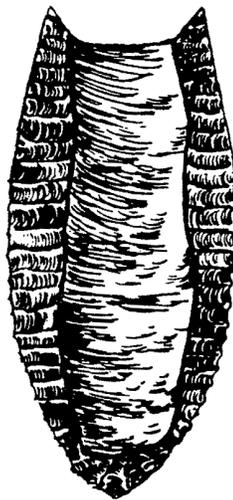


THE WYOMING ARCHAEOLOGIST

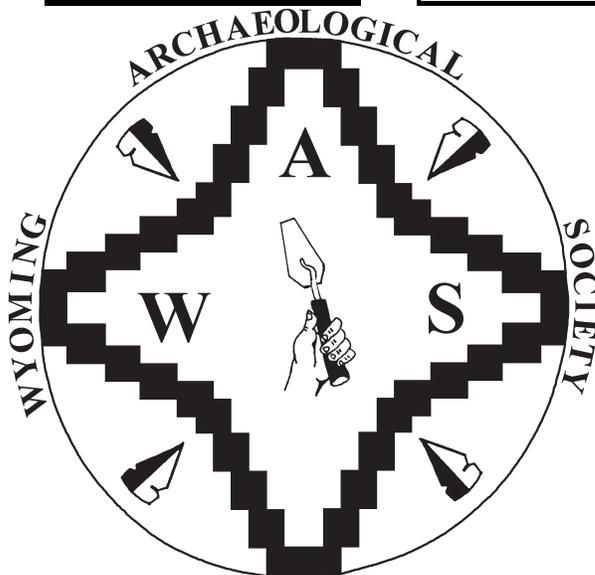
CLOVIS POINT



FOLSOM POINT



MIDLAND POINT



VOLUME 51(2)

FALL 2007

ISSN: 0043-9665

[THIS ISSUE
PUBLISHED
OCTOBER 2009]

THE WYOMING ARCHAEOLOGIST

Wyoming Archaeological Society, Inc.

Dale Wedel, President
2675 Monroe
Laramie WY 82070-6551
307-745-6406
e-mail dwedel@state.wy.us

Janice Baars, 1st Vice President
1000 W 19th St
Wheatland WY 82201
307-331-1177
Email baars@wyomingwireless.com

Larry Amundson, 2nd Vice President
85 Goosenob Dr
Riverton WY 82501
307-856-3373
Email jazzamundson@wyoming.com

Carolyn M Buff
Executive Secretary/Treasurer
1617 Westridge Terrace
Casper WY 82604-3305
307-234-5424-h; 307-277-1370-c
Email jcbuff@bresnan.net

Dewey Baars, Editor
1000 W 19th St
Wheatland WY 82201
307-331-1177
Email baars@wyomingwireless.com

Danny N Walker, Managing Editor
1520 Mitchell St
Laramie WY 82072
307-766-5565
Email dnwalker@uwyo.edu

Russ Tanner, Book Review Editor
745 Ridge Ave
Rock Springs WY 82901

Richard Adams, Current News
519 S 12th St
Laramie, WY 82070
Email radams@state.wy.us

THE WYOMING ARCHAEOLOGIST is published quarterly by the Wyoming Archaeological Society, Inc, with the assistance of the Wyoming Department of State Parks and Cultural Resources. Address manuscripts and news items for publication to: Dewey Baars, Editor, The Wyoming Archaeologist, 1000 W 19th St,

Wheatland, WY 82201.

Please send a minimum of two (2) hard copies of each manuscript submitted. A third copy would speed the process. Please contact the Managing Editor for instructions if the manuscript is available in electronic format. Readers should consult the articles in this issue for style and format. Deadline for submission of copy for spring issues is January 1 and for fall issues is July 1. Reports and articles received by the Managing Editor after those dates will be held for the following issue.

The membership period is from January through December. All subscriptions expire with the Fall issue and renewals are due January 1 of each year. Continuing members whose dues are not paid by March 31 of the new year will receive back issues only upon payment of \$5.00 per issue. If you have a change of address, please notify the Executive Secretary/Treasurer. Your WYOMING ARCHAEOLOGIST will not be forwarded unless payment is received for return and forwarding postage. Back issues in print can be purchased for \$5.00 each, plus postage. Back issues out of print are available at \$0.25 per page plus postage.

Checks for chapter subscriptions and renewals should be sent to the chapter secretary involved. All other checks, subscriptions, and renewals should be addressed to the Executive Secretary/Treasurer. Correspondence and orders for back issues should be addressed to the Executive Secretary/Treasurer.

Society yearly subscription rates are as follows:

Individual Associate Member - \$20.00
Institutional Member - \$30.00
Canada and Other Foreign - \$34.00

Other memberships may be available. Contact the Executive Secretary/Treasurer for information. Local chapter dues are in addition to state society dues. The Wyoming Archaeological Society is a Nonprofit Organization.

Neither the State of Wyoming, the Wyoming Department of State Parks and Cultural Resources, the Office of the Wyoming State Archaeologist, the Wyoming Archaeological Society, Inc., nor their employees or appointed or elected officials can be held responsible for any comment or viewpoint expressed in any issue of The Wyoming Archaeologist. The author(s) of each article or issue are totally responsible for the content and view expressed in their paper(s).

THE WYOMING ARCHAEOLOGIST
VOLUME 51(2), FALL 2007

Table of Contents

WYOMING ARCHAEOLOGICAL SOCIETY FINANCIAL DONATION FORM..... 2

WYOMING ARCHAEOLOGICAL SOCIETY FINANCIAL DONATION FORM..... 2

NEWS AND ANNOUNCEMENTS 3

 PALEONTOLOGICAL RESOURCE PROTECTION ACT 3

 CALIFORNIA LIFETIME ACHIEVEMENT AWARD 10

WYOMING ARCHAEOLOGICAL FOUNDATION ANNUAL MEETING
MINUTES: 2006, 2007, 2008 11

JENSON RESEARCH FUND APPLICATION 20

ANNALS OF WYOMING: REPRINTING 1955-1961 WYOMING
ARCHAEOLOGICAL SOCIETY NEWS AND ARTICLES (PART 1) 21

THIS ISSUE PUBLISHED OCTOBER 2009

**WYOMING ARCHAEOLOGICAL SOCIETY
MEMORIAL GIFT or CONTRIBUTION FORM**

Given by: Miss, Mrs., Mr., Ms., Dr. \$ _____
(Amount)

Name: Last First Middle

Address: City & State Zip

Donor phone number () _____

TYPE OF GIFT: General Contribution [] Specific Contribution []

In Memory of: _____
Name City & State

In Honor of: _____
Name City & State

Specify where you would like your money to go (e.g., Mulloy or Frison Scholarship Funds, The Wyoming Archaeologist, ???????)

Please make your check payable to THE WYOMING ARCHAEOLOGICAL SOCIETY
Send to Carolyn Buff, Executive Secretary/Treasurer, 1617 Westridge Terrace, Casper, WY 82604

**WYOMING ARCHAEOLOGICAL FOUNDATION
MEMORIAL GIFT or CONTRIBUTION FORM**

Given by: Miss, Mrs., Mr., Ms., Dr. \$ _____
Amount

Name Last first Middle

Address City & State Zip

Donor phone number () _____

TYPE OF GIFT: General Contribution [] Specific Contribution []

In Memory of: _____
Name City & State

In Honor of: _____
Name City & State

Specify where you would like your money to go _____
(e.g., Hell Gap Site Research, other, ???????)

Please make your check payable to THE WYOMING ARCHAEOLOGICAL FOUNDATION
Send to Barbara Nahas, WAF Treasurer, PO Box 3146 – Cody 82414-3146 – 307-868-2685

NEWS AND ANNOUNCEMENTS

THE PALEONTOLOGICAL RESOURCES PRESERVATION ACT IS NOW PUBLIC LAW

Both avocational and professional archaeologists have become familiar with the Archaeological Resources Protection Act (ARPA) since its enactment in 1974. 2009 has now seen similar legislation enacted by the U.S. Congress and signed by the President for protection of paleontological resources on federal lands. Below is a news release by the Society of Vertebrate Paleontology (SVP) concerning this law and its future; followed by a summary provided by the Wyoming Bureau of Land Management (BLM) as well as the content of the law itself. Enabling regulations will soon follow and will be accessible to all concerned parties at that time.

THE SVP GOVERNMENT AFFAIRS COMMITTEE

“On March 25, 2009 the House of Representatives passed a Public Lands Bill that contained the Paleontological Resources Preservation Act (PRPA) by a vote of 285 – 140. The bill has been signed by the president and is now public law.”

“Although the information has always been readily available on the SVP website, we offer this reminder of what the PRPA actually does:”

“The Paleontological Resources Preservation Act codifies the existing practice of requiring that vertebrate fossils and other rare and scientifically significant fossils be collected only by qualified researchers who obtain a permit. Permittees must agree to deposit the fossils in public institutions, which will ensure their future availability to researchers and the public. The PRPA strengthens penalties and acts as a deterrent for illegal collecting activity.”

“The PRPA greatly benefits amateur paleontologists. For instance, the BLM and Forest Service have been allowing casual collecting of common plant and invertebrate fossils for many years, but without specific statutory authority from Congress. This activity could have been taken away at any time. However, the PRPA ensures amateurs can continue

to pursue their hobby on BLM and Forest Service lands. The Savings Provision specifies that, “nothing contained in the Act shall apply to, or require a permit for, casual collecting of a rock, mineral or invertebrate or plant fossil that is not protected under this Act.”

“Over the years there has been an abundance of misinformation regarding the PRPA. Please note that the PRPA DOES NOT:”

1. Affect Private lands or Indian lands in any way.
2. Prosecute anyone for misidentifying a fossil unless that misidentification is made in association with a knowing criminal violation of the PRPA.
3. Interfere with rock collecting.
4. Restrict access to those who do not have a Ph.D.
5. Interfere with mining on federal land.
6. Create restrictions for public lands access.

“In the days ahead, SVP’s Government Affairs Committee will offer any expertise that is required by federal agencies in regard to regulations and implementation of the PRPA. We will also take a look at new initiatives and opportunities that will greatly benefit the SVP and the science of vertebrate paleontology.”

“This has been a very long and arduous process that has been under consideration for almost 18 years. It is hard to imagine how many members of the Society, Congressional staffers, associated societies, and friends that have contributed to the success and passage of the PRPA. We want to thank everyone who helped in a small and large way, because without your determination and support, passage of the PRPA would not have been possible.”

