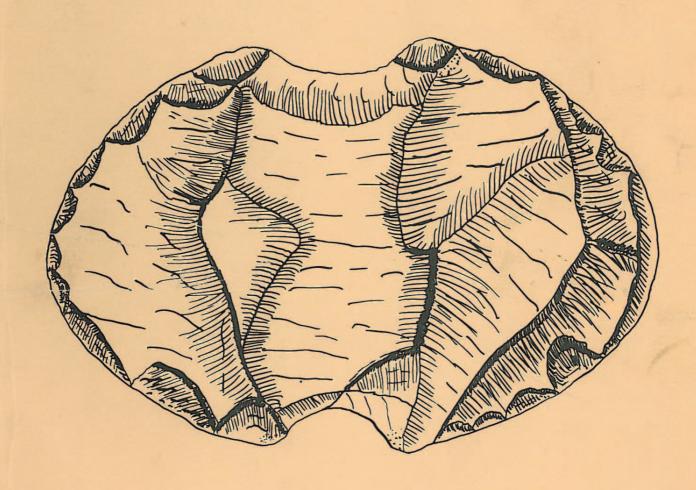
WYOMING ARCHAEOLOGICAL SOCIETY

THE WYOMING ARCHAEOLOGIST



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TABLE OF CONTENTS

State Officers and the Wyoming Recreation Commission	Appendix	F
Membership and Subscription	Appendix	В
Table of Contents		1
President's Letter	% %	2
Note on "Rendezvous on the Little Snake"		3
Resume of the Minutes of the 1977 W.A.S State Meeting		4
Chapter Reports	(6
The Whit Creek Site: A Case for a Research Design by Susan S. Hughes	1	1
The Archaeological Record of Casper Mountain by Steven E. Lund Casper Chapter W.A.S.	32	2

WYOMING ARCHAEOLOGICAL SOCIETY, INC.



Dear Members:

Although a few weeks have passed since our State Meeting in Casper, I am sure that the enjoyment of the meeting is still remembered by all. Our special thanks to the Casper Chapter and to the State Officers for the preparation, program, and good time.

I was especially impressed with the professional tone of our meeting and the excellent presentations by our young professionals and their sophisticated techniques devised to extract important data from the artifacts and materials being gathered. Their professionalism is both a tribute to the resourcefulness of the students and the expectations and training by the Department of Anthropology under the leadership of George Frison.

Our new Editor, George Brox, is hard at work on the next publication of the WYOMING ARCHAEOLOGIST, so let him hear from you about almost anything!

To our former Editor, Grant Willson, I am sure that I speak for everyone when I say thanks for many years (someone told me ten years) of interesting reading and publications which have become a treasured part of our personal libraries.

There are many interesting events planned for the summer and George Brox will fill you in on those. Hope to see all of you at the next event.

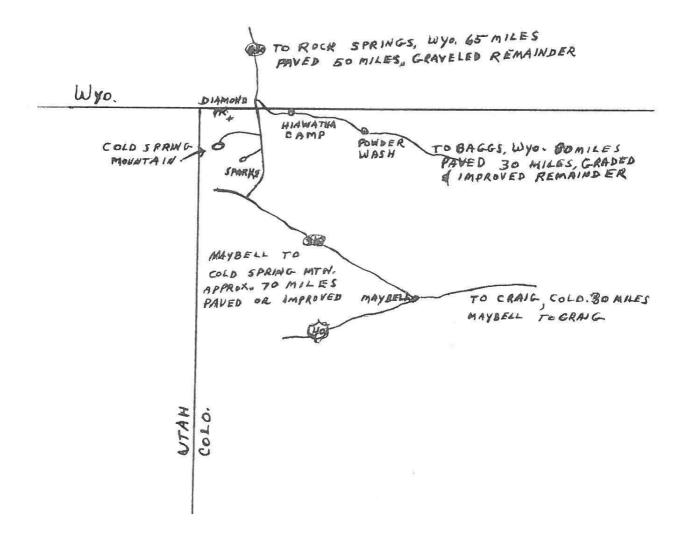
Sincerely,

/s/

Mary Helen Hendry President The "Rendezvous on the Little Snake" has been moved to Cold Springs Mountain in Browns Park, Colorado. This is a remote, but not inaccessible area, where Wyoming, Colorado, and Utah share a common boundary.

Historically, Browns Park was an outlaw sanctuary for such gentlemen as Butch Cassidy and "The Wild Bunch", and also lured many early settlers as a long promised utopia.

Pre-historical evidence is also plentiful in the form of pictographs, fire hearths, and other remnants of very early occupation. One brief visit will explain the magnetic qualities of this particular area.



OF THE MINUTES OF THE 1977 W. A. S. STATE MEETING

An informal meeting was held the evening of April 1 to organize the agenda for the following day.

On April 2, President George Brox called the meeting to order and read a letter of welcome from the Casper Chamber of Commerce. Guests were introduced and a count of members present taken (36). The Credentials Committee gave their report. Reading of the minutes from the previous meeting was dispensed with. Milford Hanson gave the Treasurer's Report for both the Society and the Foundation.

Several very interesting chapter reports were given. The Nominating Committee presented their findings which were accepted: Mary Helen Hendry, President; Bob Ellis, First Vice President; Grover Phelan, Second Vice President; Judy Pinner appointed Executive Secretary; and Milford Hanson appointed Treasurer.

Grant Willson gave the Editor's report on the present status of the <u>Wyoming Archaeologist</u>. Very interesting programs were presented by Chuck Reher on the Vore Site and Marcel Kornfeldt on the Selby – Dutton Sites.

After lunch it was voted on and approved to raise the Mulloy Scholarship to \$400 effective this year.

Larry Osborne gave a report from the Committee appointed to look into the making of a film on Wyoming archaeology. After discussion it was decided to continue work on this project.

George Brox and George Zeimens commented on the improved relationships between W.A.S. members and Federal agencies, especially the B.L.M. John Bellar, B.L.M. Archaeologist from the Rawlins District, was praised for his special efforts to help bring this about.

It was reported that Ned Frost would be unable to attend due to bad weather. He had sent the message that all was well with the Society as viewed from his position.

The recent loss of Bea Steege was announced. A proposal was made and approved to send a library grant of \$100 to the Anthropology Department for student use at Dr. Frison's discretion in honor of Bea.

George Zeimens talked briefly about the "Rendezvous on the Little Snake" at Dixon, planned for July 30. So much interest has been shown the suggestion was made that we hold the summer meeting there this year.

It was advised that the delegates get their chapters involved in determining the direction

W.A.S. is going. One idea that needs serious consideration is an Archaeological Research Center and Museum.

Announcement of Grant Willson's retirement as Editor and his replacement by George Brox was made. A standing ovation of gratitude was given to Grant for the nice job he has done for several years.

Susan Hughes, recipient of the 1976 Mulloy Scholarship, gave a talk on the Muddy Creek Site in Shirley Basin. Dr. Frison gave us a "State of the Union" message on the work that has been done in the last year, with thanks to the Society for their role in helping return the Horner Site materials to Wyoming.

Bob Peterson's program was on bison metacarpals and their usefulness in determining time of the year and type of herd chosen for kill. Tom Larson, who will soon be returning to Wyoming, reported on earth lodges in North Dakota. Mary Beth Galvan talked on vegetation zones and uses at Medicine Lodge Creek Site.

Henry Jensen showed the film recently completed by the Wyoming Historical Society. Larry Lahren talked on the Anzig Site in Montana. Charlie Ellis gave a report for Rod Laird from the Casper School for the Deaf. They are setting up a Paleo Indian Museum which will be open to the public. The displays will be aimed at 4th graders but more especially those with handicaps.

The meeting was adjourned until banquet time. Held at Casper College, the meal was excellent and enjoyed by all. The Golden Trowel Award was presented to Henry Jensen for his many efforts on the Society's behalf. The Mulloy Scholarship was presented to Kim Smiley. Dr. David Bretternitz gave an interesting talk and slide presentation on the Mesa Verde area.

Our thanks to the Casper Chapter for another successful State Meet.

Respectfully submitted,

Judy Pinner, Secretary

CHAPTER REPORTS

ANNUAL REPORT - CASPER CHAPTER - 1976 By Helen F. Bryant

With the exception of a film on salvage archaeology, 1976 programs were presented by Casper Chapter members. We are fortunate in having many members who have interesting and informative material and experiences to share with us.

Maryann Frary held us spellbound with her account of the discovery and investigation of the burial of "Quintina".

Dave Baskett, with slides, took us with him on his travels in Spain.

Dan Hutchison caused us to feel more optimistic about various matters in his talks about surveys, protection areas, and National Register proposals, with slides.

Mary Helen Hendry presented a slide program concerning pictographs and petroglyphs of Europe.

Walt Mershot, who has considerable background and experience in the search of prehistoric fossils, stirred our imaginations with slides and narrative.

Juanita Hinthorn showed us her collection of Hyattville Pictograph-Petroglyph slides which were taken before extensive deterioration had occurred. She told us of the many sites she had known about when she lived in the area and stories about the interesting people who had "made their mark" on the area. She also showed us a method of restoring artifacts. Her programs always leave us with renewed enthusiasm.

The highlights of the summer season were a field trip to the Outlaw Canyon Area, during which a section of Henry Jensen's Indian Trail was discovered, and a campout with the Cheyenne Chapter in the Glendo area. We were joined on our Outlaw Canyon trip by Lucille and Jim Adams and Mr. and Mrs. Ribble of the Fremont Chapter. Twenty-eight participated in this trip.

All in all, we feel that 1976 was interesting and hope that 1977 will be even better.

CHEROKEE TRAIL CHAPTER - 1976 by Berneil McCord, Secretary - Treasurer

Our January meeting was highlighted by the nomination of officers. George Brox was re-elected President, Avon Brock as Vice President, Berneil McCord - Secretary-Treasurer; Two-year Directors were Ada Jackson and Mark Miller, One-year Directors were Tom Lawrence and Gertrude Berger. Deborah Chastain was elected State Board Representative.

At the February meeting, we enjoyed a program presented by Tom Larson of the State Archaeologist's office in Laramie. The month of March marked the Eighth Anniversary of our Chapter. We celebrated with a dinner followed by a program presented by Dr. George Gill, Associate Professor of Anthropology at the University of Wyoming.

During the summer months we had many good field trips, including a jaunt to the historic Robbers Roost, also known as Big Nose George's Cave. In July we made an over-night trek to Bridger Pass, Sulpher Springs, and the Muddy, followed by a trip to the Laramie Plains in August.

We wound up our summer fun in September with an excursion to the Seminoe Dam area, and an evening dinner as guests of President Brox and his wife at their Seminoe bungalow.

The months of October, November and December finished our year with slide programs presented by Joe Pinner, former President of the Fremont Chapter, and our own members, Henry Flohr, and Ada Jackson.

All in all, we had a most memorable year and have hopes that 1977 will hold many more exciting and enjoyable events for the Cherokee Trail Chapter.

CHEYENNE CHAPTER REPORT - 1976 By Grant Willson

Membership: 17 Family Members and 13 Single Members.

