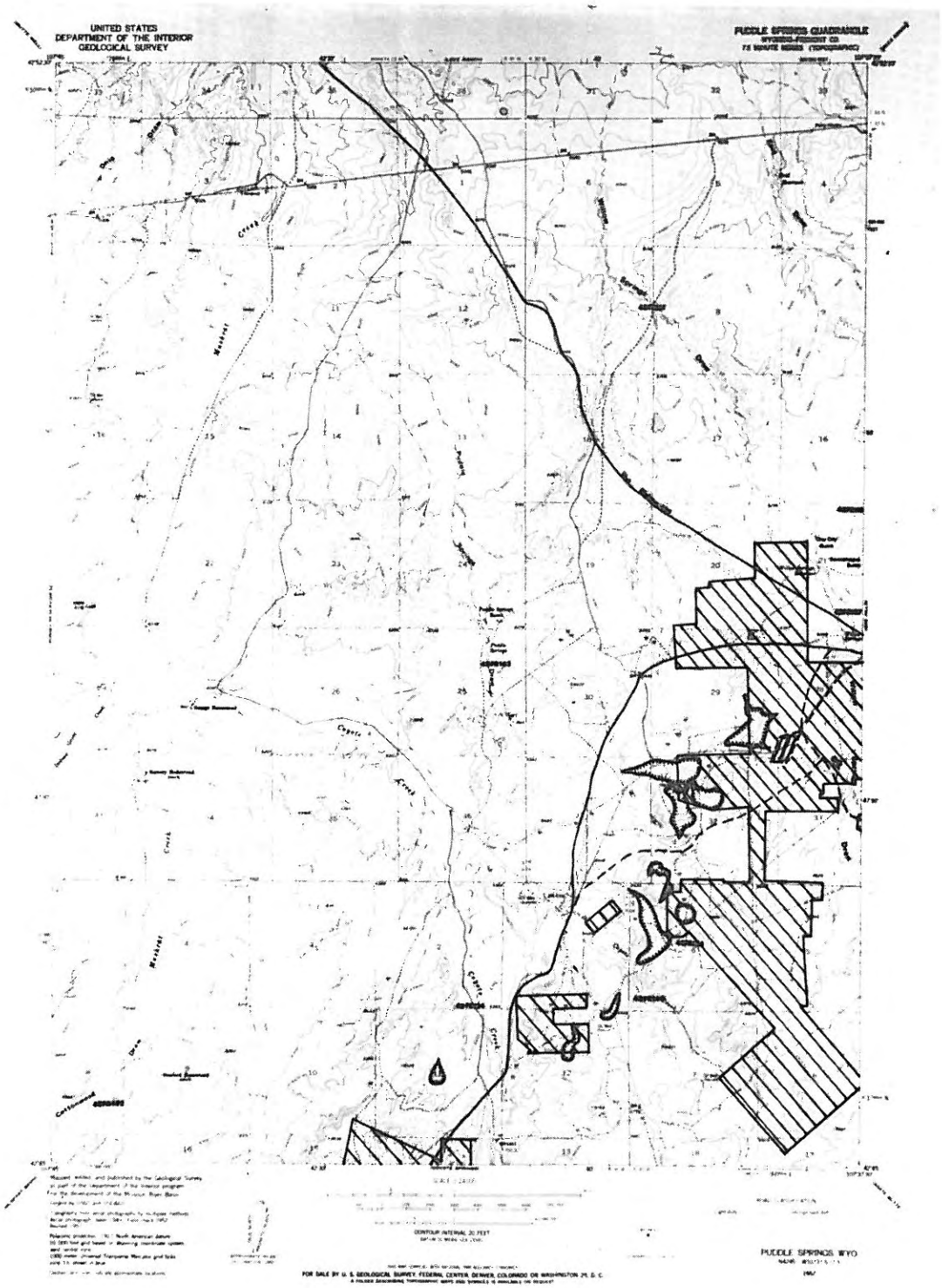

PLATE 3.

Lands included in the study.

Archeological site locations are marked by site number.