PALEONTOLOGICAL RESOURCES
PRESERVATION ACT (PRPA) [SIGNED
MARCH 30, 2009] SUMMARY
by Dale Hanson, Wyoming BLM Paleontologist,
April 2, 2009

SIGNIFICANCE OF THE LAW:

This is the first legislation specifically addressing the management of paleontological resources on Federal lands. BLM's management of paleontological resources was primarily authorized under the Federal Land Policy and Management Act (FLPMA) of 1976, the National Environmental Protection Act (NEPA) of 1969, and a host of lesser laws prior to enactment of this legislation.

As most of these existing laws did not specifically address paleontological resources directly, management was based on phrases such as "protect...the quality of scientific...and other values" (FLPMA) or that "important historic, cultural and natural aspects of our national heritage..." should be protected (NEPA). This left words like "quality," "scientific," "important," and "natural aspects" open for interpretation, especially when dealing with issues of permitting requirements, theft, and mitigation; and these interpretations differed among agencies. Additionally, the broader implications of management were not considered, such as hobby collecting, commercial sales of non-scientific fossils, and just how far our management of the resource could legally extend. These FLPMA and NEPA statements were also focused solely on 'protection' rather than overall 'management,' therefore leaving unaddressed the opportunities for public interpretation, research, educational activities, or other proactive efforts.

A Federal law addressing paleontological resources on Federal lands will eliminate or reduce most of these concerns. It will also recognize that paleontological resources are a legitimate, important resource that should be managed; beyond the vague 'protect important public values' principles. The mandates in PRPA are actually quite similar to BLM's current management policies and practices, therefore little shift in our present approaches will result. However, this now gives us firm, clear direction - with the weight of law - to manage in this manner.

In summation, most of our management of paleontological resources has been based on our interpretations of indirect legislation, regulations, and policies, therefore it's been somewhat tenuous and subject to questioning. This Act will now provide us with firm legislative footing to properly manage all aspects of this resource.

MANAGEMENT ISSUES:

This law states that casual (hobby) collection of fossils will be allowed; limited to reasonable amounts of common invertebrate and plant fossils, for non-commercial personal use. BLM did allow hobby collection of common invertebrate and plant fossils previously, but this was authorized under regulation and therefore was potentially subject to change at any time.

There will now be stricter penalties for unlawful collection of paleontological resources. Because paleontological resources were not specifically identified in other laws, which would then bring them under any penalty sections those laws may contain, it was always difficult to charge offenders with anything more stringent than theft of government property and a \$500 fine, plus damages. Many of the more complete dinosaur skeletons sell for \$50,000 to several million dollars, so a \$500 fine was inconsequential and of little deterrent. PRPA includes criminal and civil penalties for theft of paleontological resources, with possible penalties including up to 5 years in jail, and fines based on market or scientific value, costs of restoration, and any other factors considered relevant by the agency. Multiple offenses can be assessed for double the amount.

We will also have better consistency between agencies. This has not been a major issue; as most land managing agencies were similar in their overall approach, especially in recent years. But, there were a number of inconsistencies in the details of management approaches - the USGS, for example, has wanted to make specific locality data available to the public (primarily researchers) through written publications or web sites, but BLM and other agencies treat this information as proprietary, and even exempt it from FOIA requests.

SIGNIFICANT POINTS AND DETAILS:

Although many of these points reflect current policy, these now carry the weight of law, rather than regulations, policy statements, Instruction Memoranda, or simple guidance; all subject to agency modification.

- Casual collecting is defined as "the collecting of a reasonable amount of common invertebrate and plant paleontological resources for non-commercial personal use...resulting in only negligible disturbance to the Earth's surface and

other resources.” It’s further stated that “the terms ‘reasonable amount’, ‘common invertebrate and plant paleontological re-sources’, and ‘negligible disturbance’ shall be determined by the Secretary.” Sec. 6301 (“Secretary” refers to both the Secretary of the Interior (and all agencies) and the Sec. of Agriculture (US Forest Service))

- Paleontological Resource is defined as “any fossilized remains, traces, or imprints of organisms, preserved in or on the earth’s crust, that are of paleontological interest and that provide information about the history of life on earth...” and goes on to specifically exclude archeological and cultural (human graves, mostly) resources. Sec. 6301
- “The Secretary shall manage and protect paleontological resources on Federal land using scientific principles and expertise.” (my emphasis) Sec. 6302 (a)
- Permits are required for collecting of paleontological resources, except:
- “The Secretary shall allow casual collecting without a permit...” on BLM, BOR, and USFS lands, consistent with other laws and policies. Sec. 6304 (a)(1) and (2)
- Criteria for issuance of a permit include: the applicant is qualified; the activity is undertaken to further paleontological knowledge or for public education; the activity is consistent with any management plans; the methods of collecting will not threaten significant natural or cultural resources. Sec. 6304 (b)
- Permits will contain such terms and conditions as necessary, and shall include requirements that: fossils collected from public lands remain the property of the United States; the paleontological resources and copies of associated records will be preserved in an approved repository; specific locality data will not be released by the permittee or repository without the written permission of the Secretary. Sec. 6304 (c)
- Areas may be closed to collecting or access restricted to protect paleontological resources. Sec. 6304 (e)
- Prohibited Acts include: Trafficking, or offering to traffic, in paleontological resources if the person knew or should have known they were illegally collected from public lands. Sell or purchase, or offer for sale or purchase, any paleontological resource if the person knew or should have known they were illegally collected from public lands. Sec. 6306 (a)
- No false labeling. Includes false records, accounts, identifications. Sec. 6306 (b) This would mean intentional false labeling; not hon-

est mistakes or preliminary identifications.

- Penalties include fines based on value of the fossils and up to five years in jail; second or subsequent violations may result in doubling the penalties. Sec. 6306 (c)
- Amount of penalties should consider: the scientific or fair market value of the paleontological resource; the cost of restoration and repair of the resource and the locality; any other factors considered relevant by the agency. Sec. 6307 (a)
- Penalties collected can be used only to: protect, restore, or repair the paleontological resources and the sites they came from; provide educational materials to the public; payment of rewards. Sec. 6307 (d) Penalty fees do not go into the general fund or any other fund or activity.
- Rewards are authorized for furnishing information which leads to a conviction or violation, up to 1/2 the penalties assessed. Sec. 6308 (a)
- All paleontological resources associated with a violation or conviction are subject to forfeiture. Sec. 6308 (b) (the final legislation eliminated the draft provision that would have allowed seizure of equipment and vehicles used in connection with the violation)
- Seized paleontological resources may be transferred to Federal or non-Federal educational institutions. Sec. 6308 (c) (Will probably be limited to approved repositories)
- Information concerning the nature and specific location of a paleontological resource shall be exempt from FOIA, with a few key exemptions. Sec. 6309
- This law does not apply to, or require a permit for, casual collecting of a rock or mineral. Sec. 6311 (3)
- This law does not affect any land other than Federal land or affect the lawful collection or sale of paleontological resources from land other than Federal land. Sec. 6311 (4) (These last two points are in contrast to much of the misinformation that was circulating among rock club websites and other communications prior to passage).

NEXT STEPS:

The BLM (and other agencies) will develop formal regulations that will expand on these points, create the additional details needed for implementation, and assure consistency with all other laws, regulations, and policies. Because of the mandate for the DOI and DOA to coordinate (Sec. 6302 (b)), regulations may be cooperatively developed, to result in

Uniform Regulations. Whether all the regulations will be developed in this manner, or whether some will be done within a specific agency, is unknown at this time. Uniform Regulations will probably be written initially by interagency paleontology staff, followed by reviews at each agency. For the BLM, this review will include all paleontology staff, other resource staff, the BLM solicitors (lawyers), and agency management people. At this time, time frames and procedures for this process have not been determined. It is expected that implementation of the provisions of the law will be accomplished in stages, with some PRPA sections enacted with little or no regulations needed, while other sections may not be fully implemented for several years.

SUBTITLE D -- PALEONTOLOGICAL RESOURCES PRESERVATION

SEC. 6301. DEFINITIONS.

In this subtitle:

(1) CASUAL COLLECTING. -- The term "casual collecting" means the collecting of a reasonable amount of common invertebrate and plant paleontological resources for non-commercial personal use, either by Surface collection or the use of non-powered hand tools resulting in only negligible disturbance to the Earth's surface and other resources. As used in this paragraph, the terms "reasonable amount", "common invertebrate and plant paleontological resources" and "negligible disturbance" shall be determined by the Secretary.

(2) FEDERAL LAND. -- The term "Federal land" means --

(A) land controlled or administered by the Secretary of the Interior, except Indian land; or

(B) National Forest System land controlled or administered by the Secretary of Agriculture.

(3) INDIAN LAND. -- The term "Indian Land" means land of Indian tribes, or Indian individuals, which are either held in trust by the United States or subject to a restriction against alienation imposed by the United States.

(4) PALEONTOLOGICAL RESOURCE. -- The term "paleontological resource" means any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth, except that the term does not include --

(A) any materials associated with an archaeo-

logical resource (as defined in section 3(1) of the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470bb(1)); or

(B) any cultural item (as defined in section 2 of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001)).

(5) SECRETARY. -- The term "Secretary" means the Secretary of the Interior with respect to land controlled or administered by the Secretary of the Interior or the Secretary of Agriculture with respect to National Forest System land controlled or administered by the Secretary of Agriculture.

(6) STATE. -- The term State means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, and any other territory or possession of the United States.

SEC. 6302. MANAGEMENT.

(a) IN GENERAL. -- The Secretary shall manage and protect paleontological resources on Federal land using scientific principles and expertise. The Secretary shall develop appropriate plans for inventory, monitoring, and the scientific and educational use of paleontological resources, in accordance with applicable agency laws, regulations, and policies. These plans shall emphasize interagency coordination and collaborative efforts where possible with non-Federal partners, the scientific community, and the general public.

(b) COORDINATION. -- To the extent possible, the Secretary of the Interior and the Secretary of Agriculture shall coordinate in the implementation of this subtitle.

SEC. 6303. PUBLIC AWARENESS AND EDUCATION PROGRAM.

The Secretary shall establish a program to increase public awareness about the significance of paleontological resources.

SEC. 6304. COLLECTION OF PALEONTOLOGICAL RESOURCES.

(a) PERMIT REQUIREMENT. --

(1) IN GENERAL. -- Except as provided in this subtitle, a paleontological resource may not be collected from Federal land without a permit issued under this subtitle by the Secretary.

(2) CASUAL COLLECTING EXCEPTION. -- The Secretary shall allow casual collecting without a permit on Federal land controlled or administered by the Bureau of Land Management, the Bureau of Reclamation, and the Forest Service, where such collection is consistent with the laws governing the management of those Federal lands and this sub-

title.

(3) PREVIOUS PERMIT EXCEPTION.

-- Nothing in this section shall affect a valid permit issued prior to the date of enactment of this Act.

(b) CRITERIA FOR ISSUANCE OF A PERMIT.