Elected Officers:

PRESIDENT: VICE PRESIDENT:

Craig Casner Audrey Bailey

Charles Bates

SECRETARY - TREASURER: DIRECTORS:

Harry Palmer, D. J. Olinger, Lou Steege,

and Dr. Schoondermark

Meeting place for 1977 will be the Gardner's Corner by Cheyenne Airport, on the last Friday of each month.

Summer Trek Activities consisted of the following:

- Talking rocks in Shirley Basin, Memorial Week-end, organized by John and Lavonne Bradley, in conjunction with Loveland Chapter, C.A.S. Complete site report being written for THE WYOMING ARCHAEOLOGIST by the Bradleys.
- 2. Wooden Shoe Ranch Pictographs, June, second week-end.
- 3. Annual Spanish Diggings Week-end Camp-out, first part of August, along with Casper Chapter.
- 4. Coonie Hills, West of Wheatland, organized by member Joe Bookout. Dr. Schoondermark dislocated two artifacts.

Outstanding Programs:

- 1. By member Mary Ann Toliaferro, a slide presentation by Maya Sites in Yucatan.
- 2. Visit by State President, George Brox, and note that we still are anticipating visit by Vice President George Zeimens on the subject of site reports.
- 3. Our finest program was presented by our famous author and historian Virginia Trenholm, who introduced us to some of her old friends on the Wyoming Reservation.
- 4. Plains Anthropologist article by Dr. George Gill on the Glendo Burial which was discovered and reported by our chapter members Roy Hedgeland and Harry Haywood, made a very fine program.
- 5. Our December meeting is a traditionally combined banquet with Mineral and Gem Society and featured a program on Modern Indian arts and crafts, featuring Navaho rugs and was given by dealer Del Orr of Englewood, Colo.
- 6. We held three impromptu meetings to address, envelope, and stamp the WYOMING ARCHAEOLOGIST.

FREMONT COUNTY ARCHAEOLOGICAL SOCIETY - ANNUAL REPORT - 1976 by Lorene Iverson

The Fremont County Archaeological Society had another good year of "Continuing Education" in Archaeology. Our membership rose from 33 members in 1975 to 40 in 1976. Average attendance was 15 members and 5 guests. Guests are always welcome at our meetings. Some become members and others come for a program of special interest to them.

Officers for the year were: President - Joe Pinner; Vice-President - Lorene Iverson; Secretary - Barbara Cadman; Treasurer - Ora Hawkins; and Directors: Helen Lookingbill, Larry Osborne, Irene Morgan, and Lorene Iverson.

In January the Noble International Travel Agency in Lander showed us films on the Archaeology of South America "In Search of Ancient Mysteries". The giant figures and drawings on the Nazca Plain in Peru can only be recognized from the air.

We had a most interesting program in February given by Larry Hart, an oil geologist, who speculates man may have been in Fremont County 20,000 years ago. His theory is based on Petroglyphs on his ranch near Lander that bear a striking resemblance to rock art figures found in Scandinavia which have been dated at about 50,000 years ago. He combines these facts with the geology of the area in reaching his conclusions.

Norbert Ribble has started a scrapbook which will be a continuing history of our Chapter, beginning with the organization of the Chapter, minutes of the first meeting, and adding news of our activities.

The March program was given by Mary Tillman, a review of her book "Going to the Sun"

about the Blackfeet Indians.

Three films, "Ancient Projectile Points", "The Hunter's Edge" (Cores and Blades), and the "Backgrounders", all concerning the manufacture of tools and projectile points, were shown at our April meeting.

A workshop on casting artifacts was held in May instead of our regular business meeting with Joe and Judy Pinner as instructors in the Casting Technique. A week later we gave a farewell dinner for the Pinners, who were leaving Lander to do Archaeological Field Work.

In June an interesting program was presented by Gail Gossett, a book review of "Little Big Man" and a slide picture tour of the Gossett's trip to Mesa Verde. Seventeen members of our Chapter attended the Summer State Meet at Medicine Lodge Creek near Hyattville.

We took a field trip to the Rock Arrow Alignment below Green Mountain in August. The Rock Arrow, also known as the Hadsell Ranch Rock Figure, was investigated by the Casper Chapter and a report made in the September 1966 issue of the WYOMING ARCHAEOLOGIST.

Another field trip was taken in September with the Sweetwater Chapter as our guests. Jim and Lucille Adams guided the group up the beautiful Red Canyon to see many interesting Petroglyphs. In the afternoon they took us to Twin Creek to see more Petroglyphs.

Jim Adams gave a very interesting slide program at our September meeting on various digs in Wyoming and New Mexico. The Wyoming sites included the Morgan Site on the desert; the Folsom Site; Sunlight Basin; the Colby Site; the Lookingbill Site; the Casper Site; the Hell Gap Site; the Elk Mountain Site; and the Medicine Lodge Creek Site. Pictures taken in New Mexico at the Chaco Canyon showed Kivas and Metates.

In October, George Zeimens gave an excellent talk and slide presentation on sites in the Big Horn – Wind River areas. Slides were shown of Mummy Cave; the Hanson Site; Grant Creek Shelter; Mammoth Kill Site; Wedding of the Waters; Medicine Lodge Creek Site; Laddie Creek Site; South Sider Cave; and Granite Creek Rock Shelter. Of special interest was the Antithermal material found in some of the sites.

There was election of officers at our November meeting followed by Ken Johnson's program on the discovery of a human skull in the Red Desert in 1975. Ken took Dr. Frison to the site where they excavated an entire skeleton. Dr. Frison took the bones to the University of Wyoming for an analysis. Results: American Indian, male, 50-65 years old; 5 feet, 6-1/2 inches tall; powerful frame, and extensive arthritis and tooth decay. We are waiting for the Carbon - 14 date.

Our year ended with our annual Christmas dinner at El Toro's in Hudson.

Several of our members went out on Surveys with the State Archaeologist during the year. We helped with the Hudson – Riverton Highway Survey on March 19, the Gas Hills Survey on April 8 and 10, the Battle Springs Survey on April 24 and 25, and the Lost Well Butte Survey on August 28. And what a wealth of Archaeological knowledge the State crews gave us. It was the inspiration to make out Site Reports for the State Archaeologists with drawings and/or casts of the artifacts we found in the sites. And we are planning a Survey of our own next summer as a Chapter Project.

THE WHIT CREEK SITE:

A CASE FOR A RESEARCH DESIGN

By Susan S. Hughes

November 22, 1976

Abstract

An excavation should not be undertaken without the objectives of hypotheses of the research decided beforehand. The excavation of Site 48PA43 indicates that a second step, a research design, should also precede the investigation. The research design should specify the kind of data needed to test the hypotheses or answer the questions asked about the site. It should further specify the most practical and economical means of collecting a representative sample of the data. The research design connects the hypotheses or research objectives with the actual excavation or research. It directs the data collection so that time isn't wasted and the right kind and enough data is collected to answer the objectives of the excavation.

Site Location and Environment

Wapiti Valley is a narrow valley on the eastern edge of the Rocky Mountains in north-western Wyoming providing the route of the North Fork of the Shoshone River. The North Fork has its origin at the eastern border of Yellowstone Park. Site 48PA43, the Whit Creek Site, is located on Whit Creek at the timber (Table Mountain) and high foothills boundary on the south side of Wapiti Valley. From this high sagebrush terrace, the stream flows through three miles of rough, steeply rolling foothills to the Shoshone River below (Fig. 2).

At this location flat sagebrush terraces flank both sides of the creek. Cultural debris is most abundant on the western terrace which is smaller and higher. If there had been utilization of the flakes can also be found on the eastern side. eastern flank there is much less likelihood that much remains today because during the 1930's a Civilian Conservation Corps camp was built on this side to house loggers who At a later time the camp was used as a scout camp cut timber on Table Mountain. and is called the Bi Ho Ba Girl Scout Camp on U. S. Geological Survey maps. of the camp buildings, the kitchen, showers, and living tents were situated on a low, narrow, green-grassy terrace just above the east side of the stream. lt is an ideal place for a camp, sunny, yet protected by tall pines along the creek and by a steep bank to the sagebrush terrace on the east. The half ruined remains of three old houses and their outbuildings are scattered on this eastern terrace. They were probably associated in some way with the camp of the 1930's. The old broken dishes and bottles, dried out shoes, and newspapers attest to this. The people associated with these camps undoubtedly picked over the sites well for any good projectile points they could find. Also, the site itself is common knowledge in the valley, and local people have occasionally ventured the trip up the steep and frequently washed-out road to loot both the Indian material as well as wood and metal items from the long abandoned camp. The camp and site have become inaccessible in the last five years except by horse and foot because the last mile and a half of road to the site have not been kept up. The country is so dry and steep that a year of spring and summer rains will cut large and irrepairable gullies in exposed areas such as roads (Fig. 3).

Wapiti Valley is surrounded on all sides by high mountains. They are part of a larger group of mountains known as the Absaroka Mountain Range, of mostly volcanic origin. This range is about 100 miles long and 50 miles wide bordered on the west by the Yellowstone Plateau and on the east by the Big Horn Basin (Hyde and Beetle 1964: 7). Approximately 20 miles north over mountains from Wapiti Valley lies the Sunlight Basin, another inhabited mountain valley with very similar environmental conditions. survey was done in Sunlight Basin by Hyde and Beetle (1964). They recognize nine distinct vegetation communities in Sunlight. Three of these are applicable to the general area at the Whit Creek Site: (1) sagebrush grassland, (2) conifer with forage, and (3) broadleaf trees (Hyde and Beetle 1964: 10). The sagebrush grassland consists of small sage clumps (Artemisia) with the predominant grasses being Idaho fescue (Festuca idahoensis), muttongrass (Poa fendleriana), thickspike wheatgrass (Agropyron dasystachyum), prairie junegrass (Koeleria cristata), and bluebunch wheatgrass (Agropyron spicatum). Also common are fringed sagewort (Artemisia frigida), rose pussytoes (Antenaria rosea), lupine (Lupinus spp.), Hood's phlox (Phlox hoodii), milkvetch (Astragalus spp.), and prairie onions (Allium spp.) (Hyde and Beetle, 1964: 12 - 14). This sagebrush grassland environment extends across both high terraces at the site and over most of the steep rolling foothills. On the west and south sides of the site, the flat terrace gives way to a steep incline on which mountainous tree growth begins approximately 20 to 30 feet up the hill. This new community coincides with Hyde and Beetle's conifer with forage community. The mountain timber is primarily composed of juniper (Juniperus), douglas fir (Pseudotsuga taxifolia), limber pine (Pinus flexilis), and herbaceous understory vegetation (Hyde and Beetle 1964: The third community refers to the type of vegetation found along Whit Creek. It is characterized by aspen (Populus tremuloides), cottonwoods (Populus deltoides), willow (Salix spp.), wild rose (Rosa sayi), buffalo berry (Lepargyres canadensis), and a variety of ther berries and understory grasses suitable for grazing (Hyde and Beetle 1964: 29-30). On areas close to the stream where there is good year around moisture, such as is found on the low eastern terrace of Whit Creek, green grass varieties are predominant.

Deer, elk, antelope, and mountain sheep are common in the area now. However, it is thought that moose and bear were also common before Wapiti Valley became very settled. The large game is generally quite scarce until late fall when cold weather pushes them out of the higher mountains near Yellowstone Park and down into the lower border mountains such as Table Mountain.