Existing mines.

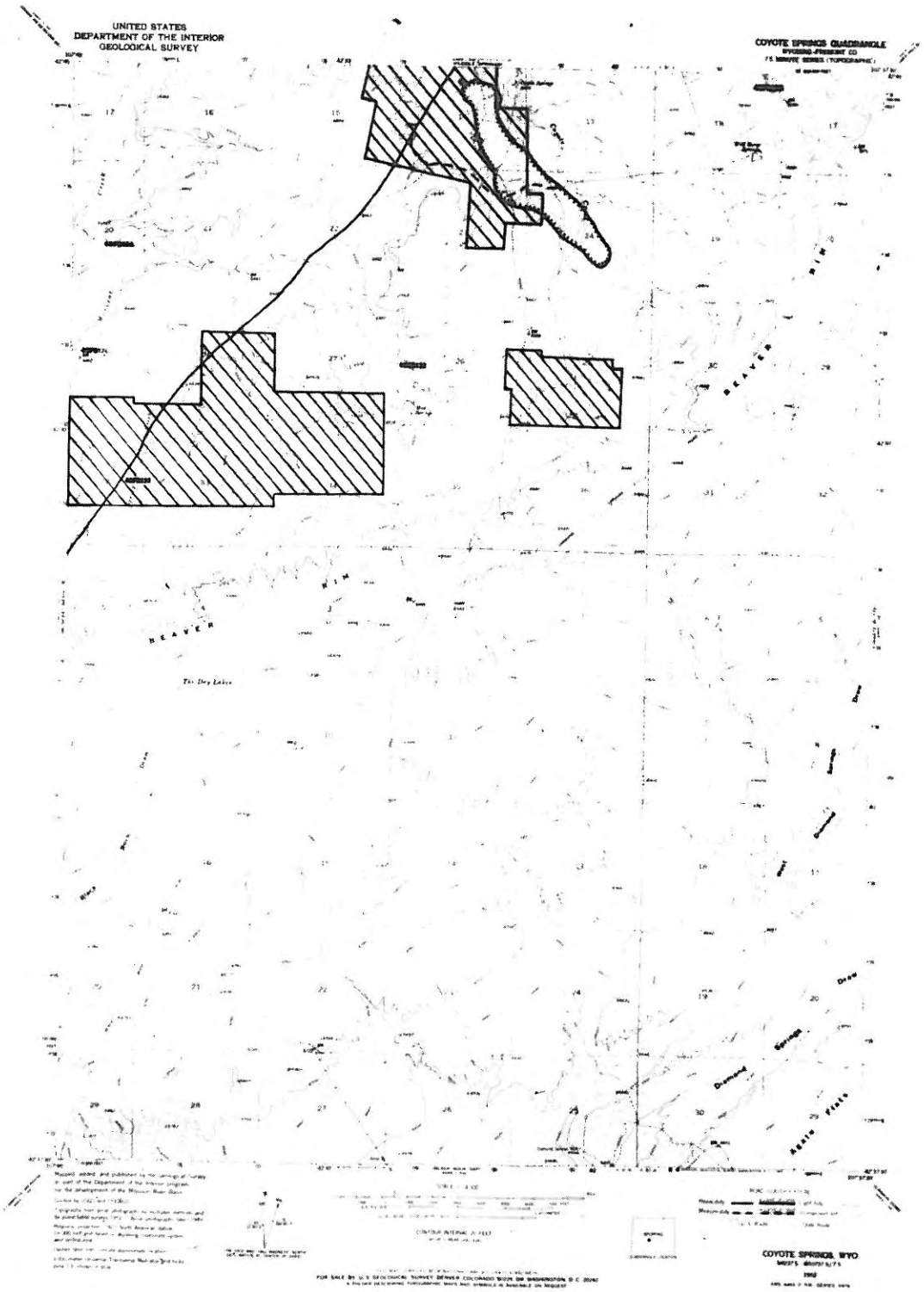

PLATE 4.

Lands included in the study.

Archeological site locations are marked by site number.