-- The Secretary may issue a permit for the collection of a paleontological resource pursuant to an application if the Secretary determines that --

(1) the applicant is qualified to carry out the permitted activity;

(2) the permitted activity is undertaken for the purpose of furthering paleontological knowledge or for public education;

(3) the permitted activity is consistent with any management plan applicable to the Federal land concerned; and

(4) the proposed methods of collecting will not threaten significant natural or cultural resources.

(c) PERMIT SPECIFICATIONS. -- A permit for the collection of a paleontological resource issued under this section shall contain such terms and conditions as the Secretary deems necessary to carry out the purposes of this subtitle. Every permit shall include requirements that --

(1) the paleontological resource that is collected from Federal land under the permit will remain the property of the United States;

(2) the paleontological resource and copies of associated records will be preserved for the public in an approved repository, to be made available for scientific research and public education; and

(3) specific locality data will not be released by the permittee or repository without the written permission of the Secretary.

(d) MODIFICATION, SUSPENSION AND REVOCATION OF PERMITS. --

(1) The Secretary may modify, suspend, or revoke a permit issued under this section --

(A) for resource, safety, or other management considerations; or

(B) when there is a violation of term or condition of a permit issued pursuant to this section.

(2) The permit shall be revoked if any person working under the authority of the permit is convicted under section 6306 or is assessed a civil penalty under section 6307.

(e) AREA CLOSURES. -- In order to protect paleontological or other resources or to provide for public safety, the Secretary may restrict access to or close areas under the Secretary's jurisdiction to the collection of paleontological resources.

SEC. 6305. CURATION OF RESOURCES.

Any paleontological resource, and any data and records associated with the resource, collected under a permit, shall be deposited in an approved repository. The Secretary may enter into agreements with non-Federal repositories regarding the curation of these resources, data, and records.

SEC. 6306. PROHIBITED ACTS; CRIMINAL PENALTIES.

(a) IN GENERAL -- A person may not --

(1) excavate, remove, damage, or otherwise alter or deface or attempt to excavate, remove, damage, or otherwise alter or deface any paleontological resources located on Federal land unless such activity is conducted in accordance with this subtitle;

(2) exchange, transport, export, receive, or offer to exchange, transport, export, or receive any paleontological resource if the person knew or should have known such resource to have been excavated or removed from Federal land in violation of any provisions, rule, regulation, law, ordinance, or permit in effect under Federal law, including this subtitle; or

(3) sell or purchase or offer to sell or purchase any paleontological resource if the person knew or should have known such resource to have been excavated, removed, sold, purchased, exchanged, transported, or received from Federal land.

(b) FALSE LABELING OFFENSES. -- A person may not make or submit any false record, account, or label for, or any false identification of, any paleontological resource excavated or removed from Federal land.

(c) PENALTIES. -- A person who knowingly violates or counsels, procures, solicits, or employs another person to violate subsection (e) or (b) shall, upon conviction, be fined in accordance with title 18, United States Code, or imprisoned not more than 5 years, or both; but if the sum of the commercial and paleontological value of the paleontological resources involved and the cost of restoration and repair of such resources does not exceed \$500, such person shall be fined in accordance with title 18, United States Code, or imprisoned not more than 2 years, or both.

(d) MULTIPLE OFFENSES. -- In the case of a second or subsequent violation by the same person, the amount of the penalty assessed under subsection (c) may be doubled.

(e) GENERAL EXCEPTION. -- Nothing in subsection (a) shall apply to any person with respect

to any paleontological resource which was in the lawful possession of such person prior to the date of enactment of this Act.

SEC. 6307. CIVIL PENALTIES.

(a) IN GENERAL. --

(1) HEARING. -- A person who violates any prohibition contained in an applicable regulation or permit issued under this subtitle may be assessed a penalty by the Secretary after the person is given notice and opportunity for a hearing with respect to the violation . Each violation shall be considered a separate offense for purposes of this section.

(2) AMOUNT of PENALTY. -- The amount of such penalty assessed under paragraph (1) shall be determined under regulations promulgated pursuant to this subtitle, taking into account the following factors:

(A) The scientific or fair market value whichever is greater, of the paleontological resource involved, as determined by the Secretary.

(B) The cost of response, restoration, and repair of the resource and the paleontological site involved.

(C) Any other factors considered relevant by the Secretary assessing the penalty.

(3) MULTIPLE OFFENSES. -- In the case of a second or subsequent violation by the same person, the amount of a penalty assessed under paragraph (2) may be doubled.

(4) LIMITATION. -- The amount of any penalty assessed under this subsection for any 1 violation shall not exceed an amount equal to double the cost of response, restoration, and repair of resources and paleontological site damage plus double the scientific or fair market value of resources, destroyed or not recovered.

(b) PETITION FOR JUDICIAL REVIEW; COLLECTION OF UNPAID ASSESSMENTS. --

(1) JUDICIAL REVIEW. -- Any person against whom an order is issued assessing a penalty under subsection (a) may file a petition for judicial review of the order in the United States District Court for the District of Columbia or in the district in which the violation is alleged to have occurred within the 30-day period beginning on the date the order making the assessment was issued. Upon notice of such filing, the Secretary shall promptly file such a certified copy of the record on which the order was issued. The court shall hear the action on the record made before the Secretary and shall sustain the action if it is supported by substantial evidence on the record considered as a whole.

(2) FAILURE TO PAY. -- If any person fails

to pay a penalty under this section within 30 days --

(A) after the order making assessment has become final and the person has not filed a petition for judicial review of the order in accordance with paragraph (1); or

(B) after a court in an action brought in paragraph (1) has entered a final judgment upholding the assessment of the penalty, the Secretary may request the Attorney General to institute a civil action in a district court of the United States for any district in which the person if found, resides, or transacts business to collect the penalty (plus interest at currently prevailing rates from the date of the final order or the date of the final judgment, as the can may be). The district court shall have jurisdiction to hear and decide any such action. In such action, the validity, amount, and appropriateness of such penalty shall not be subject to review. Any person who fails to pay on a timely basis the amount of an assessment of a civil penalty as described in the first sentence of this paragraph shall be required to pay, in addition to such amount and interest, attorneys fees and coats for collection

(c) HEARINGS. -- Hearings held during proceedings instituted under subsection (a) shall be conducted in accordance with section 664 of title 5, United States Code.

(d) USE OF RECOVERED AMOUNTS. -- Penalties collected under this section shall be available to the Secretary and without further appropriation may be used only as follows:

(1) To protect, monitor, or repair the paleontological resources, and sites which were the subject of the action, and to protect, monitor, and study the resources and sites.

(2) To provide educational materials to the public about paleontological resources and sites.

(3) To provide for the payment of rewards as provided in section 6308.

SEC. 6308. -- REWARDS AND FORFEITURE.

(a) REWARDS. -- The Secretary may pay from penalties collected under section 6306 or 6307 or from appropriated funds --

(1) consistent with amounts established in regulations by the Secretary; or

(2) if no such regulation exists, an amount up to ½ of the penalties, to any person who furnishes information which leads to the finding of a civil violation, or the conviction of criminal violation, with respect to which the penalty was paid. If several persons provided the information, the amount shall be divided among the persons . No officer or employee of the United States or of any State or local

government who furnishes information or renders service in the performance of his official duties shall be eligible for payment under this subsection.

(b) **FORFEITURE.** -- All paleontological resources with respect to which a violation under section 6306 or 6307 occurred and which are in the possession of any person, shall be subject to civil forfeiture, or upon conviction, to criminal forfeiture.

(c) **TRANSFER OF SEIZED RESOURCES.** -- The Secretary may transfer administration of seized paleontological resources to Federal or non-Federal educational institutions to be used for scientific or educational purposes.

SEC. 6309. CONFIDENTIALITY.

Information concerning the nature and specific location of a paleontological resource shall be exempt from disclosure under section 662 of title 6, United States Code, and any other law unless the Secretary determines that disclosure would --

- (1) further the purposes of this subtitle;
- (2) not create risk of harm to or theft or destruction of the resource or the site containing the resource; and (3) be in accordance with other applicable laws.

SEC. 6310. REGULATIONS.

As soon as practical after the date of enactment of this Act, the Secretary shall issue such regulations as are appropriate to carry out this subtitle, providing opportunities for public notice and comment.

SEC. 0311. SAVINGS PROVISIONS.

Nothing in this subtitle shall be construed to --

- (1) invalidate , modify, or impose any additional restrictions or permitting requirements on any activities, permitted at any time under the general mining laws, the mineral or thermal leasing laws, laws providing for minerals materials disposal, or laws

providing for the management or regulation of the activities authorized by the aforementioned laws including but not limited to the Federal Land Policy Management Act (43 U.S.C. 1701-1784), Public Law 94-429 (commonly known as the "Mining in the Parks Act") (16 U.S.C. 1901 at seq) the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201-1358), and the Organic Administration Act (16 U.S.C. 478, 482, 561),

(2) invalidate , modify, or impose any additional restrictions or permitting requirements on any activities permitted at any time under existing laws and authorities relating to reclamation and multiple use of Federal land;

(3) apply to, or require a permit for, casual collecting of a rock, mineral , or invertebrate or plant fossil that is not protected under this subtitle;

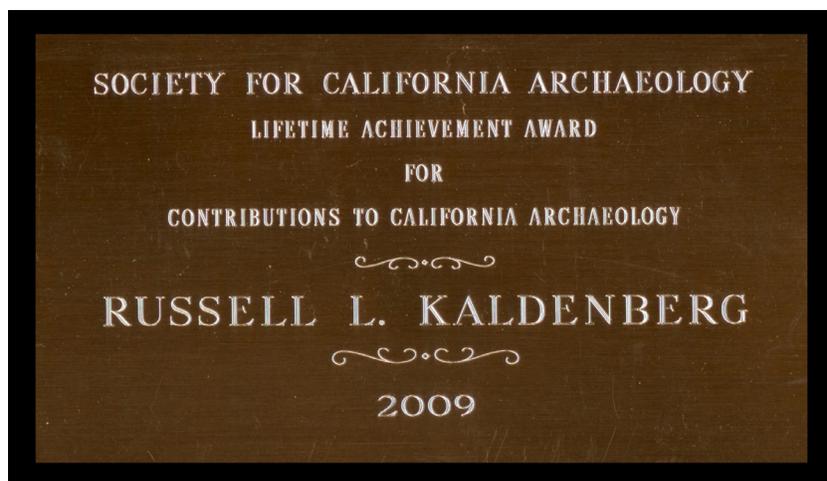
(4) affect any land other than Federal land or affect the lawful recovery, collection, or sale of paleontological resources from land other than Federal land;

(5) alter or diminish the authority of a Federal agency under any other law to provide protection for paleontological resources on Federal land in addition to the protection provided under this subtitle; or

(6) create any right, privilege, benefit, or entitlement for any person who is not an officer or employee of the United States acting in that capacity. No person who is not an officer or employee of the United States acting in that capacity shall have standing to file any civil action in a court of the United States to enforce any provision or amendment made by this subtitle.