Data on climate taken from Hyde and Beetle (1964: 6), for Sunlight show a range of temperatures from a minus 37 degrees to 96 degrees above zero. The average is approximately 39 degrees and average annual precipitation is approximately 15 inches

which probably represents mostly winter snow. Whit Creek Site is approximately 6850 feet above sea level.

The altitude and climate seem to indicate that the site would have been a difficult winter location. Being located on the northern side of the mountain where the winter snow would remain the longest and deepest adds to this assumption. For this reason it is suggested that this site was probably a late spring, summer, or fall occupation. Being centrally located to three vegetational communities as well as several species of big game would make it a good place for a camp especially in the fall.

Excavation

With five days to work with and a manpower of two, the site was excavated in August Preparation for the investigation included the gathering of the proper tools and supplies as well as the formulation of two broad research objectives. No other planning or research was done prior to the investigations. The research objectives were: (1) determine the type and extent of the occupation that was visible on the surface on the western side of the creek, and (2) find out if there were buried occupations beneath this surface site. The second objective was the result of the insatiable desire of Wyoming archaeologists to find sites dating to the Altithermal period (5000 to 8000 BP), a little-known period in Plains archaeology. Mummy Cave, some 15 miles above the Wapiti Valley on the North Fork revealed Altithermal occupation Altithermal sites are generally located in foothills and mountains at higher elevations, along streams that extend far back into the mountains, and in areas within or peripheral to mountain ranges and uplifts (Frison, Wilson, and Wilson 1976: 34). The Whit Creek site falls into these categories so it seemed possible that an Altithermal occupation may lie underneath the surface site.

The first procedure was to establish a datum. Using a compass the site meridian (north/ south) axis was staked out. The next step was to decide where to dig. A flake concentration was visible on the surface near the brow of the terrace above the stream. A spot was chosen about ten feet to the west of this concentration. A five by ten foot test was opened (test 1). An arbitrary three inches were removed revealing an unevenly spaced row of four rocks across the width of the test. These had been visible on the surface. No flakes or other cultural material was found in situ and the backdirt screening turned up 16 flakes. An arbitrary four more inches (level 2) was excavated revealing nothing new. However, at the bottom of this level, the loose, dry sandy soil changed to a tough clayish dirt peppered with many small angular rocks. Level 2 was completely sterile and the clayish dirt beneath was also. Due to the hardness and sterility of the clayish soil, only the southeast corner was dug to a depth of three feet. There was no change in the soil and there was no cultural material (Fig. 4).

The results of this test had been disappointing except that it seemed to reveal a single occupation near the surface although no definite floor was found. It was decided to open a new test toward the middle of the terrace (test 2). This location was chosen because much rock was visible at the surface forming a vague circle, perhaps a tipi ring. A ten by ten foot test was opened. The rocks visible to the surface were

mapped in along with a piece of steatite pottery which was lying above a hearth re-Approximately six inches of dirt was removed to the base vealed by later excavation. A projectile point base and 21 flakes came out of the backdirt. of most of the rocks. A small half-circle of stones was present. A foot from the south edge of this halfcircle were five small stones in a line on the edge of a discolored oval of soil. a blackish red soil and appeared to represent a deflated firepit. Two flakes were found near the fire area (see Fig. 4). The test didn't reveal a defined tipi ring as Surface rocks visible outside of the square do form a vague ring about the was hoped. hearth, but this is mere speculation. The half-circle of stone to the north of the hearth is unexplained. It could represent rocks displaced from the original ring, a tipi ring of an earlier occupation cut into by the later ring, or may be part of the ring and the other rocks forming the circle around the hearth may just be coincidence. is also quite possible that none of the rocks form a tipi ring. There was no evidence of postholes either. This test added very little knowledge of the site and the two objectives of the research had yet to be fulfilled with only two days left to work (Fig. 5).

An old logging camp road crossed the creek and cut across the southern periphery of the As it ascended the terrace enbankment it cut into it for a distance of approximately 70 feet. Near the stream the roadcut was six feet deep gradually narrowing towards the top of the terrace. If there was any occupation beneath the surface site on the western terrace, some cultural feature or material ought to have been present in the roadcut. Inspection revealed several ash layers which extended along In some places they were fairly thick and well-defined and in others they disappeared to almost nothing. A great number of ash levels appeared throughout the six foot depth, but only three were consistently dark and noticeable. The soil change seen in test I appeared in the cut about one foot from the top. The soil layers throughout the six feet were fairly uniform with the surface and there was no evidence of river cobbles or other stream deposition. No cultural material, pits or rock features were in evidence throughout the length and width of the roadbank. This further supports the assumption that the occupation of this west terrace is limited to that which is visible on the surface. The ash layers being very continuous are probably the result of frequent fires over thousands of years as suggested by two electrical rainstorms during excavations which were severe enough to bring work to a halt.

While the roadbank was sterile, the roadbed contained many flakes, a point base, an awl, and even a small firepit in the center about 50 feet up the road from the stream. This probably represents a camp fire not archaeological and built after the road was put in since the road surface was probably disturbed earth.

A five by five foot test, (test 3), was opened on top of the roadcut. Depth was taken to one and a half feet, a little below the soil change. There was no cultural material found on the surface or beneath in this test. Only a few flakes were found on the terrace surface south of the road which probably indicates that the site limits didn't extend much further south than the road.

There was only a half a day left to excavate. Although the three tests had revealed very little of the culture on the west side of Whit Creek, it was decided not to open

another test here. It had been the plan earlier to dig a small exploratory test on the low grassy terrace on the east side of the creek if time permitted this. With only a half day left, this latter test seemed the best idea. Nothing cultural was visible on the dense grassy surface of this low terrace. The shovel was sunk near the center. A large number of flakes came up with the dirt, and immediately a small four by four foot test was opened. The sod was saved to replace on the surface when the excavation This test was taken to a depth of twelve inches and flakes were found consistently throughout. Two probable floors were revealed, the first one approximately The greatest proportion of flakes also came out of the six inches from the surface. upper six inches. Floor one revealed an indistinct circle of slightly discolored earth. The area around the circle seemed thinly covered with this same discolored earth. Six flakes and two small pieces of bone were scattered around the circle. On the south side near a medium - sized rock projecting out of the test edge, was a well - made and complete biface with two large flakes lying beside it (Fig. 6).

The second floor at 12 inches revealed a definite firepit. All that was left of the ash was a reddish black discoloration of the soil, but it was surrounded and partially lined by fire-burned rock. One very large rock approximately two and one half feet long flanked the east side. A flake was found inside the firepit. Five rocks and three flakes were scattered over other parts of this floor (Fig. 7).

Both levels appear to represent hearths and possible food preparation areas. Unfortunately there were no points or other diagnostic material, or charcoal to give an idea of the dates involved. Also, there was no way of knowing whether one of these levels was associated with the occupation on the west side of the creek. Because the two areas represent completely different environmental settings, one, a high open sage terrace, the other, a low sheltered grassy area, it may be suggested that they are unrelated. Test 4 revealed two levels and if there had been more time, excavations would have continued to see if there were more.

During the excavations quite a bit of cultural material was found all over the western terrace surface. This included three projectile point fragments, an awl, two end scrapers, three fragments of steatite vessels (one being a rim section), and a number of broken unidentified tools, as well as large flakes. A ring of stones approximately 18 inches wide lying between tests 1 and 2 turned out to be an ash-filled fire hearth.

Analysis and Results

As mentioned earlier, the excavations were directed at answering two questions:

(1) what type of cultural manifestation was present on the western site surface, and
(2) was there buried occupations. In answering the first question, test 4 cannot be
used because it is not located on the western terrace. The material found on the west
terrace surface and exavation are listed in Table A. Two of the points found were
point bases, one found on the surface, the other in the backdirt of test 2. Both were
small side – notched points with straight baselines and no basal notch. They have the
appearance of being Late Prehistoric or Early Historic side – notch points. Another
point was a small broken tip of which nothing can be said. The fourth piece was a

nearly complete blade broken above the base. This point was found sticking out of the bank of a low grassy terrace within ten feet of the west side of the stream. This point (No. 76145) gives the appearance of being quite different from the Late Prehistoric points. It is large, thin, and the flaking is well-done with fine oblique transverse flakes on both sides. There is a fine edge retouch on the right side of both sides. The size suggests that it isn't a bow and arrow point but a spear or dart point. This would suggest that it is much earlier than the other material found on the site, prior to the Late Prehistoric Period or A.D. 500 (Fig. 8g). Its appearance and relationship to the site can only be speculated.

Four pieces steatite pottery were found on the surface of which none fit together. They all are a grayish-green color. One of the fragments appears to be of a coarser steatite than the other two. All pieces are of irregular thicknesses, but all show a bit of a curve. One piece is a rim section with the characteristic 'tadle' dip or indentation along the rim which is common on much steatite pottery found in Wyoming (Fig. 80). Another fragment shows a pronounced curve, a probable basal piece (Fig. 8n).

The rest of the cultural material isn't diagnostic. Percentages of tool types cannot be done since most of them were nonrandomly picked off the surface and the uninteresting and small flakes were left behind.

The results of the analysis and exavation were minimal. The steatite wasn't found in association with anything. There wasn't definite data on tipi rings or hearths associated with tipi rings. The limits of the site hadn't been determined. Clusters of flakes or any other feature were not observed. In short, there wasn't enough reliable data (if any at all) to draw any conclusions about the occupation. At best it can be guessed to be a Late Prehistoric site because one small projectile point base with side notches was found in the dirt of test 2. The five days of excavation had revealed the same thing as was known prior to the excavation from an examination of a few points found by private collectors, that small side – notched points were found there. The five days had been a waste of time in terms of knowledge gained in answering this first question.

The second question seemed to be answered by the excavation. There seemed to be only the surface occupation on the western terrace as reflected in the roadcut and three foot deep test in test 1. Test 4 on the east side appeared to have some time depth with two levels. It was brought to the author's attention, however, that often sites which appear to be single surface occupation sites on high windblown terraces may represent a number of occupations which have been blown off or rebuilt with stones already present (Zeimens 1976: personal communication). Frison (1967: 25) in speaking of the difficulties in interpreting stone circle formations writes:

"These features occur in a number of locations and under circumstances that render their interpretation difficult. A lack of associated artifact material is the rule and not the exception. Many were placed on geomorphic features where erosion or deposition was almost non-existent during the period they have been there and exposure to centuries of animal movements and the elements has destroyed or changed all but

the most imperishable artifact material. Many stone circles have been altered from their original form by different forces."

The evidence at the site doesn't prove or disprove the presence of several occupations. Therefore, the question of whether it was a multi-component site wasn't answered either.