Existing mines.

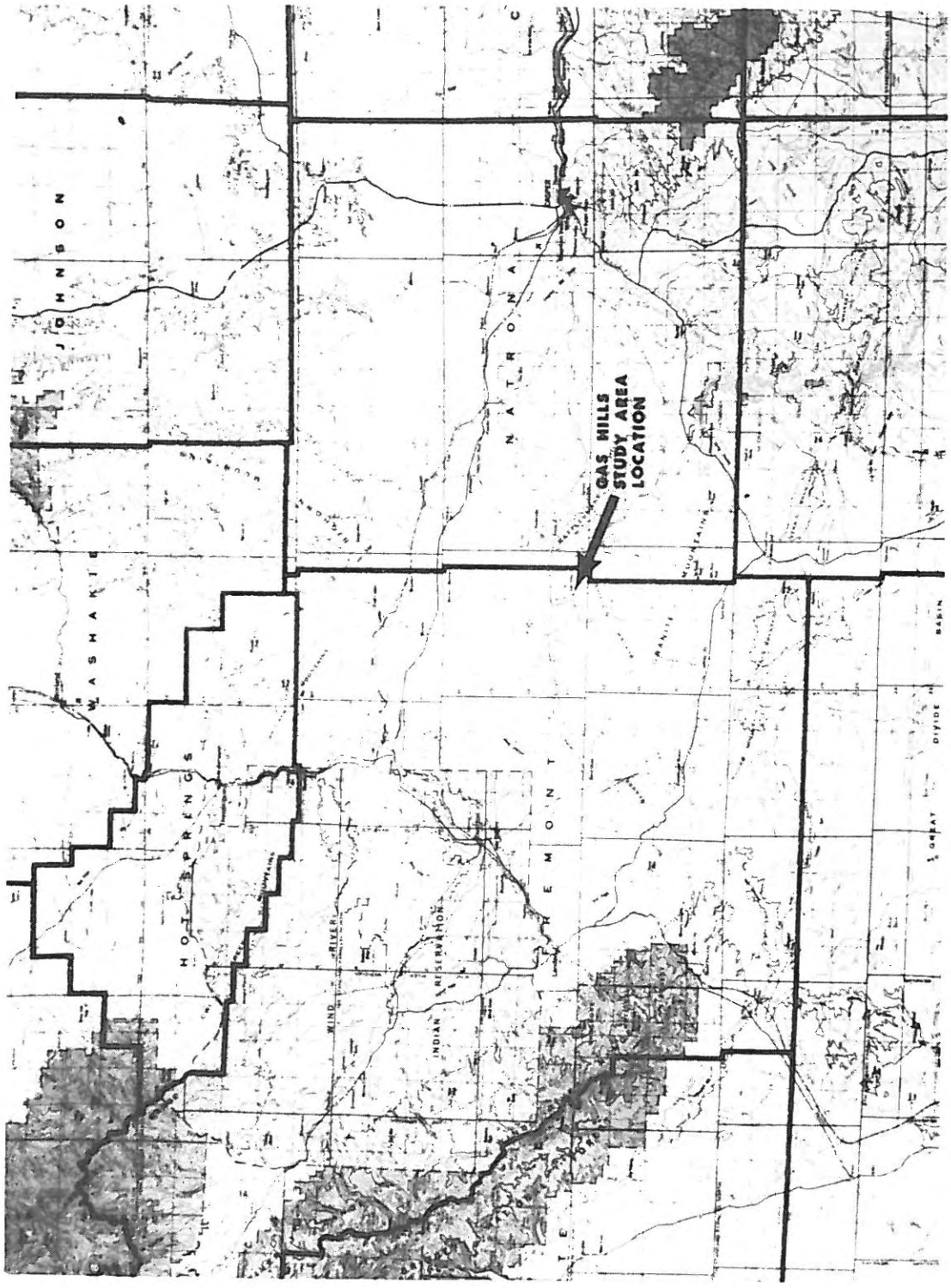

PLATE 5.
General location of the study area.