SEC. 8312. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated such funds as may be necessary to carry out this subtitle.



Russell Kaldenberg, MA, RPA, received the 2009 Lifetime Achievement Award from the Society for California Archaeology at their annual meeting, in Modesto, California. The award has been given irregularly since 1982 to a person who has significantly contributed over their lifetime to the advancement of California archaeology. Noted contributions were: the fostering of relationships between archaeologists and the over 100 federally recognized California Indian tribes, serving on the California Historical Resources Commission, developing a statewide Site Stewardship Program, developing the Bureau of Land Management's Cultural Resources Program, developing a long lasting

relationship between California Archaeology and Baja California Archaeology, creating the Curation Facility at China Lake Naval Air Weapons Station and initiating the Friends of China Lake Archaeology as well as being instrumental in the development of the Coachella Valley Archaeological Society, the San Diego County Archaeological Society, the Searles Valley Historical Society, serving on the Board of Directors of the Mojave Desert Heritage and Cultural Association; organizing the Millenium Conference: The Human Journey and Ancient Life in California's Deserts and creating the Santa Rosa and San Jacinto Mountains National Monument. Russ served on the Society for California Archae-

ology Board of Directors as vice President and as President from 1978-1983. He has recently edited three contributory volumes to California archaeology including his most recent festchrifts honoring the works of Paul Ezell and Jay von Werlhof. Russ is working with David Whitley on an overview of the

Sacred Geography of the Colorado Desert as well as continuing his work on the archaeology of Wyatt Earp. Russ is living in Cheyenne, Wyoming where he is President of ASM PARC, a non-profit arm of ASM Affiliates where he is currently a Principal and Senior Archaeologist.

WYOMING ARCHAEOLOGICAL FOUNDATION ANNUAL MEETING MINUTES: 2006, 2007, 2008

MINUTES WYOMING ARCHAEOLOGICAL FOUNDATION BOARD MEETING

Sunday, April 9, 2006 – Cheyenne, Wyoming

The 2006 annual meeting of the Wyoming Archaeological Foundation Board of Directors was held in conjunction with the 53rd Annual Wyoming Archaeological Society Meetings 7 a.m., April 9, 2006 at the Plains Hotel in Cheyenne, Wyoming. Board members in attendance included Dewey Baars (President), Barb Nahas-Keiry (Treasurer), Mary Lou Larson (Secretary, ex-officio, University of Wyoming), George C. Frison, Mark Miller (ex-officio-State Archaeologist), Eva Peden (Past-President of the WAS), Don Bailey (President WAS), Marcel Kornfeld, Judy Wolf (new board member). Guests included Dale Wedel, Janice Baars, and June Frison. Terry Wilson (Board member) was absent. The terms of members are listed at the end of these minutes. President Dewey Baars called the meeting to order at 7:15 a.m.

Minutes of the Last Meeting: Barb handed out copies of the minutes from the last WAF board meeting. Barb moved that the minutes be accepted and Eva seconded the motion. Motion passed unanimously by voice vote.

TREASURER'S REPORT:

Barb presented the Treasurer's Report. This years audit was completed by Janice Baars, Don Bailey, and Eva Peden. Eva reported that the books were in order. WAF income 2005-2006 was \$3778.99 and expenditures \$4724.41). The balance of the checking account as April 30, 2005 was \$5736.66 and that balance as of today is \$4,791.24. Total net worth as of today is \$108,515.12. This includes reserve fund

money in a CD (\$12,527.85), funds with the Henry E. Jensen Trust (\$41,612.35), and George C. Frison Paleoinidian Endowment (\$49,583.68). Although the amount reported in the Institute endowment is not at \$50,000, Barb reported that the Foundation met its goal of \$50,000 (after she closed the books), the total promised to the University of Wyoming to guarantee dollar-for-dollar state matching funds. Mark moved and Mary Lou seconded the motion that the Treasurer's report be accepted. Voice vote was unanimous in favor of accepting the report. Barb noted that she discovered that the Foundation's fiscal year is April through March in working with the By-laws and Articles of Incorporation. She will now begin working on that fiscal year.

OLD BUSINESS:

Foundation Grant Guidelines: Barb reminded everyone about the Grant guidelines that we began discussion on last year. Last year, Chris Lippincott handed out the South Dakota guidelines for their grant program. Mark, Barb, and Mary Lou came up with ideas about such a grant for WAF. Barb then argued that the foundation should not be in the business of giving out grants, given that running Hell Gap costs about \$2400/year. And we need to keep about 10 years of money in reserve funds in order to accommodate shortfalls in income. Our income keeps going down and our expenses keep coming up. Barb handed out the grant guidelines to the Board. Discussion ensued.

Mark recommended that we decide to table voting on the guidelines until after we decide on how (and if) we should do such a grant program. The Board might want to wait a few years to see if our funding stabilizes. Barb reminded everyone that there are other expected costs associated with

Hell Gap, such as drilling a new well that could keep us from giving out grants. Mark stated that it was good to have an emergency fund in the past, but the ownership of Hell Gap changes the dynamic. Marcel noted that since the Institute is the main user of Hell Gap that it should be the responsibility of the Institute to supply maintenance money as part of the Institute's research costs. Eva said that even with what Marcel has said that because we are taxed as ranch land we need to keep it as such. Mark moved that we table the decision and postpone a decision on the award fund until the next spring meeting, look over, and decide at the next meeting, Barb seconded the motion. Voice vote was unanimous. Barb then asked the Board to email suggestions to Barb and she'll get the information out to the Board. George remembered that buying Hell Gap was an idea of his and Milford Hansen's, as a rallying point for the Society – he wasn't sure if that has happened. If Hell Gap isn't working out for WAS, perhaps it should be rethought. He stated that whatever the Foundation wanted to do with Hell Gap that the Society should feel free to do with it whatever they want to. Mark reminded the Board that at the time the site was purchased, that was the only viable option for the site. Marcel noted that shifting Hell Gap to another foundation would complicate things. Barb stated that her primary obligation is to keep the Foundation solvent. George then said that at the time the decision was made, Allen Korell stated that while a lot of people probably wouldn't like it now, but 50-100 years from now people will look back and think that was one of the greatest things the Society ever did. George hopes that the Foundation can keep it and maintain it. Barb said that the Foundation is on the road, especially with the royalties from Henry's oil leases and help from the Institute on maintenance will keep it running. Henry Jensen said that buying Hell Gap was a good idea, but that it would bring back much more to the Society.

Changes in the By-laws and Articles of Incorporation: Barb discussed the proposed changes. Amendments to create a position of Executive Treasurer. The By-Laws and Articles that she passed out have changes written in red. Dewey explained that because Barb has volunteered to do the job permanently the Board decided last year to institute the office of Executive Treasurer as an alternative to Treasurer. The treasurer's job is an extremely

hard job to do and Barb is currently doing a great job. Mark pointed out the necessity for continuity in where the Foundation is now, with Hell Gap and all.

Mark moved and Eva seconded that the Board accept the proposed changes in the by-laws. Marcel noted that Plains Anthropological Society changed the position from non-voting ex-officio to a voting ex-officio so that they could vote. He thinks that such a move would be a good idea in this situation as well, because Barb is part of the WAS community. Mary Lou clarified that the board cannot vote on the changes at this meeting, but has to wait 30 days between handing out the by-laws and articles and the vote. What she and Barb had decided to do was to give everyone the changes now and then get back to them at the end of the 30 days for a vote because there is nothing in the By-laws that says such a vote has to be done in a face to face meeting, but that the 30 day wait is necessary. Mary Lou and Barb will make all of the changes in the By-laws and the articles, and then send them out to the Board for a vote within 30 days of receipt of the changes. Mark withdrew his motion.

Discussion then turned to the number of people on the Board with the change in permanent members. If Barb moves into the Executive Treasurer position and can still vote, do we want to accept a new person onto the Board so that the voting members of the Board go to six, rather than five? The changes in the By-laws and Articles do not do away with the office of treasurer, in case WAF ever needs to return to an elected treasurer – and may be the simplest way to make the changes is to leave the office of Executive Treasurer as a voting member. Mary Lou and Barb will draft the changes to solve these problems, and will email out advice and suggestions to the rest of the Board.

Hell Gap:

Tree thinning: Marcel reported that the effort has been started. Some of the worst piles of brush have been cleared. Dewey and Marcel will need to gather up brush and burn it once they get some students to help them. Marcel told everyone that they are welcome to come get wood.

Condition Report: Dewey reported that the house was painted and roofed for a cost of \$3200 – and the building has been improved quite a bit.

Hell Gap Outdoor Museum: Marcel handed out copies of the 2003 and 2005 Hell Gap technical

reports. The 2005 has a proposal for the museum. Victoria Rose gave a paper on the proposal and there was a poster up yesterday. He noted that both Phil Noble and Milward Simpson mentioned the \$10 million Wyoming state Cultural Trust fund – and that the outdoor museum would be a great way to get some money to do the museum. He also suggested that after coming up with a plan that the idea should be taken to professional planners to get a good one. He also reminded the Board that they could decide what they want to do. Judy reported that the guidelines for the grants are out on the State Parks and Cultural Resources web site. Mark thought that the fund could also be used for long-term site stewardship, but he thought that the property should be listed on the National Register. Judy reminded the Board that by having it on the register that Hell Gap would be eligible for other sources of funding. George thought that putting the site on the Register would be a good idea. Mark and Judy thought a start on a nomination would look good to the Cultural Trust. Mary Lou suggested that writing the NRHP nomination could be wrapped into a grant to the Cultural Trust for the museum. Barb wondered what the insurance costs would be to cover the site – costs of liability insurance would probably go up (to cover people coming to visit the Outdoor Museum). Marcel suggested that we need to talk to planners who know about all of these pitfalls, and that the Board should consider developing a proposal for the trust.

NEW BUSINESS:

Oil Company Lease: Encana (lease holder on the Jensen estate oil) has sent out information on the leases, the income is good. Barb has a letter from Howe Petroleum which she has not opened. She also noted that Henry preferred that we not sell the leases, or the land, and that we keep them within the foundation. Barb reported that the leases at Salt Creek field. WAF shares these leases with the Wyoming Historical Society and the UW foundation.

Hell Gap use in 2006: There is a student tour that visits Hell Gap every year as usual. Albert's lease is good for about another five years (Albert is paying the electric bill for his grazing of the land). As long as we have it leased for grazing, it keeps it in agricultural use. Marcel reported that the only UW use of the site would be backfilling and some tree thinning during 2006.