A Research Design

If five days of excavation had produced absolutely nothing, what had gone wrong? Some serious thinking and a growing background in anthropological theory and method revealed the problem. A research design had not been formulated. Two broad objectives or questions were formed prior to the field work, but the data needed and the best method in which these questions were to be answered was not laid out. fore, there was no connection between the questions and the data collected. data collection was approached as if subjective digging was the only way to undertake an excavation which lay on the surface of the site, and as if the data would reveal itself through two or three excavated units which is very inductive. Since the excavating procedures were undertaken without any thought as to how they could best answer the questions, it isn't surprising that they revealed nothing. A research design, thought out beforehand, taking into account the limited time and manpower, as well as a list of the kinds of data needed to answer the questions, would have led to a much more productive excavation. Binford (1972: 160) expresses the need in archaeology for planned and "well-paced execution of research design". After presenting a "hypothetical" research design, he writes (1972: 161):

"It is concluded that if we are to be successful in the collection of data relevant to studies of cultural process, field work must be conducted within the framework of a well-planned research design which provides for the application of probability sampling techniques at all levels of investigation."

The first step of the research design would have been the formulation of the research objectives which was done. The second step would have been a listing of the kind of data that would answer the questions. An example of this would be:

- Question 1. Who and what occupied the western site? Data needed to answer this question would have included:
 - site parameter -- numbers of features and their limits.
 - features: (1) house features -- look for stone circles and pastholes, (2) hearths -- look for different types, get charcoal for dating, look for faunal or floral material in them, obtain pollen and soil samples, (3) other features -- stone formations, pits, etc., (4) associational data -- the relation of features to each other and to other cultural material.
 - assemblages: (1) points in association with features or

other assembalges, (2) tools, pottery, and other stone and lithic material in association with features and each other, (3) flakes and tool clusters in association with features, (4) pottery in association with features and assemblages.

- bone: (1) kind and what animal, (2) evidence of cut marks or other marks of human utilization, (3) in association with features and assemblages.
- environment: (1) annual climate, (2) plant zones and which plants have the potential of human utilization at what times of year, (3) site setting -- topography, location, (4) animals available within a several mile radius to site at what times of year.
- Question 2. Was there more than one occupation? Data needed to answer this question would have included:
 - deep profile of site with cultural material indicating a depth below existing surface site.
 - several charcoal samples from site to determine if different dates on the surface.
 - overlapping tipi rings, posthole patterns, or hearths on the surface site.
 - points definitely diagnostic of earlier cultural periods found in association with site features.

The next step in the research design would be to determine which excavating procedure would best obtain the above data in the limited five days. Most of the site was visible to the surface. The small quantities of material found in the excavation as compared to that taken from the surface, and the many rocks visible to the surface (assuming they are related to the site) attest to this. Therefore, a surface survey with mapping and collection of all flakes and the mapping of rocks should have revealed the parameters of the site, the location of most of the stone features, the location of flake clusters, pottery, tools, and points and their association to each other and features. Binford (1972: 153) mentions the "dog-leash" technique as being a very fast means of systematically sampling a surface area:

"Each person who collects items has attached to his belt a cord of predetermined length to which is attached a stake. The stake is placed in the ground at the appropriate location, and the person collects all the cultural items within the radius of the circle defined by the "dog leash". The location of sampling units can be determined quickly by means of a tape and compass or with a transit. Such a method is considerably faster than setting up a grid and collecting items from a square unit, all four corners of which must be defined."

The datum point could have been marked on the map, then at every 20 foot interval, the stake could have been sunk, the ten foot radius of the circle collected and mapped,

then the stake moved to the next location, 20 feet beyond the last, in line with the With two people doing the survey, this method could be done in two lines abreast or 40 feet across the length of the site. The whole surface of the western site could have been mapped and collected in this way revealing stone circles (if there were any), hearths, and chipping areas in just a day or two. Then with another two days, a sample of the possible rock formations and hearths could have been excavated to find artifacts in direct association with them, to obtain charcoal for dates, to look for faunal and vegetal material, and to look for overlapping features. A couple of features could have been taken down below their level to look for earlier occupation, however, these couldn't have been taken down very deep because of the time element The roadcut provides an excellent profile and this may have been the best means to look for earlier occupation. The final day, then, could have been spent on the opposite side of the creek excavating a larger test in hopes of obtaining a point or hearth with good ash for dating, as well as taking it deeper to determine if levels existed below the two observed.

A pre-conceived and well-planned research design would have allowed more and the right kind of data to be collected in less time. The site is ideal for a surface survey and collection, and this method should have come much closer to accomplishing the goals of the excavation in five days.

Further Site Analysis

On the basis of small side – notched points and steatite pottery found on the site, and the site location, a possible Shoshonean occupation may be inferred. Due to the nature of high wind – swept sites and the fact that most of the diagnostic material was found on the surface, this is very tentative and is offered here merely as a suggestion.

The two projectile point bases found during the excavation of the site were both small side - notched types with a straight basal line. One has the hint of a basal notch. Some of the points taken from the site observed in local collections have very highly concave bases similar to some bases found at the Piney Creek Site (Frison 1967: 10, 66 -- plate 20 and p) and others have basal notches (Fig. 7). Small side - notch points appear on the Northern Plains around 1500 years ago in association with the bow Kehoe has side - notch points at the Gull Lake bison drive site in Southwestern Saskatchewan dating to as early as A.D. 210 (Kehoe 1973: 53). buffalo kill site in the Upper Green River area of Wyoming has side - notch points at about A.D. 780 (Frison 1973: 25, 74). Basal notching on side - notch points is thought to have appeared approximately 500 years ago (Frison, Wilson, and Wilson 1974: 123). The Myers - Hindman Site in the Upper Yellowstone Valley has basal notched points at a level dating to A.D. 1200 + 90 (Lahren 1976: 117). notching presents some problems. It seems to occur more frequently near the Rocky Mountains and Ruth Gruhn in an analysis of the Wilson Butte Cave Site in south central Idaho seems to attribute bas al - notching to Shoshonean Speakers (Gruhn 1961: 146-7; Frison 1967: 40; Kehoe 1966: 834). It may have come from the west through Shoshonean peoples, however, basal - notching appears in great numbers on many late Plains sites attributed to Crow and other groups. Frison (1967: 41) suggests that this

may represent contact with Shoshoneans by more eastern groups.

The notched and unnotched bases closely resemble similar bases found at the Piney Creek Site (A.D. 1600) associated with Crow pottery (Frison 1967: 67, 69 — Plates 3 n and 5i). The Whit Creek Site private collections contained two single corner notch points. The only analogies to these come from the Myers-Hindman Site, Level 8 (A.D. 1200 ± 90) associated with Shoshonean pottery (Lahren 1976: 117, Fig. 18-17). They don't appear to be unfinished points (Fig. 8).

Steatite pottery was found during the excavation on the site surface. it is associated with the site as it has been assumed the points are associated with the site, the steatite could also lend support that the occupation was Shoshonean. graphic evidence indicates that Shoshone Indians were using stone pots. River Shoshone centered on the Green River of west central Wyoming remember making both steatite pipes and pots although not clay pottery (Lowie 1924: 225-6). ing to Shimkin their range included the Western Big Horn Basin, up the Shoshone River into Yellowstone Park (Shimkin 1947: 248). The Northern of Lemhi Shoshone who occupied southwestern Montana and eastern Idaho mention making both stone and clay pots (Lowie 1909: 174; 1924: 225). Lewis and Clark mention of the Lemhi River Shoshone 1805 that they used jars "made either of earth, or of a soft white stone which becomes black and very hard by burning (Wedel 1954: 406)". Wyeth in 1848 observed steatite pipe bowls and cooking pots among the Northern Shoshone along the Snake River although he adds that they are quite rare (Lowie 1909: 174).

There are several steatite quarries known in northwestern Wyoming. One is located in the Teton area, another in the Big Horn Mountains, and a third in the Wind River area (Frison 1971: 281). All quarries would have been easily accessible to Shoshonean groups.

Archaeological evidence indicates that steatife was used in the Rocky Mountain area for quite awhile before it was used as pottery. One of the earliest known uses is a pipe fragment found at the Dead Indian Site in Sunlight Basin dating to 5500 years ago (Zeimens 1976: personal communication). The Myers-Hindman Site in the Upper Yellowstone Valley revealed a steatite bead in a level dating at A.D. 480 + 70 (Lahren 1976: 110). Parts of steatite vessels have been found over much of western and southern Wyoming including Yellowstone Park. This distribution is much the same as that of Intermountain Pottery which is attributed to Shoshone peoples (Wedel 1954: 407; Mulloy 1958: 199; Kehoe 1959: 238, 243; Frison 1971: 280; Smith 1910: 517). Although steatite pottery comes in several shapes, one form "being the form of an egg with the tip of the larger end removed (Smith 1910: 517) " and a flat often flanged base resembles the Intermountain Pottery very closely (Wedel 1966: 407; Zeimens 1975:61; Frison 1976:280). Unfortunately steatite pottery has been found in association with Intermountain Pottery at only one site, Birdshead Cave in the Wind River Basin of Wyoming (Bliss 1950: 193). Along with other artifacts, four pieces of a coarse sand-tempered pottery, three steatite vessel fragments, three small side and basally notched projectile points, and a rusted iron fragment were found in the second level from the top. This level was, however, the base for the loose unconsolidated material

which the top level was in and it has been suggested that some of the upper material may have worked its way down to the lower level. Therefore, the association of the Shoshonean pottery with steatite pottery is questionable.

Most steatite has been found on the surface without direct association with datable items as on the Whit Creek Site and therefore, its range in time is unknown (Frison 1971: 281). Mulloy suggests that the earthenware pots may be derived from a steatite prototype (Zeimens 1975: 61). There are no flanged base sherds from the Whit Creek Site, and the one rim sherd suggests a vessel with a rounded rim and only slightly rounded sides near the rim. Therefore, it isn't known if the pots formed by these steatite vessel fragments have the same form as Intermountain pottery.

Ethnographic evidence places the Shoshone as occupying the area of the northern Rocky Mountains and its eastern and western peripheries. Shimkin (1947: 247) as previously mentioned gives the territory of the Wind River Shoshone as all the region drained by the Green and Bear Rivers in Wyoming and the east and south head branches of the Snake Lowie (1909: 171) places the Shoshone (Snakes) in a large territory encompassing western Wyoming and Montana, central and southern Idaho, and northern Nevada and Utah. They were thought to have extended as far east as the North The Flathead Indians occupying western Montana knew of no other groups to the south, southeast, and southwest that weren't Shoshone. They further mentioned that there were two Shoshonean groups, those in the Rockies (these were the Lemhi Shoshone whom they called a name meaning 'mountain snake') and those east of the Rockies who had a plains way of life, hunting buffalo, elk, and mountain sheep (Shoshones east and south of the Lemhi were called 'real snake'). This second group occupied the area of the Upper Yellowstone River including the Park and east to the Big Horns (Teit 1930: 301, 304-5). In his Cultural and Natural Areas of Native North America, Kroeber (1939: 86) reconstructs the area 500 years ago, before the arrival of the horse:

"On the west, a series of (Shoshonean) tribes lived in the foothills and broken country in front of the Rockies utilizing also the ranges behind and the Plains before them, according to season, occupation, and need. Their primary cultural affiliations are likely to have been Intermountain... Later they acquired a late Plains overlay (1939: 52)."

Both Skimkin (1947: 245) and Secoy (1953: 32-3) suggest that around A.D. 1700 the Shoshoneans living in the front ranges of the Rocky Mountains acquired the horse from groups to the south (the Utes) and adopted the mounted hunting life expanding explosively out onto the eastern Plains where the buffalo roamed in great numbers. They extended their territory in all directions having military advantage over the horseless groups. Shoshonean groups dominated the western Plains as far north as Canada until their enemies on the north and east acquired the gun and they were pushed back into the Rockies and its eastern flanks (see Fig. 1 for late band distributions).

Archaeological evidence seems to suggest that Shoshoneans were occupying parts of the western Plains before the horse by the large quantities of Intermountain Pottery associated with these sites. Site 48AB301 in the Shirley Basin, east of the North Platte River,

is attributed to a Shoshonean occupation. It dates between A.D. 1500-1750 and there was no evidence of the horse or other European influence (Zeimens 1975: 57, 72-3). Linguistic evidence places the arrival of Shoshonean groups into the northern Rocky Mountains approximately 900 years ago (Lahren 1976: 164). The presence of Intermountain Pottery at the Myers – Hindman Site at A.D. 1200 and at Wilson Butte Cave in south central Idaho dating between A.D. 1300 – 1400 supports this proposition. At dates not much later, sites containing Shoshone pottery have been found in western and southern Wyoming, northern Colorado, southern Montana, and eastern Idaho (Lahren 1976: 170, 172; Zeimens 1975: 56).

Frison (1971: 281) writes that Shoshonean camps tend to be located in rough, relatively inaccessible areas, "rough canyons, butte tops, or other high spots, and places that have no underlying or intermingling occupational debris to confuse with". The Whit Creek Site is situated on high and rough terrain. There doesn't appear to be any earlier occupations of the west bench however that doesn't negate the possibility of several surface occupations by Shoshone groups where the cultural debris would be essentially very similar.

The Whit Creek Site is well within the prehistoric and early historic range of Shoshone The points could well represent types used by Shoshones, Crow, and other Most of these other late Plains groups occupied the Plains north and late Plains groups. east of the Shoshone. In the historic period, the Crow were found in the eastern Sho-Ewers (Zeimens 1975: 57) writes that the Crow served as intermediaries in the trade of horses and other European items in the Upper Yellowstone. 75-76) states that the Crow were north of the Black Hills until 1785 when Siouan expansion pushed them west beyond the Powder River and undoubtedly into the territory of the The Piney Creek Site on the eastern flanks of the Big Horn Mountains contains predominantly Mandan - Hidatsa Tradition Pottery (believed to have been carried west by the Crow) at a date approximating A.D. 1600, nearly 200 years before Secoy's Crow movement. There was no evidence suggesting the use of the horse or any other European contact (Frison 1967: 27). It would appear that the Crow were occupying the eastern borders of Shoshone territory before the horse. It may be possible that the Whit Creek Site was occupied by Crow Indians. Since there was no evidence of European influence and trade on the site, the Whit Creek Site was probably pre-horse and probably occupied before the Crow began their trading trips into the Rockies.

The steatite pottery, generally believed to be of Shoshonean manufacture, might indicate the Whit Creek Site was Shoshonean. However, not enough is known about steatite pottery to say with any assurance that all steatite pottery is made by Shoshone peoples, and for this reason the steatite at the Whit Creek Site may be suggestive, but certainly not diagnostic.

Conclusions

The value of the Whit Creek excavation wasn't in what was unearthed, but in what wasn't unearthed, so to speak. It was a learning experience. It synthesized much of the problem in excavating as well as the problems of wind-swept surface sites in the

It raised many questions concerning how to best approach excavation on a practical level. The lack of good data in the actual excavation forced thinking of solutions on how to best retrieve data on past cultural systems. A research design and an extended time limit undoubtedly would have helped in retrieving a much more reliable sample of data to infer the occupation and time depth. When there is no prior knowledge of a site, this inductive inferring is probably necessary if based on a wellplanned and well executed research design. During the excavation, as side - notch and basal notched points and steatite pottery were discovered pointing to a Shoshonean occupation, the research design could be altered to collect data necessary to support or disprove a newly formed hypothesis, "Is it Shoshone?". This would have been the best way to have approached the excavation of the Whit Creek Site. Binford (1972: 159) writes: "Running analysis is a necessary part of feature description, and of even greater importance is the recognition that the results of running analysis largely serve as the basis for planning and decision making regarding successive methodological steps taken in the execution of the field program."

There is irony in this particular situation, however. The disturbed nature of high windswept surface sites may have prevented any reliable and disgnostic data being found in
association with anything. No matter how well-planned and executed the investigation had been, the data may not have been there.

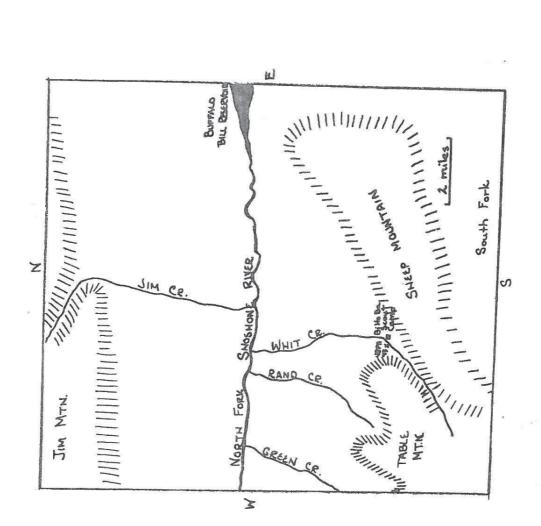
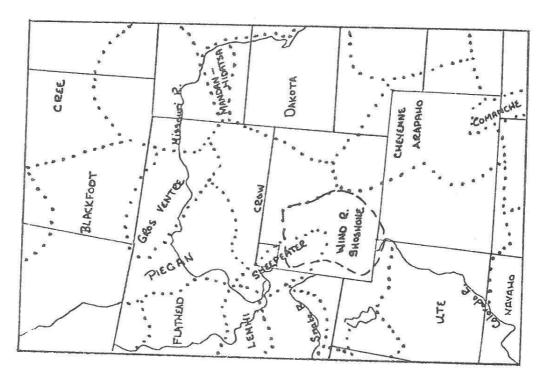


Fig. 2. Wapiti Valley in northwestern Wyoming. Fig. 1. Tribal boundaries between 1825 and 1875 in the Rocky Mountains and Great Plains (Shimkin 1947: 250).



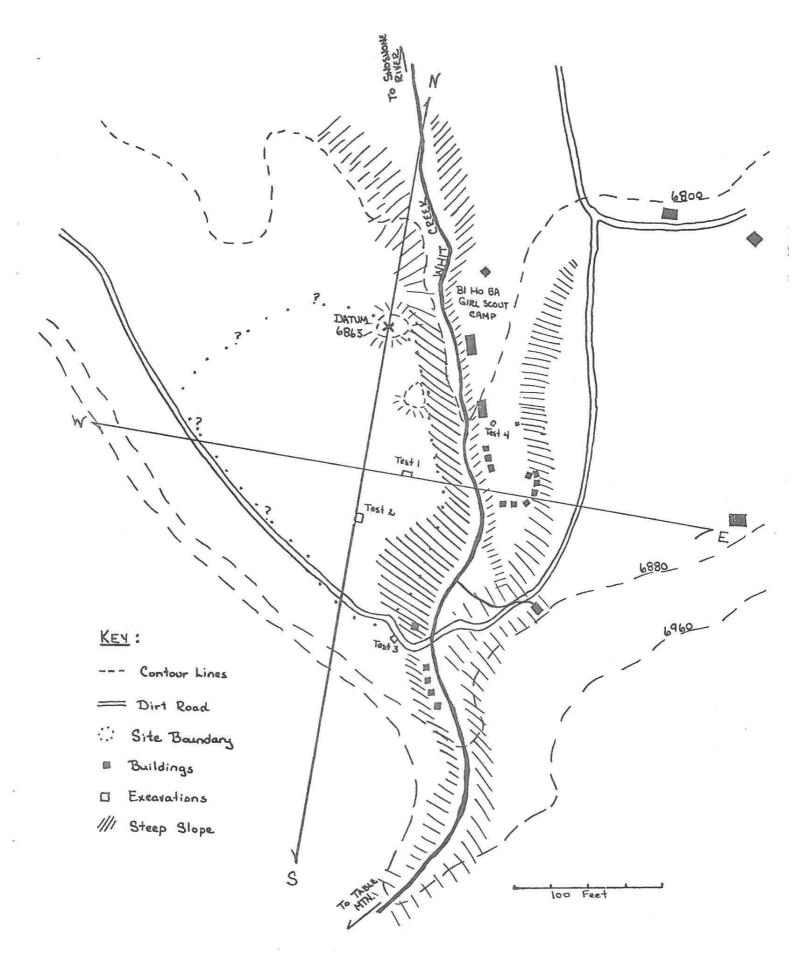


Fig. 3. Location of 48PA43. The excavations are marked.

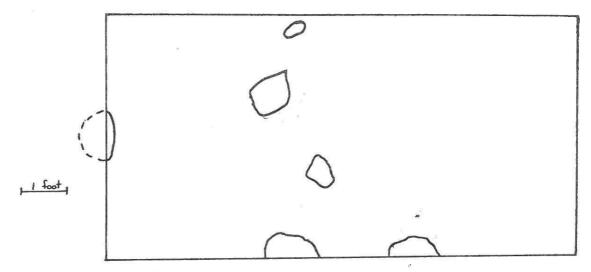


Fig. 4. Test 1 at the depth of 3 inches. Outlined areas are rocks.

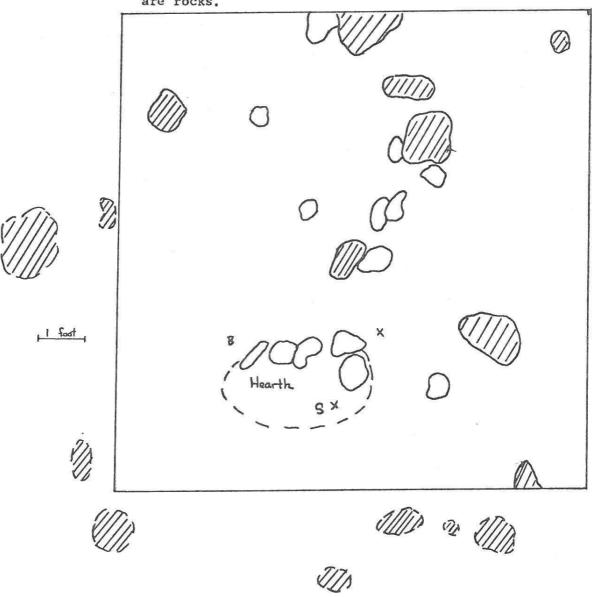


Fig. 5. Test 2 at the approximate depth of 6 inches. Hatchered rocks are those visible to the surface. X marks flakes, 3 = bone, and S = steatite sherd found on surface.