Marcel talked a little about the Hell Gap re-

search. UW's primary research work in 2005 was under the building at Locality I. This year we got into a good Cody level there. There is a least another meter of cultural deposits to dig though. This last summer was the first time that we opened up the east side of Locality I (IEast), and discovered a cut and fill sequence there that needs to be investigated. The Baars Clovis locality hasn't yield much – but the 1/16" hasn't been picked yet. They also tried to use ground penetrating radar to find the bedrock, but it appears that it won't work in the summer. They will try to use the GPR in the winter with frozen ground.

Frison Institute Endowment Fund: Barb reported that we met our \$50,000 goal. Eva asked whether or not any money above the \$50,000 would be matched – Marcel reported that anything above the \$50,000 pledge would be matched. Some of the extra funds have come from memorial contributions for Ray Gossett, which comes to an additional \$5,000 or so. He is planning to ask the Board of the Friends of the Frison Institute if they would like to pledge another set amount for the endowment. If the WAF Board agrees to collect the money, that would lock in the state match for a given period of time. Dewey asked about the transfer of the first \$50,000 from WAF to the UW Foundation. Marcel reported that he hopes that something can be arranged in mid-May where UW could receive the \$50,000 so the Institute can start accruing interest on the endowment. He would like to have an official ceremony in front of the new building's sign. Barb asked that Marcel give her the information on where to send the money.

Jensen trust travel award: Barb read the letter that she sends out to the recipients of the Henry E. and Clara T. Jensen Doctoral Travel Award Fund that explains where the money comes from and Henry and Clara's philosophy about Wyoming archaeology. Barb would like to insert a sentence that asks the recipient to acknowledge the donors. She also wondered is she was the correct person to be signing the letter. It was suggested that she should sign the letter Barb Nanas, representative of the Board of WAF. Rory Becker and Mary Passions will split \$750 for their 2006 travel to the Society for American Archaeology meetings in San Juan, Puerto Rico at the end of April.

Upkeep needs at Hell Gap: Dewey reported on the upgrade needs at Hell Gap for this year – which,

as usual, includes fences, auto gates that need to be dug out, and a poor well. Before the 2007 the septic tank will need to be pumped and recharged with a starter. Barb will budget money for that.

Election of officers for next year: Barb nominated Judy Wolf (President), Mary Lou Larson (Secretary), and Barb Nahas (Treasurer). Don moved nominations cease. Officers elected for the next year unanimously.

Dewey asked if there was any other new business – of which there was none.

Mark moved and Barb seconded that we adjourn. Passed unanimously by voice vote.
Adjournment 8:25 a.m.

WAF BOARD MEMBERS AND DATE OF END OF TERM ON BOARD

- Dewey Baars (President) 2006
- Barb Nahas-Keiry (Treasurer) 2007
- Terry Wilson (2008)
- Judy Wolf (2009)
- Mary Lou Larson (ex-officio Dept. of Anthropology)
- Mark Miller (ex-officio – State Archaeologist)
- George C. Frison
- Eva Peden (WAS Past-President)
- Don Bailey (WAS President)

**MINUTES
WYOMING ARCHAEOLOGICAL
FOUNDATION BOARD MEETING
Sunday, April 22, 2007 – Saratoga, Wyoming**

The 2007 annual meeting of the Wyoming Archaeological Foundation Board of Directors was held in conjunction with the 54th Annual Wyoming Archaeological Society Meeting at 7 am., April 22, 2007 at the Warm Spring Restaurant, Saratoga, Wyoming. Board members in attendance included Judy Wolf (President), Barb Nahas (Treasurer), Mary Lou Larson (Secretary, ex-officio, University of Wyoming), Mark Miller (ex-officio-State Archaeologist), Eva Peden (WAS Past-President), Stuart Mackenzie (WAS President), Terry Wilson, Marcel Kornfeld, Dewey Baars. Guests included Dale Wedel, Janice Baars, John Laughlin, Stewart Keiry. George Frison (Board Member) was absent.

The terms of members are listed at the end of these minutes. President Judy Wolf called the meeting to order at 7:18 a.m.

Minutes of the Last Meeting: Judy asked if there were any additions or corrections on the minutes from the 2006 meeting of the WAF board meeting. Barb moved that the minutes be accepted and Eva seconded the motion. Motion passed unanimously by voice vote.

TREASURERS REPORT:

Barb presented the Treasurer’s Report. This year’s audit was completed by Eva Peden, Judy Wolf, and Mavis Greer. Eva reported that the books were in order and complimented Barb for the job and order she has brought to the foundation’s books. WAF income 2006/2007 was \$6,151.74 and expenditures \$3,800.76. The balance in the checking account as of March 31, 2007, \$7,142.22. Total net worth as of March 31, 2007 is \$68,685.82. This includes reserve fund money; Foundation CD \$13,959.43, Henry E. Jensen Trust CD \$43,092.68 and George Frison Paleoinidian Endowment \$4,491.49. The Foundation received a check from Carolyn Buff, WAS Secretary/Treasurer for \$480.00, which included the dues from 2005/2006 and 2006/2007. The reason for the low amount and delay in sending WAS needed to build their reserves to pay for the *Wyoming Archaeologist* because the state of Wyoming was no longer paying for the journal.

Terry moved and Eva seconded the motion that the Treasurer’s report be accepted. Voice vote was unanimous in favor of accepting the report.

OLD BUSINESS:

Foundation Grant Guidelines: Barb reported that there had been no changes in the Grant Guidelines since last year except to remove “telegraph” and add “communication systems” as means of communication. The Board tabled any decisions of the grants until it had a better feel for the fixed costs of Hell Gap. Mark noted that the Foundation is going to continue to get emergency requests for funds and the Foundation, rather than WAS is the vehicle with which to fund these requests. Barb reported that currently the base cost for Hell Gap is approximately \$3,500.00 per year including a buffer for increases. So, figuring three years in advance, WAF needs to have ~\$11,000.00 in the bank at all times to cover Hell Gap expenses. The current Foundation reserve fund is at \$13,959.43 and is dedicated to cover these

expenses. We also have reserve accounts for the Henry and Clara Jensen travel fund and the Frison Endowment. It was noted that we should continue to grow these accounts, because if we don't, the money will lose value through the years.

There were discussions of fund raising possibilities, such as, reprinting and selling the "Clovis to Cowboy" poster, silent auction items at the fall WAS meeting, etc. The Board decided in order to award up to \$1,000.00 per year we needed to establish a reserve fund of \$20,000.00, assuming 5% interest.

Mark moved and Mary Lou seconded that Barb transfer \$20,000.00 of the Jensen Trust into a Jensen Research Grants account to support research in the future. Vote passed unanimously by voice vote.

Mark moved and Eva seconded that the total amount of grants given out in any one year will not exceed \$1,000.00. Vote passed unanimously by voice vote.

The grant guideline committee (Mark, Barb, Mary Lou) will clarify the wording on the grant guidelines before next year's WAS meeting.

Hell Gap:

Hell Gap Outdoor Museum: Marcel reported that since 2006 was an "off year" at Hell Gap (i.e., no work was done there) that no work has been done on the outdoor museum. However, the museum will be part of the work planned for this summer.

Tree Thinning: Dewey asked the board what percentage of the cedar should be cut out of the drainages and surrounding area. A suggestion was made that Dewey and Marcel should contact the County Extension agent or NRCS for their recommendations. Clearing the cedar will increase the amount of water available in the draws, clear the area for fires, and make more space available for visitors and workers.

Condition Report: Dewey's condition report identified a number of places at Hell Gap where work needs to be done. Items for discussion included fence repairs, spraying sage and cactus, mowing and clean up, garbage on property, fixing wings on auto gates, pack rats (currently under the house and in well). Dewey also reported that he had not yet gotten a gate on the old mine and that mapping of the interior had not yet been completed. Discussion followed on what to do with the old cabin that is deteriorating.

Hell Gap Actions:

- **Spraying sage and cactus:** Some board members questioned whether spraying is the safest method to use to rid the area of sage and cactus given the presence of campers, etc. sleeping on the ground. The board did not come to any decision on the best way to proceed with this maintenance problem.
- **Old Mine:** The Abandoned Mine Lands program may be able to close up and gate the mine. Judy will find out whom to contact about the mineshaft.
- **Old Log Cabin:** Suggestions included looking to NCPTT for restoration funds.
- **Pack Rats:** Trap them rather than using poison because of dogs at camp. Dewey will contact the local weed and pest folk.

Dewey reported that there had been ~170 visitors to the site in 2006 and ~120 in 2005. The 2005 numbers do not include field school or crewmembers.

NEW BUSINESS:

Hell Gap Nomination for Historic Landmark:

John Laughlin proposed to nominate Hell Gap for a Historic Landmark. He stated he would write the paper but it would take about a year and he could only devote approximately an hour per week if his workload permitted. He would keep the board informed on the progress.

Hell Gap Research Report: Marcel stated that a manuscript was put together going back to the 1960's excavation. Copies will go to board members only.

Hell Gap 2007: Marcel reported that there will be a field school this year but he's not sure how many students will attend. Dewey presented the board a list of items that needed attention and anyone willing to assist please let him know. Also, the Kimball Family who previously owned the Hell Gap site was planning on coming out this year. Since that was their old home site they have information from the past, which could be beneficial for our use.

In 2006 there was a fire at Hell Gap and the fire department asked if we would give them a fire plan so they would know what to protect and what to let burn. It was agreed by the board to let the trees burn but protect the buildings. Mary Lou stated she would provide the fire department with a fire plan and determine where the breaks would be and what

took first priority.

Mary Lou requested that since we would have a work crew at Hell Gap this year we need to install outdoor hot and cold water taps, and wash tubs. This makes it much easier for the people to wash up and do dishes while working there. There is always a big crew and small kitchen. The plumbing will need to be checked to see if can accommodate and what the cost will be. Mary Lou will let the board know.

Ord Ranch Survey: John Laughlin is checking into doing a survey at Ord Ranch in 2007. Wanted to know if WAF would like to partner on obtaining a grant for the work? John will get more information to the board before a decision can be made.

Frison Institute Endowment Fund: Barb reported that we met our \$50,000.00 goal. Eva asked whether or not any money above the \$50,000.00 would be matched – Marcel reported that anything above the \$50,000.00 pledge would be matched. Some of the extra funds have come from memorial contributions for Ray Gossett, which comes to an additional \$5,000.00 or so. He is planning to ask the Board of the Friends of the Frison Institute if they would like to pledge another set amount for the endowment. If the WAF Board agrees to collect the money, that would lock in the state match for a given period of time. Dewey asked about the transfer of the first \$50,000.00 from WAF to the UW Foundation. Marcel reported that he hopes that something can be arranged in mid May where UW could receive the \$50,000.00 so the Institute can start accruing interest on the endowment. He would like to have an official ceremony in front of the new building’s sign. Barb asked that Marcel give her the information on where to send the money.

OTHER BUSINESS:

Judy Wolf asked if we could change the 2008 Sunday morning meeting to 8 a.m. instead of 7 a.m. The board agreed to change the meeting to 7:30 am to 9:30 am. The reason we had the 7 am meeting was so people could go on field trips or start back home early.

Election of Officers: Judy Wolf moved that we appoint Barbara Nahas for the Executive Treasurer’s position. Since we changed the By-laws last year this position is appointed by the board. The position is still a voting member but is ex-officio and no treasurer is elected. The board agreed unanimously.

Barbara Nahas will be the Executive Treasurer.

Barbara Nahas moved that the nomination for President be Judy Wolf, and Secretary Mary Lou Larson, second by Mark Miller. Nominations closed and nominees accepted by board unanimously.

There were no Henry E. and Clara T. Jensen Doctoral Travel Award recipients for the year.

Summer Meeting for 2007 will be held at Hell Gap, June 15 – 17, 2007.

Fall Meeting will be in Laramie September 27, 2007.

The Annual 2008 Meeting will be held in Rock Springs, dates to be determined.

Mark moved and Barb second that we adjourn. Passed unanimously by voice vote. Adjournment 8:49 a.m.

WAF BOARD MEMBERS AND END OF TERM DATES

- Judy Wolf (President 2009)
- Mary Lou Larson (Secretary – Ex-Officio Dept. of Anthropology)
- Barbara Nahas (Executive Treasurer – Ex-Officio Appointed by Board)
- Terry Wilson (Member at Large 2008)
- Mark Miller (Ex-Officio State Archaeologist)
- George C. Frison (Ex-Officio)
- Eva Peden (WAS Past President)
- Stuart Mackenzie (WAS President)

**MINUTES
WYOMING ARCHAEOLOGICAL
FOUNDATION BOARD MEETING
Sunday, April 27, 2008– Rock Springs,
Wyoming**

The annual meeting of the Wyoming Archaeological Foundation Board of Directors was held in conjunction with the 55th Annual Wyoming Archaeological Society Meetings 7:30 a.m., April 27, 2008 at the Outlaw Inn, Rock Springs, Wyoming. Board members in attendance included Judy Wolf (President), Barb Nahas-Keiry (Treasurer, ex-officio), Mary Lou Larson (Secretary, ex-officio, University of Wyoming), Mark Miller (ex-officio-State Archaeologist), Mavis Greer (new board member), Eva Peden (Past-President of the WAS),

Dale Wedel (acting WAS President/President Elect), Terry Wilson, Marcel Kornfeld, Dewey Baars. Guests included Janice Baars. George Frison (Board member) was absent. The terms of members are listed at the end of these minutes.

President Judy Wolf called the meeting to order at 7:42 a.m. Dale Wedel and Mavis Greer were introduced as new members of the board. Barb

added Rich Adam's request for funding to new business.

Minutes of the Last Meeting: Judy asked if there were any additions of corrections on the minutes of the 2007 meeting of the WAF board meeting. Barb moved that the minutes be accepted and Terry seconded the motion. Motion passed unanimously by voice vote.

TREASURER'S REPORT: Barb presented the Treasurer's Report.

Balance in checking as of 3/31/2007		\$ 7,142.22
Income:	\$ 5,273.37	
Expenditures	(\$ 2,650.69)	
Balance in checking as of 3/31/2008		\$ 9,764.90

Reserve Funds

Certificate of Deposit #6026430 (a/o 3/31/2007)		\$12,951.05
Interest paid 2007/2008	\$ 531.39	
Balance ending a/o 3/31/2008		\$13,464.44
Money Market Account #20098502 (a/o 3/31/2007)		\$ 1,008.38
Interest paid 2007/2008	\$ 13.00	
Balance ending a/o 3/31/2008		\$ 1,021.38
Foundation Subtotal		\$14,485.82

Henry E. Jensen Trust

Certificate of Deposit #6211373 (a/o 3/31/2007)		\$ 37,802.51
Interest paid 2007/2008	\$ 650.79	
Balance ending a/o 3/31/2008		\$ 18,453.30
Certificate of Deposit #6213161 (a/o 3/31/2007)		\$ 5,290.17
Interest paid 2007/2008	\$ 202.84	
Balance ending a/o 3/31/2008		\$ 5,493.01

Jensen Research Grant

Certificate of Deposit #6211373 (a/o 3/31/2007)	\$ 0.00	
Deposit April 5, 2007	\$ 20,000.00	
Interest paid 2007/2008	\$ 733.85	
Balance ending a/o 3/31/2008		\$ 20,733.85
Jensen Trust Subtotal		\$44,680.16

George Frison Endowment

Money Market Account #20098502 (a/o 3/31/2007)		\$ 4,491.49
Interest paid 2007/2008	\$ 76.72	
Deposits 2007/2008		\$ 17,807.84
Withdrawals 2007/2008		(\$ 18,000.00)
Balance ending a/o 3/31/2008		\$ 4,3795.95
Endowment Subtotal		\$ 4,375.95

Total Net Worth as of March 31, 2008		\$ 73,306.83
---	--	---------------------

Barb explained that the money market account contains additional monies for the Frison endowment. Marcel explained that the university has already committed to match the second \$50,000 pledge in full no matter what happens with the state match program. Once the money reaches the university, it will be matched and the money can be used.

This year's audit was completed by Mavis Greer, Judy Wolf, and Eva Peden. Eva reported that, as usual they were in beautiful condition and everything matched. Dale moved and Mark seconded accepting the auditor's report. Motion passed unanimously by voice vote.

OLD BUSINESS:

WAF Fundraiser Update: Judy explained what she had done about reprinting the "Clovis to Cowboy" poster. Can't just use the old poster, instead have to drum scan the image (\$100) and have the graphic designer redo the poster (\$120), 150 posters would cost \$571; the total expense would be about \$800 in expense if we decide to do it. If we sell it for \$40 then we would make \$4,000. Eva volunteered to buy one and Terri volunteered to help. They would be numbered as well. Discussion then centered around different ways to sell them including in the State Museum store, on a web site, at Plains Conference, WAPA list serve. Judy suggested auctioning off the first five posters and Barb suggested it should be done at the WAS meeting in Cody. Judy explained the process of making and framing the posters.

The distribution of money from the poster was discussed. Barb explained that Foundation operations are about \$14,000/year and that if we reached a point where we had no money coming in we would need to have that much in a reserve account (the current Reserve Fund) and she would like to build that up to \$20,000. Currently the Jensen Estate oil royalties (Salt Creek Oil Field) are paying our bills. If oil prices drop, then we are in trouble and need to have the \$20,000 which would cover about three years of expenses. The insurance on the Hell Gap property is about \$1500 and is sure to go up. Last year's meeting discussed the need for three year's reserve in operating funds and the Jensen Research grant. It was never decided where the money from the poster sale was to go. Mark moved and Terry seconded that after we recoup the expenses of printing the poster, we split the proceeds evenly between the

Reserve and the Jensen Research Grant. Discussion then centered around the needs of the Foundation – for keeping the Hell Gap property (taxes, insurance, and other necessities) and a Research Fund giving out at least \$1000/year. Both were considered to be important.

Mark amended the motion so that 80% of the proceeds go to the Jensen Research Grant and 20% to the Reserve Fund. Motion passed unanimously by voice vote.

Mark moved and Eva seconded that we print 150 Clovis to Cowboy posters and sell at a price to be determined. The price will be at the discretion of the board. Motion passed unanimously by voice vote.

WAF Grant Guidelines: Barb reported that we'd been working on the guidelines for the grants over the past three years, and how we should get the information disseminated. Suggestions putting it in the *Wyoming Archaeologist*, announce in Laramie when the scholarships are announced in the spring (many students are members), host chapter for spring meeting should mail out an announcement with their packet, post on any web site (WAPA, Anthropology Department, State web sites). Deadline date for applications was discussed, and March 15 was suggested as a deadline. Discussion then centered on the wording of the grant guidelines, and the board decided to work on this application over the next year and get it out. Mark suggested changing the donation form the *Archaeologist* to allow them to specify a particular fund for their donation.

Hell Gap Nomination to the National Register:

Judy reported that the SHPO office was finishing up the Finley nomination (to be done Fall 2008). John Laughlin hasn't had time to work on the Hell Gap Landmark nomination. Landmark nominations entail much more work than a nomination to the National Register, and the Park Service might even write the nomination.

Ord Ranch Survey: Judy mentioned that John Laughlin had reported at yesterday's WAS meeting that the Ord Ranch survey had not happened yet. Dewey noted that the landowners had sold the ranch, but the manager was still on the property.

NEW BUSINESS:

Hell Gap Report:

Summer grazing: Albert was ready to move cows onto the property, but Dewey had turned on the

well and discovered a few small leaks that needed to be fixed before he could turn it on. He will do this in the next few weeks.

Tree Removal: Last year, Terri and her husband removed some trees, but we've barely scratched the surface. Worked on the fence along the road and pulled out a lot of the trees that were wound into the fence.

Mine Shaft: Dewey will order the material for the door to the mineshaft and install it.

Fire Plan: Marcel reported that he and Dewey had not done the fire plan for the property. They will circle the house, lab trailer, and building over the site to be saved, and that there should be no four wheelers, dozers, or graders allowed on the land during firefighting.

2008 Plans and visitors: The only plans for 2008 will be some maintenance, including painting roof on trailer. The lab trailer is deteriorating, but we can just maintain it until it is no longer useable at this point. There will be no archaeology this summer.

Visitors: School children are still eager visitors to the site. Mary Lou Larson and Robert Kelly took Henry Wright, the Mulloy lecturer and some graduate students to visit the site just recently.

Upgrades to the house at Hell Gap: Potential upgrades to the house at Hell Gap include the installation of an outside sink with hot and cold water, removing the sink/stove/counter top in the kitchen, and subdividing the back room into a guest room for sick field crew, visitors without tents, etc. Mary Lou reported that they were still working on it.

Frison Institute Endowment Fund: Barb explained the report she had received from the UW Foundation about the Frison Institute Fund. Mary Lou questioned the \$24,344.00 for Endowment purpose expenditures. Marcel reported that the next pledge of \$50,000 may be a little more difficult to get than the first one. He still has about 4,000 books that he could sell, but will wait until there is evidence that we need to raise more money for the endowment. He also explained that in order to get the match from the state, any donations that people want to make need to be sent through the Foundation. If people send money directly to the UW Foundation it will not be matched.