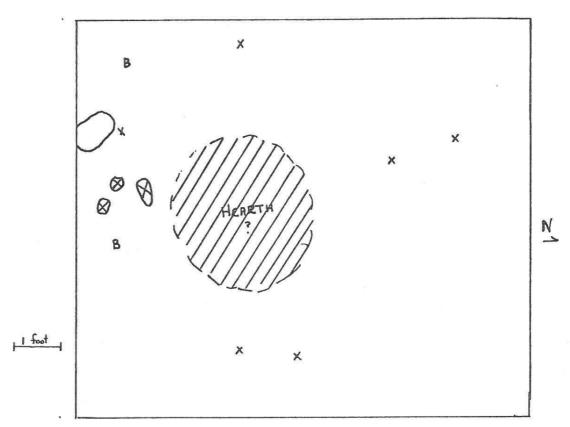


Fig. 6. Test 4, floor 1 at 6 inches. Hatchered area is discolored soil probably representing a hearth. Open circles are rock, B = bone, X = flakes, and 2 = biface group.

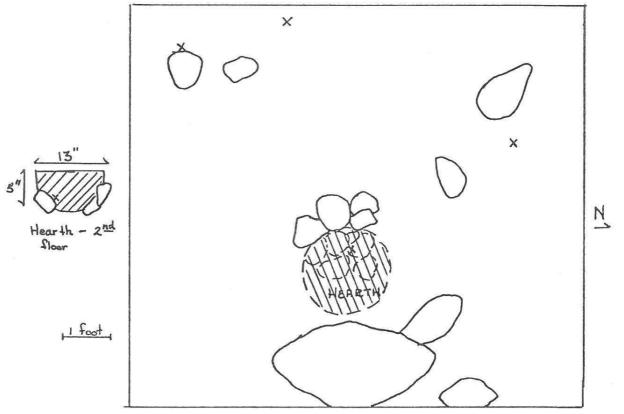


Fig. 7. Test 4, floor 2 at 12 inches. Hatchered area presents the hearth, open circles are rocks, X = flakes.

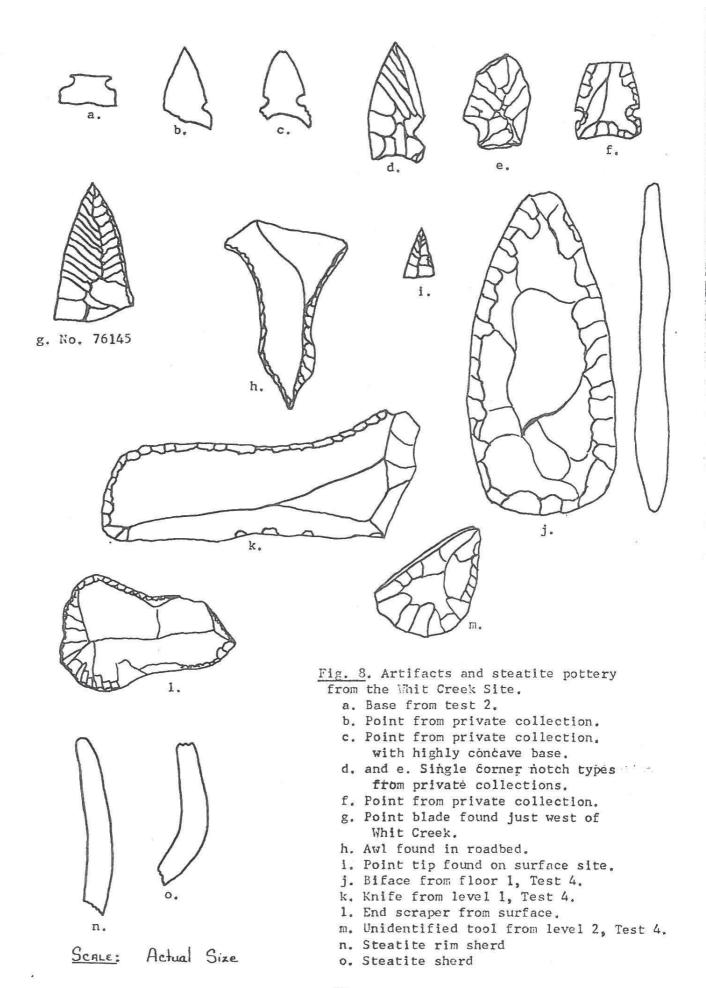


TABLE A

Material Types	Surface	Location Excavation	Test 4
POINTS	3 *	ī	0
REWORKED FLAKES	18	.4	9
UNWORKED FLAKES	16	31	148
WORKED COBBLES	3	0	1
AWLS	1	0	0
END SCRAPERS	2	0	0
KNIFE	0	0	1
BIFACE	1	0	1
STEATITE VESSEL FRAGMENTS	4	0	0
UNIDENTIFIED TOOL FRAGS.	2	0	2
BONE	1 **	ī	30
FIREPIT	1 ***	1	2
TIPI RINGS	?	?	0

^{*} Includes the point blade found in embankment just west of the creek.

Table A.

Listing of cultural material and features found on 48PA43. The first column includes all material found on the surface, the second column includes all material found in the excavation of Tests 1, 2, and 3, on the western terrace. Column three lists the material recovered in the excavation of Test 4 on the low green grass terrace on the east side of Whit Creek. All the bone fragments were so small that identification was impossible.

^{**} Badly broken shaft of a small longbone taken out of the roadcut on top of the terrace not in association with anything.

^{***} The firepit found in the middle of the roadbed is not included here.

BIBLIOGRAPHY

Binford, Lewis R.

1972 An Archaeological Perspective. New York: Seminar Press.

Frison, George C.

The Piney Creek Sites, Wyoming. University of Wyoming Publications. vol. 33. Laramie, Wyoming.

"Shoshonean Antelope Procurement in the Upper Green River Basin, Wyoming," Plains Anthropologist, 16: 258-284.

The Wardell Buffalo Trap 48SU301: Communal Procurement in the Upper Green River Basin, Wyoming.

Anthropological Papers, no. 48.

Frison, George C., Michael Wilson, and Diane J. Wilson

"The Holocene Stratigraphic Archaeology of Wyoming: An Introduction," in Applied Geology and Archaeology: The Holocene History of Wyoming. Michael Wilson, ed., Geological Survey of Wyoming, No. 10.

1976 "Fossil Bison and Artifacts from an Early Altithermal Period Arroyo Trap in Wyoming," American Antiquity, 41: 28–57.

Gruhn, Ruth

"The Archaeology of Wilson Butte Cave, South Central Idaho,"
Occasional Papers of the Idaho State Museum, No. 6. Pocatello.

Hyde, Robert M., and Alan A. Beetle

"Range Survey in Sunlight Basin, Park County, Wyoming,"

Agricultural Experiment Station, Bulletin No. 423. University of Wyoming.

Kehoe, Alice

1959 "Ceramic Affiliations in Northwestern Plains," American Antiquity, vol. 25" 237–246.

Kehoe, Thomas F.

"The Small Side - Notched Point System of the Northern Plains," American Antiquity, vol. 31" 827-841.

The Gull Lake Site: A Prehistoric Bison Drive in Southwestern

Saskatchewan. Milwaukee Public Museum Publication in Anthropology
and History, No. 1

Lahren, Larry A.

1976 The Myers - Hindman Site: An Exploratory Study of Human Occupation Patterns in the Upper Yellowstone Valley from 7000 B.C. to A.D. 1200. Livingston, Montana: Anthropologos Researches International, Incorporated.

Lowie, Robert H.

1909 "The Northern Shoshone", American Museum of Natural History, Anthropological Papers, vol. 2.

"Notes on Shoshonean Ethnography", American Museum of Natural History, Anthropological Papers, vol. 21.

Mulloy, William

A Preliminary Historical Outline for the Northwestern Plains,
Laramie, Wyoming: University of Wyoming Publications, vol. 22.

Secoy, Frank R.

1953 Changing Military Patterns on the Great Plains. American Ethnological Society Monographs, No. 21.

Shimkin, D.B.

1947 Wind River Shoshone Ethnogeography. Anthropological Records, No. 4. Los Angeles: University of California Press.

Smith, Harlan I.

1910 "An Unknown Field in American Archaeology", American Geographical Society, Vol. 42.

Smith, Sharon K.

1970 "Preliminary Report Site 48PA551". The Wyoming Archaeologist, 13 (1): 23-33.

Teit, James A.

"The Salishan Tribes of the Western Plateaus", Bureau of American Ethnology Annual Reports, No. 45.

Wedel, Waldo R.

"Earthenware and Steatite Vessels from Northwestern Wyoming", American Antiquity, vol. 4: 403–409.

Zeimens, George M.

1975 48 AB301: A Late Prehistoric Period Site in the Shirley Basin of Wyoming. Thesis, University of Wyoming.

THE ARCHAEOLOGICAL RECORD OF CASPER MOUNTAIN

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In the past, various land surfaces in Wyoming were disturbed and altered by development such as road construction, housing, mining, and flooding before the area was examined for its archaeological value. Consequently, any archaeological sites that might have existed in these locations were needlessly destroyed. Today, many areas of Wyoming are experiencing new development, and Wyoming archaeologists — both amateur and professional — are recording the archaeological data in these areas before they are disturbed. In anticipation of future development projects coming to the Casper Mountain area of Natrona County, the writer conducted an archaeological survey of this area from 1972 – 1976.

During the survey period, Casper Mountain and the Goose Egg area were explored by foot, and all sites located were recorded on maps. Some of the sites from the Goose Egg area and south western Casper Mountain were briefly described in a report published by the Wyoming Field Science Foundation, "Records in Stone and Bone" (1975). In addition to personal discoveries, information about the archaeology of the area was obtained from other collectors who had found artifacts on the mountain.

The only site from the study area that was excavated (with the exception of two small test plots at Jackson's Canyon Site #1) was the Goose Egg Bison Site (page). A detailed report of this site, including photographs and maps, is on the State Archaeological site file at the University of Wyoming (#48Na55).

Geography of the Casper Mountain Area

Casper Mountain is located at the northern most tip of the Laramie Mountain Range in central Wyoming. It runs almost exactly east—west, and the main fault is located on the north side. The highest point of the mountain is 8,130 feet; the mountain is about three miles wide, and some ten miles long. The City of Casper is located in the flood plain of the North Platte River four miles to the north. The "Casper Site", a Paleo – Indian bison kill site, is located seven miles north of the mountain. Flanking Casper Mountain on the southwest is Coal Mountain (7,000 feet), and on the southeast is Muddy Mountain (8,000 feet). A strip of rangeland averaging about a quarter of a mile wide separates Casper Mountain from both Muddy and Coal Mountains.

The greatest surface area of Casper Mountain lies south of the main fault, an area that gradually slopes down into Muddy Mountain and Coal Mountain. Just off the main mountain to the east and west, are two similar areas of rugged, dissected topography. Gravel capped pediment surfaces slope north from Casper Mountain into the City of Casper.

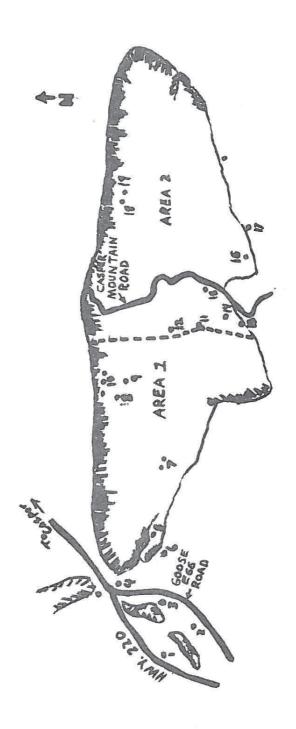


Figure # 1. Map of the Casper Mountain Area.

The numbered dots show the locations of significant sites. They are numbered in the order of appearance in the report (i.e., # 1 is the Harned Site, # 2 is the Goose Egg Bison Site, etc.).

Precambrian Granite is the main rock formation in the middle and northern parts of the mountain, and much of this area is covered by forests of fir, pine, and aspen. The Madison Limestone, which outcrops south of the Precambrian and Cambrian Formation contains nodules of chert which may have been used by Indians for making tools. The Casper Sandstone, comprising much of the surface area of Casper Mountain, lies south of the Madison, and contains exposures of quartzite which was utilized for tools by the Indians. The Goose Egg formation is exposed south of the Casper Formation. It outcrops between Casper Mountain and Muddy and Coal Mountains. Chert from this formation was also utilized by Indians for making tools.

Casper Mountain Sites

The writer has subdivided the Casper Mountain area into two sections. The first section, designated area #1 comprises the sites on the west end of Casper Mountain and the Goose Egg area (see attached map). Area #2 includes all sites on Casper Mountain east of Red Creek. A description of each site is given, but locations are narrowed down to sections only. Although isolated finds of significance are mentioned, generally just the largest sites in the study area are examined in this report. Of the nineteen sites included, only some from area #1 have yet been assigned site file numbers in the state site file.

Area # 1 Sites

The Harned Site (#48Na65)
 Location: Township 32 N., Range 81 W., Section 11.

This site is located on a level field adjacent to a small spring. The full extent of this site is uncertain, as a mobile home now rests on what may have been the main part of the site. A possible fire hearth is present at this site, but has been damaged. It consisted of five river cobbles arranged in a circle. Near this possible hearth were found fragments of bone of uncertain identity some pieces of freshwater clam shells, flakes of quartzite, chert, and agate, and a late Middle Period projectile point. Two fragments of projectile points were also discovered. This site has been almost completely destroyed, but flakes were unearthed when trees were planted around the home.

The Goose Egg Bison Site (48Na55)
 Location: Township 32 N., Range 81 W., Section 11.

This site is presently threatened by road construction, but fortunately a good deal of work has already been conducted at this site. The site is located on a level field about fifty yards from a stream. It may be both a kill and butchering site. On the southern part of this site a campsite is located in which two side scrapers, an end scraper, a chopper, and retouch flakes were found. Flakes of several types of lithic material were found randomly scattered over the surface. A triangular Middle Period type point, a drill, and a fragment of a projectile point were also found. Bison bones (Bison bison) were exposed on the surface, and

an excavation was conducted in the area where the bones seemed to be concentrated. Upon excavation, bones of an immature bison were uncovered. Most of the bones were scattered, but some were stacked on top of each other. The majority of the bones were broken and displayed butchering marks, and the only artifacts found in the excavation were a few sharpening flakes.

Other artifacts and flakes, including two Late Period projectile points (one obsidian, one blue chert) were found near separate clusters of complete and broken river cobbles on the "Little Red Buttes" a few hundred yards north of the bison site.

Gillingham Site (48Na60)
 Location: Township 32 N., Range 81 W., Section 12.

A large campsite discovered on a slope and an adjacent level field near a very deep spring, yielded at least six projectile points. Three of the points are early Middle Period type, while a third is a late Middle Period type. The other points are only pieces, but are probably also Middle Period. A few cores and many flakes of quarts-ite, chert, agate, and other lithic materials were found throughout the site. A mano, pieces of clam shell, an awl, side and end scrapers, a biface, and retouch flakes were also found.

 Matheson Creek Site Location: Township 32 N., Range 81 W., Section 12.

This campsite along the west bank of Matheson Creek, is just across the road from the Goose Egg Inn. A total of five projectile points were found here. One is a Middle Period type and three are small side notched points of Late Prehistoric Period type. One end scraper, and two retouch flakes were found. Flakes are also present.

Jackson's Canyon Site # 1 (48Na66).
 Location: Township 32 N., Range 80 W., Section 18.

Situated in a sandy clearing along the edge of Jackson's Canyon, this site is well preserved, and appears to have been occupied in both the Middle and Late Prehistoric Periods. Four Middle Period projectile points and five Late Period corner notched points were found here. This site was probably a major tool making camp as numerous flakes and several reject tools were found. Quartzite and chert of many colors were the most common lithic material found, but obsidian was also found in quantity. Unifaces, bifaces, and retouch flakes were also present. Two small test plots were excavated at this site. Flakes were unearthed in both tests, but bedrock was reached from three to six inches below the surface.

6. Jackson's Canyon Site # 2 (48Na59). Location: Township 32 N., Range 81 W., Section 12.

This poorly preserved but extensive site is cut by a county road and borders

Gothenberg Draw. This site covers parts of several acres, as artifacts have been found all along the edge of the canyon. Fragments of six projectile points were recovered. One small side notched point is from the Late Period, while the others are probably Middle Period type. Two scrapers, a biface, a large quartzite chopper, a drill tip and a mano were also found here. Most of the flakes are quartzite and chert.

7. Twin Ridge Site Location: Township 32 N., Range 80 W., Section 16.

This site is located near the base of Casper Mountain along a canyon near a stream. Two broken projectile points, probably of the Middle Prehistoric Period, were found as well as chert and quartzite flakes. A side scraper was the only other tool found.

The Squaw Creek Sites

Section 14 of Range 80 W., Township 32 N., contains the largest number of sites yet encountered by the writer on Casper Mountain. These sites are similar in that they all show indications of considerable tool manufacturing, with quartzite being the most common kind of lithic material used, and they appear to have been occupied mostly during the Middle Prehistoric Period. It is easy to understand why quartzite is so common in these sites. Outcrops of quartzite are common in the area, and worked pieces of this lithic material have been found in large numbers adjacent to these exposures. The quartzite is colored white, grey, red, brown, pink, and various combinations of these colors. Generally, the flakes found at the campsite are smaller than those found at the outcrops, which indicates that finer work was done at the camps as compared to work done at the quarries. The largest of these sites, located at the headwaters of Squaw Creek on the northern edge of the mountain, has been a popular artifact collecting place for many years. This site (Layton - Dinsmore) is the largest single archaeological site on Casper Mountain.

8. Lund Site (48Na56) Location: Township 32 N., Range 80 W., Section 14.

The Lund Site is located on top of a large hill that contains quartzite exposures. Most of the artifacts were found on top of the hill. Hundreds of flakes and several cores of predominately quartzite and chert were found here. Because many of these flakes are over an inch long, this site was undoubtedly a favorite place to work on quartzite cores. Many bifaces and unifaces, one end scraper, two choppers, two early Middle Period projectile points, two Late Period projectile points, and a preform were the tools found at this site.

Tebbet Site (48Na56). Location: Township 32 N., Range 80 W., Section 14.

A quarter mile east of the Lund Site, the Tebbet Site is also located near the top

of a hill. Most of the tools found were projectile points. Of the eleven points found, all but one appear to be Middle Prehistoric Period type, the exception being a Late Period type. Two bifaces and two retouch flakes were the only other tools found. Flakes were scattered about but were not as common as at the Lund Site.

Layton - Dinsmore Site (48Na64).
 Location: Township 32 N., Range 80 W., Section 14.

This is the main Squaw Creek Site. As was previously mentioned, this site has been a popular artifact hunting area in the past, yet flakes still abound and tools and projectile points have recently been found in the area. The center of the site is located on a level terrace above the headwaters of the creek. presently sits in the midst of this field where numerous artifacts have been located. This field covers several acres and is bordered on both sides by small patches of In clearings adjacent to these patches of forest lie campsites where flakes, tools, and projectile points have been found. In fact, sites occur at just about every clearing for a distance of a half mile along the northern edge of the mountain. A few flakes are also found in the forested areas, and thus the sites are somewhat linked together. At least forty-five projectile points have been found in this Approximately 90 percent of these points are late or early Middle Period types, and the rest are Late Period. One serrated point was found. tools including scrapers, awls, choppers, bifaces, unifaces, and preforms have been found here over the years.

Area # 2 Sites

11. Upper Red Creek Site
Location: Township 32 N., Range 79 W., Section 30.

This is the only site that I have discovered on Casper Mountain that was located in the bottom of a canyon. A few tools were found at the junction of Red Creek and another small intermittent stream. Both tools were well flaked, one is a quartzite side scraper, the other is a chert biface. A scattering of quartzite, chert, and agate flakes was also present.

12. The Eadsville Site
Location: Township 32 N., Range 79 W., Section 29.

Some quartzite and chert flakes, the midsection of a projectile point, and a large chopper of quartzite were found on a ridge overlooking the Eadsville mining location. A fluted Paleo - Indian projectile point was also found in this vicinity (Weber 1963), and with the exception of a Clovis point found at the northeastern part of Casper Mountain (Hinthorn pers. comm.) this specimen is the oldest projectile point found on Casper Mountain.

The Flagstone Quarry Site. Location: Township 32 N., Range 79 W., Section 32.

This small site, located along a small stream, yielded two late Middle Period projectile points, an end scraper, and some flakes. It is one of the few sites located on the Goose Egg formation.

The Moonshiner's Site. Location: Township 32 N., Range 79 W., Section 29.

The only Paleo - Indian projectile point found by the author during the survey was found in an eroded part of a hill not far from a stream. This white quartzite point has been identified as a Lovell Constricted specimen, and is about 8,000 years old. The discovery of this point on Casper Mountain is particularly interesting as Lovell Constricted points were believed to be confined to the Big Horn Mountains (Larson, et al, 1976). Near where this point was found is a campsite where two early Middle Period points, a biface, and flakes were found. Another Middle Period point was found on the north bank of the stream.

Star Wallow Site. Location: Township 32 N., Range 79 W., Section 28.

Next to the Layton - Dinsmore Site, this site in the Star Wallow cabin development area, is probably the second largest on Casper Mountain. The site covers a meadow of several acres, and is cut by the Casper Mountain Road. Presently, flakes and an occasional tool or projectile point are about all that can be found at this site, which has been thoroughly picked over by artifact collectors. However, most of the projectile points found here are Middle Period type.

Clear Fork Creek Site # 1. Location: Township 32 N., Range 79 W., Section 27.

The Clear Fork Creek Site $^{\#}1$ is located southeast of the Star Wallow Site. A retouch flake, an end scraper, a core of chert, and a scattering of flakes were present in a sandy area near the creek.

Clear Fork Creek Site # 2. Location: Township 32 N., Range 79 W., Section 35.

This campsite is located on a rocky ridge that overlooks the junction of Clear Fork Creek and another stream. A piece of clam shell and broken pieces of a river cobble were present here. Also located were many quartzite and chert flakes, a uniface, and two retouch flakes. The piece of clam shell found at this site is one of the few that was located on Casper Mountain. (The shells described in some of the previous sites were from the Goose Egg area.)

Crimson Dawn Site.
 Location: Township 32 N., Range 79 W., Section 14.

According to several reports, a teepee ring is located east of Crimson Dawn. Unfortunately, the teepee ring was not located during the survey, but if the reports are correct, this would be the only teepee ring known from Casper Mountain. However, a small site was found in a clearing in a forest and yielded a quartzite chopper and several flakes.