Salt Creek Oil Field: Barb reported that Howell Petroleum wants to increase the drilling in Salt

Creek Oil Field.

Grant Request from Rich Adams: Need to decide whether or not to fund Rich Adams \$450 to rent a horse to take George Frison to High Rise Village. Mark moved and Eva seconded to give Rich the \$450.00. Terry Wilson volunteered to take a horse to George, and she should charge us for the gas to take the horse there and back. Recommend that Rich talk to Terry and if that doesn't work out then WAF would pay for the horse. Voice vote carried unanimously.

Election of officers for next year: Barb nominated Judy Wolf (President), Mary Lou Larson (Secretary), and Barb Nahas (Treasurer). Eva moved nominations cease. Officers elected for the next year unanimously.

Barb moved and Dale seconded that we adjourn. Passed unanimously by voice vote. Adjournment 8:55 a.m.

WAF BOARD MEMBERS AND DATE OF END OF TERM ON BOARD

Judy Wolf (President 2009)

Barb Nahas-Keiry (Treasurer) 2010, but permanent member

Terry Wilson (2008)

Mavis Greer (2011)

Mary Lou Larson (Secretary - ex-officio Dept. of Anthropology)

Mark Miller (ex-officio – State Archaeologist)

George C. Frison

Eva Peden (WAS Past-President)

Dale Wedel (Acting WAS President/WAS President Elect)

WYOMING ARCHAEOLOGICAL FOUNDATION APPLICATION FOR FUNDING YEAR _____

PLEASE NOTE: APPLICATION AND ALL ATTACHMENTS MUST BE SUBMITTED FOR CONSIDERATION BY THE WAF BOARD.

WAS MEMBER / CHAPTER: _____

ADDRESS: _____

CONTACT PERSON: _____ DAYTIME PHONE: _____

ADDRESS: _____

PROJECT TITLE: _____

AMOUNT OF FUNDING REQUESTED FROM WAF: _____

WILL YOU BE REQUESTING FUNDING FROM OTHER SOURCES: _____

IF SO, FROM WHOM AND IN WHAT AMOUNT? _____

DO NOT FILL IN BELOW. FOR WAF USE ONLY:

DATE RECEIVED BY WAF: _____

SCHEDULED FOR _____ MEETING

APPLICANT NOTIFIED OF MEETING: _____

APPROVED / DENIED: _____

DATE: _____ AMOUNT: _____

ANNALS OF WYOMING: REPRINTING 1955-1961 WYOMING ARCHAEOLOGICAL SOCIETY NEWS AND ARTICLES

This issue of *The Wyoming Archaeologist* is devoted to reprinting a series of articles originally published in the *Annals of Wyoming* (journal of the Wyoming Historical Society) between 1955 and 1961, in the years the Wyoming Archaeological Society was in its infancy and during the early years of *The Smoke Signal* and *The Wyoming Archaeologist*. These reports document some of the early archaeological research and work of early members of the Society, illustrating the role played in the development of the present role of the society in today's research. The articles are reprinted with the permission of the editorial board for *Annals*, Dr. Rick Ewig, Editor. While some of the concepts discussed are no longer considered valid in today's archaeological world, we must consider the content in the context of the day: some of the earliest archaeological studies ever conducted in Wyoming.

Most of these articles were prepared by Mr. L. C. Steege of the Cheyenne Chapter, WAS at the time. Lou was devoted to recording the prehistory and early history of Wyoming and his concerns show in these articles. Some news reports were also prepared by members of the Sheridan Chapter, primarily Dr. R. C. Bentzen and Glenn Sweem. Lou's background, qualifications and experience was presented in 1957 (*Annals of Wyoming* 29(1):121):

LOUIS C. STEEGE, a native of Bums, Wyoming, and a resident of Cheyenne, is a postal transport clerk, a position he has held since June 1941. He has been a student of archaeology for a number of years and is a member of the Society for American Archaeology, the Loveland Chapter of the Colorado Archaeological Society, and was appointed the Archaeologist of

the Wyoming State Historical Society in 1956 and reappointed in 1957. He is past president of the Laramie County Chapter of the Wyoming State Historical Society. He served as chairman of the Archaeological Committee for the State Society in 1955-56 and worked with other groups to have the Frontier Creek petrified forest area in Wyoming preserved. Mr. Steege gives volunteer service to the Wyoming State Museum and has cataloged much of the Indian artifact collection in the museum and assisted with setting up some of the displays. In 1939 he was married to Berenice J. Merrick and they are the parents of three children, Sherry Lou, Janice Elaine and Tommy Dale.

Some news reports were also prepared by members of the Sheridan Chapter, primarily Dr. R. C. Bentzen and Glenn Sweem. These two Sheridan members also published many early articles on Wyoming archaeology, or presented the results of the Society's research at professional archaeological meetings, often to rave reviews by professionals who were astonished "amateurs" could do such research with no formal training. Two of these site reports on Sheridan Chapter activities are especially important for making once again available: the society conducted major excavations and recording at the Little Bald Mountain site and several other sites, including at least two major bison kills, but more importantly, the Sheridan Chapter conducted the only formal archaeological investigations at the Medicine Wheel, a National Historic Landmark located above timberline in the Bighorn Mountains.

We hope you enjoy this trip down memory lane.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1954. Volume 26,
Number 2, pages 194-197

CHIPPED STONE ARTIFACTS

By
L. C. STEEGE

Implement making is a definite human characteristic. Since the beginning, primitive man made and used artifacts. Some were fashioned for tools; others for weapons; still others were made for ornamental and ceremonial purposes. One of the major tasks of an archaeologist is the collection and classification of these artifacts.

Probably one of the first materials used by primitive man was wood. A club in his hands would be an effective weapon against most enemies. A sharp-pointed stick handled with force would also be respected. Since wood is a perishable substance, any artifact made of it, that is found today, would undoubtedly be of more recent origin.

Bone was also utilized. The earliest known phase of bone industry dates back to the middle Palaeolithic period during the final Mousterian Culture. From this period until the end of the stone age, we find rapidly increasing development of bone artifacts. Many bone artifacts have been found in Wyoming, but unless they are found associated with the "Folsom" or "Yuma" complex, or some culture of a similar age, it is quite possible that they too are of a more recent origin.

Stone is a material found on every continent. Stone is practically indestructible; therefore, artifacts made from it have survived through countless centuries.

The aborigines in Wyoming used a wide variety of stone in their work. Quartzite, chert, jasper, agate, chalcedony, petrified wood, and obsidian were the most extensively used. The beauty of both material and workmanship of some of the weapon points found in this state are surpassed by none.

In our study of various stone artifacts found in Wyoming, arrowheads are probably one of the most interesting and most easily recognized by the average person.

Many persons, after finding the arrowheads or other artifacts, promptly "cache" them away with other keepsakes and heirlooms without a single thought as to the historical significance attached to them. To the historian, that point is absolutely worthless. It doesn't take long to record all the facts when an artifact is found. Was it a surface find? Was it associated with bones? If so, what species of animal was this? If you cannot positively identify those bones, why not notify some trained archaeologist of your find, and let him do the necessary identification work? If this point was partially eroded out of a bank, record the depth from the surface where it was found. Any bit of information about the find should be written down. Don't trust your memory as most times our memories play tricks on us after a few years of lapsed time.

Perhaps you are a person who has never found an arrowhead. I have found hundreds of arrowheads and each one has its own special significance and personal meaning. One cannot help but thrill to the romance of the past as you wonder who left it where you found it and when.

No doubt many centuries have passed since strong bronze hands fitted that point on the tip of a feathered shaft and then released this arrow from a bow in a soaring flight. Where it fell to earth, the sun, wind and rains had ample time to turn the shaft to dust long before you came along. Only the stone point remained to span the ages between its parting from that hand of long ago, until you found it. Did this arrow strike its objective and get carried away before the victim died? Did it miss and never get retrieved? This tiny bit of flinty craftsmanship will answer many of these questions when you find it, if you will only listen to it.

How was this point made? Many persons ask this question.

In every locality the arrow maker has shown, first of all, a wonderful acquaintance with materials at hand as though he had searched all the resources of the mineral, vegetable and animal world, and after studying all there was, had selected the best. We have now discovered that the savage could not have found any better material within his own environment. In

manufacturing the arrowhead, the savage was a mineralogist. He not only knew the qualities of rocks but also their best methods of working as well as the best conditions in which they existed in nature for his purposes. In each locality, the material employed is in every case, the best from that region. In working these materials, this primitive inventor soon found that the physical properties and availability of the material changed by natural surroundings. He knew by experimentation that a stone lying in a brook yielded better results to him than one exposed to the sun and the weather on the open prairies, and that a boulder buried in the damp earth, where it had lain for many centuries, gave him safer results with far less work than the brook pebble. He not only became a critical expert in the qualities of materials but also was led to become a quarry man in order to exploit the proper materials for his use. The "Spanish Diggings" in the east central part of our state are a good example of this quarry man's industry.

As soon as the arrow maker had secured his stock, he began to work it up into shape. At first he knocked off a flake or spall of the proper size and shape by a blow from another stone or percussor. This flake was then shaped, either by the percussion method or the pressure method of chipping.

Percussion chipping was the oldest and most general method used. It consisted simply of striking the flake with another stone used as a hammer or percussor. By well directed blows, the flake could be progressively shaped by removal of chips from the edges wherever the necessity developed.

The pressure method of chipping was invented much later and appeared towards the end of the Middle Palaeolithic period. It was used extensively towards the end of the Old Stone Age and continued in practice during the New Stone Age. This method of chipping was well known and practiced by the early inhabitants of Wyoming. Many beautifully chipped artifacts have been found which were made by the pressure method. "Folsom" and "Yuma" points are the masterpieces of this ancient art. This type of chipping was accomplished by the use of a flaking tool. This flaking tool was made from

the point of a deer antler or a fragment of bone. In some cases other stones may have been used. The main qualifications of the flaking tool were to be able to withstand a great amount of pressure applied by the worker and to "take hold" or "bite" the edge of the flake which was being chipped. The flaking tool was grasped in one hand and the flake in the other. Small ribbon-like chips and small scales could then be removed by pressure on the flaker against the edge of the artifact. Pressure could be applied either upward or downward, whichever suited the individual's taste. This flake, having been previously "roughed out" by the percussion method, was now perfected by pressure chipping by giving it a more symmetrical form, a sharper edge and a thinner body.

Many of these flaking tools have been found in Wyoming. These tools still display the scars grouped around the point where the pressure had been applied on the edge of an artifact in the process of being manufactured.

Anyone interested in the further study of this science of stone artifact manufacture, Bulletin 60, "Handbook of Aboriginal American Antiquity" by W. H. Holmes, published by the Bureau of American Ethnology; Washington, D. C. is an excellent manual. This book gives much information about the working of prehistoric stone quarries and the methods of producing artifacts by American Indians. It also furnishes many illustrations covering the explanations in the book.