Crimson Dawn Quarry Site.
 Location: Township 32 N., Range 79 W., Section 14.

An outcrop of brown and white quartzite was found at the northern part of the mountain that showed considerable signs of being quarried. This site is about a half mile from the Crimson Dawn Site and is also located in a forest. The area all around the outcrop is strewn with flakes and larger worked pieces of quartzite. A campsite is located near the quarry and contains flakes that are smaller than those present at the source of the quartzite. A retouch flake and a Middle Period projectile point, both made of quartzite, were found at the campsite.

Additional Notes

From the area east of the Crimson Dawn Quarry to the northeastern edge of Casper Mountain no significant sites were found.

One find from the study area, although only an isolated find, is nevertheless an important part of the archaeological record of the area. Beads of a type introduced by traders during the 1800's were found about a half mile southwest of the Goose Egg Bison Site and represents the only historical artifacts located during the survey. Five of the beads are white and one is blue.

Quartzite such as that which occurs in the Casper Formation and chert which occurs in the Goose Egg Formation have been found in all the sites described. It is probable, therefore, that the early inhabitants of the area were getting much of their lithics locally. The quartzite exposure on Casper Mountain may have been one of the main reasons why these people came to the mountain. Most of the Casper Mountain sites have large numbers of reject flakes; yet obvious hammerstones were absent from many of the sites. Stones that may have served as hammerstones are somewhat more common in the Goose Egg area, where there are less indications of tool manufacturing. It was also noted that fresh water clam shells are more common in the Goose Egg area, but this is probably because this area is adjacent to the North Platte River.

All the sites appear to be located in specific locales. These include the tops of canyons or hills, and places near water sources. Another characteristic these sites share is that they are located on smooth surfaces such as sand, dirt, or on layers of flat rock. Perhaps this is why very few artifacts were found just off the fault at the northern part of the mountain, an area which is generally quite rocky with few smooth surfaces.

Summary

An archaeological survey was conducted by the writer on Casper Mountain between 1972 and 1976. The oldest projectile point known to have been found on the mountain was a Clovis point, which indicates inhabitation of the area for 11,000 years. However, very few Paleo - Indian projectile points have been found on the mountain, and only one was found during the survey. Many artifacts and sites that date from the Middle Prehistoric Period were found and some sites had artifacts from the Late Prehistoric Period. Quartzite from several sources on the mountain was being utilized for tools during the Middle, and Late, and perhaps the Early Prehistoric Periods. One site located in the study area was excavated and was probably a Middle Prehistoric Period butchering site of a young bison (Bison bison).

Acknowledgements

Without the help of Mr. John P. Albanese, who identified the artifacts I found during the survey, recognized the Goose Egg Bison Site as being a site where an immature bison was butchered, and edited and made helpful suggestions concerning the manuscript, this project would never have become a reality. I also want to thank Grover Phelan for showing me his collection of artifacts from the Layton – Dinsmore Site; Jaunita Hinthorn for showing me her Clovis point; and the many other people who contributed to my knowledge of the archaeology of the mountain.

References Cited

Albanese, John P.	1974	Geology of the Casper Archaeological Site Natrona County, Wyoming: The Holocene History of Wyoming. The Geological Survey of Wyoming, Report of Investigations. Number 10: 46–50.
Carbone, Gerald	1972	An Amateur's General Surface Report of the Tongue River Drainage Area. The Wyoming Archaeologist 15 (4): 6-46.
Frison, George C.	1974	The Casper Site. Academic Press, Inc., New York.
Larson, Thomas K. et al	1976	An Archaeological Reconnaissance of the Little Mountain Area, Big Horn County, Wyoming. The Wyoming Archaeologist 19(3): 7-67.
Lund, Steven E.	1975	Records in Stone and Bone. Wyoming Field Science Foundation. Publication 4.
Mulloy, William T.	1965	Archaeological Investigations Along the North Platte River in Eastern Wyoming. University of Wyoming Publications 31 (2).

References Cited (continued)

Mulloy, William T. 1967
and Louis C. Steege

Continued Archaeological Investigations Along the North Platte River in Eastern Wyoming. University of Wyoming Publications 33 (3).

Steege, Louis C. 1961
and Warren W. Welch

Stone Artifacts of the Northwestern Plains. Northwestern Plains Publishing Co., Colorado Springs.

Weber, T. J. 1963 A Fluted Point from Casper Mountain. The Wyoming Archaeologist 6 (4): 2-4.



Plate 1. Pieces of worked quartzite from an outcrop near the Lund Site.



Plate 2. Many of the sites from Casper Mountain were found on hills or the edges of canyons overlooking springs or creeks. In this case, the site is Clear Fork Creek Site # 1, which is located on a hill overlooking the creek. Artifacts were found in the sandy area in the middle of the picture.

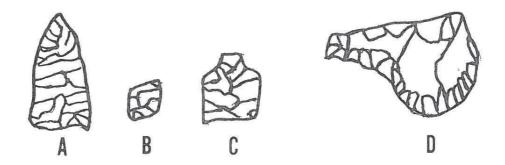


Plate 3. Artifacts from the Goose Egg Bison Site. A is a Middle Prehistoric Period projectile point; B is a fragment of a projectile point; C is a broken drill; D is an end scraper.

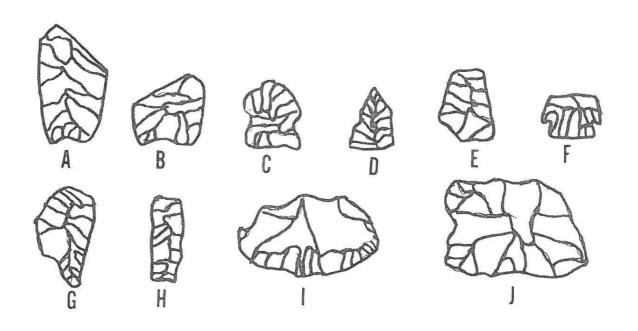


Plate 4. Artifacts from the Gillingham Site. A - F are Middle Prehistoric Period projectile points; G is an awl; H is part of a drill; I is a side scraper; J is a biface.

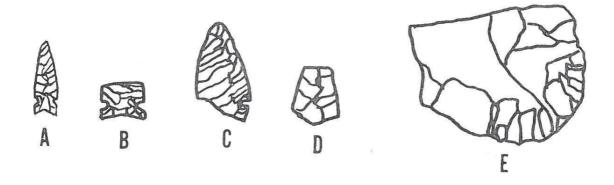


Plate 5. Artifacts recovered from the Matheson Creek Site. A - C are Late Prehistoric Period projectile points; D is a Middle Prehistoric Period projectile point; E is an end scraper.

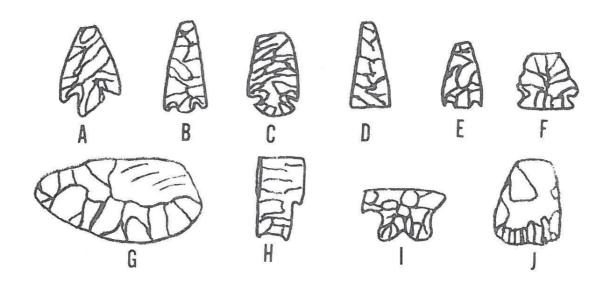


Plate 6. Artifacts from Jackson's Canyon Site # 1. A - E are Late Prehistoric Period projectile points; F, H and I are Middle Prehistoric Period projectile points; G is a biface; J is an end scraper.

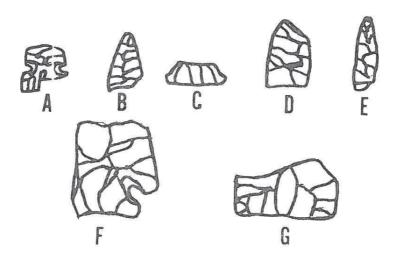


Plate 7. Artifacts from Jackson's Canyon Site # 2. A is a Late Prehistoric Period projectile point; C, D, F, G are Middle Prehistoric Period projectile point; B is a piece of projectile point of uncertain type; E is a drill tip.

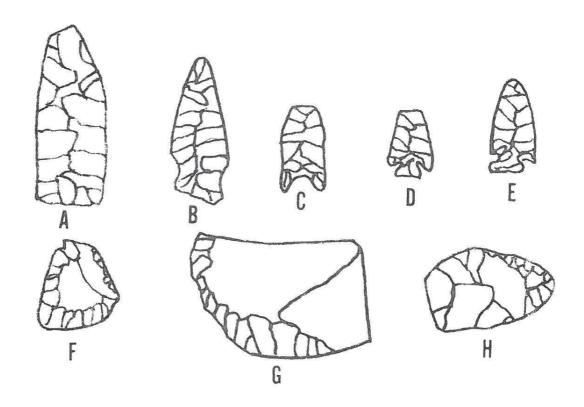


Plate 8. Artifacts recovered from the Lund Site. A is a preform; B and C are Middle Prehistoric Period projectile points; D and E are Late Prehistoric Period projectile points; F and G are scrapers; H is a biface.

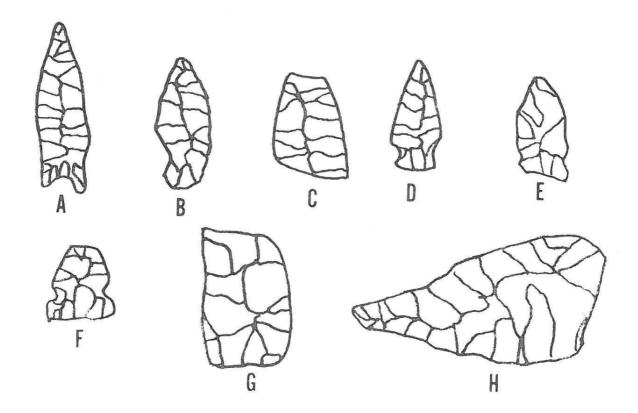


Plate 9. Artifacts from the Tebbet Site. A - F are Middle Prehistoric Period projectile points; G is a preform; H is a biface.

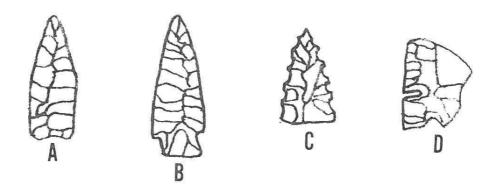


Plate 10. A sample of Middle Prehistoric Period projectile points from the Layton - Dinsmore Site. Many of the points found at this site are McKean style.

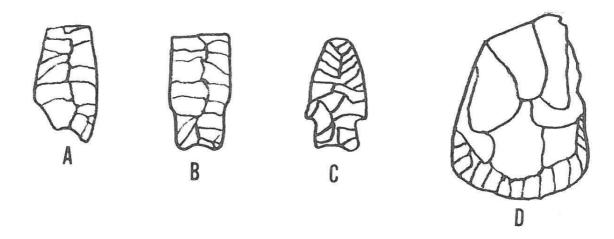


Plate 11. Artifacts from the Moonshiner's Site. A and C are Middle Prehistoric Period projectile points; B is Paleo – Indian (Lovell Constricted) projectile point; D is an end scraper.