The descriptions and classifications of Chipped Stone Artifacts will be given in the next issue of the *Annals*.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1955. Volume 27,
Number 1, pages 101-104

STONE ARTIFACTS: CLASSIFICATIONS
By
L. C. STEEGE

In determining just what classification should be given a certain artifact, let us consider first of all how it was used by the ancient

man who made it. He obviously manufactured his artifacts to fulfill certain needs such as a type for scraping, another for grinding, still another for cutting, etc.

As a general rule, I find that almost all stone artifacts can be placed into one of eight individual categories and that each one of these categories can be given a simple name which all persons can understand. These names usually describe the uses or the purposes for which the artifact was made. Types and sub-types are listed with each category.

- A Pounding
 - 1 Percussors, Hammers or Mauls
- B Grinding
 - 1 Mano and Metate
 - 2 Pestle and Mortar
 - 3 Abraders
- C Chopping
 - 1 Direct Percussion
 - a Axes
 - b Hoes and Spades
 - c Choppers
 - 2 Indirect Percussion
 - a Celts and Wedges
- D Scraping
 - 1 End Scrapers
 - 2 Side Scrapers
 - a Straight
 - b Concave
 - c Convex
 - d Notched
- E Cutting
 - 1 Blades, Knives, Slitters
 - 2 Points
 - 3 Saws
 - 4 Gravers
- F Drilling
 - 1 Drills
 - 2 Perforators
- G Ceremonial
 - 1 Pendants, Gorgets, Amulets
 - 2 Effigies
 - 3 Pipes
 - 4 Perforated Disks
- H Hunting and Warfare
 - 1 War Club
 - a Flaked

- b Polished
- 2 Projectile Points
 - a Stemmed-S
 - b Stemless-N
 - c Shouldered-Sh

DESCRIPTIONS OF STONE ARTIFACTS

The first essential for the description of stone artifacts is the identification of the various parts of the artifact.

Figure 1 is a sketch of a projectile point or arrowhead as some prefer to call it. This type of artifact has the most parts for identification. The same descriptive terminology holds true for all stone artifacts and is not necessarily confined to projectile points alone.,

The main part of an artifact is called the "body." The flat or broad part is known as the "face." The face as viewed from the top is known as the "dorsal face." The underside is called the "ventral face."

The pointed end of an artifact is called the "point" or "tip" and the opposite extremity is the "base." Sketches and photographs of pointed artifacts should always be made with the "point" up. When this is done there will be no mistake as to which end is the "point" or "tip" and which end is the "base".

When the base is narrower than the body, we refer to the artifact as being "stemmed" or "tanged." Stemmed artifacts are a result of shouldering or notching of the edges or base.

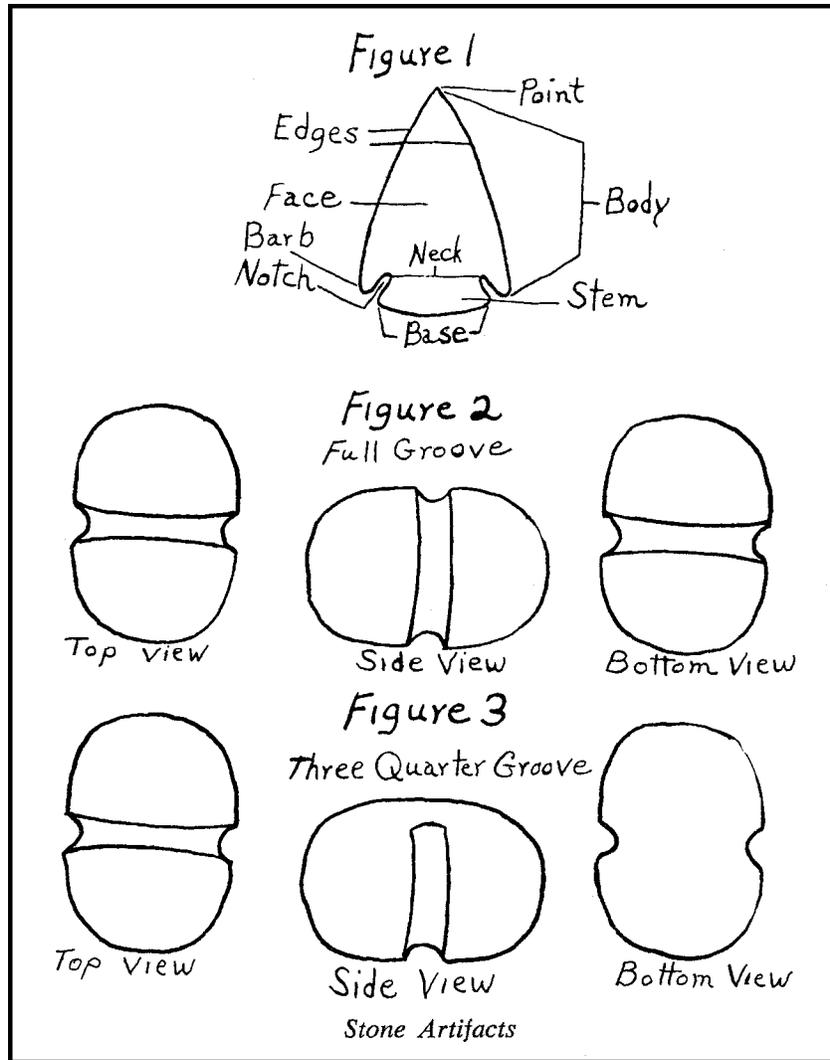
The "neck" is the narrowest portion of the stem.

The narrow or sharpened sides of the artifact are called the "edges."

The sharp and pointed ears which are a result of corner notches and sometimes of base notches are known as "barbs".

POUNDING ARTIFACTS

Probably the first "pounding" artifact. to be utilized by ancient man was a plain ordinary rock. By holding this rock in one or both of his hands, he could batter and break bones or rocks with direct pounding. These artifacts are known as "percussors". They have no definite size or shape. Most of these percussors were water worn rocks from a river bed. They were



quite smooth and would not injure the hands of the operator. Some archaeologists refer to these stones as “Eoliths”, which may be defined as a rock found in nature and utilized by man without any rework or retouching. These percussors can easily be recognized by the scars on the ends and edges which were caused by consistent pounding and battering.

Sometime during the early periods, this ancient man discovered that, by constant pecking with a percussor, a groove could be formed around the body of a stone which would enable him to tie on a handle. This hafted tool would be much more efficient than the original hand percussor. At first the grooves were shallow and were confined to the broader sides only. Little by little these grooves were made deeper

and longer until eventually some completely encircled the stone. Thus the hammer or maul was invented.

When the groove completely encircles the body of the stone, we refer to it as being “full grooved.” Figure 2

When the groove is confined to three sides only, it is known as “three-quarter grooved.” Figure 3.

Mauls or hammers have been found in every county of Wyoming. The most common is the full grooved hammer. Percussors are found in the more ancient workshops and campsites. Some of the finest specimens of percussors that I have seen in this state were found in the “Spanish Diggings” vicinity, and also in Uinta and Sweetwater Counties.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1955. Volume 27,
Number 2, pages 234-237

STONE ARTIFACTS

By

L. C. STEEGE

The second series of descriptions of Stone Artifacts brings to us category "B", the "Grinding Artifacts."

Type 1 of these artifacts is the "Mano and Metate." These grinding artifacts have been found throughout the entire United States, North America and in many of the foreign countries. They are still used quite extensively in Mexico and also by the Pueblo Indians of the southwestern United States: In spite of their universal distribution, the mano and metate are quite similar in appearance regardless of the locality in which they were found. The only differences are the sizes and the type of materials at hand from which they were made.

The mano varies from the "one hand" type (figure 1- a, b, c,) of the Plains Indian to the large heavy "two-handed" type (figure 1, d) of some of the Pueblo tribes. They were often made from river worn stones of granite, quartz or other hard material. They are round, oval and rectangular shaped. Many were shaped by "pecking" and others bear evidence of having been used as "precursors." The one-handed variety of mano was of a size and shape which permitted it to be manipulated very easily by one hand. Occasionally one may find a mano which has been worn to a wedge shape which would signify an extreme amount of usage. Some manos show a rather high degree of polish which would suggest a use for tanning skins.

I have found several manos which show an unusual degree of decomposition in some campsites and, in one instance, among some of the rocks in a tipi ring. Since the Plains Indian possessed very little if any pottery, it is my theory that these stones were heated in open fires and then placed in skin bags which might have contained water to be heated or some food to be cooked. The disintegration of the rock would therefore be hastened by the

effects of this heating and then sudden cooling process.

The metate is the stationary part of this grinding combination of stones. The metate also varies in size from the portable type of the Plains Indian (figure 2, a) to the large "fixed" type of the Pueblo Indians. They are irregular in shape and vary in thickness. The faces of the metates are shaped by the constant "pecking" and "rubbing" with the mano on its surface. Some are worn into a deep trough (Figure 2, c), others are saucer shaped. Occasionally a metate is found with a hole worn completely through the face. This metate was discarded since it would no longer be useful.

At permanent campsites one may find "fixed" metates. These are shallow troughs worn into some of the huge rocks and boulders scattered throughout the camp. In some instances, rock ledges and benches were utilized for a series of fixed metates.

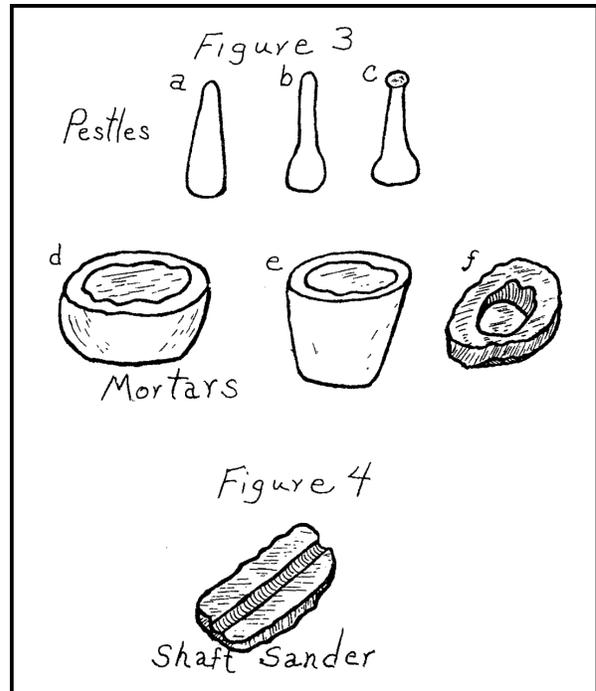
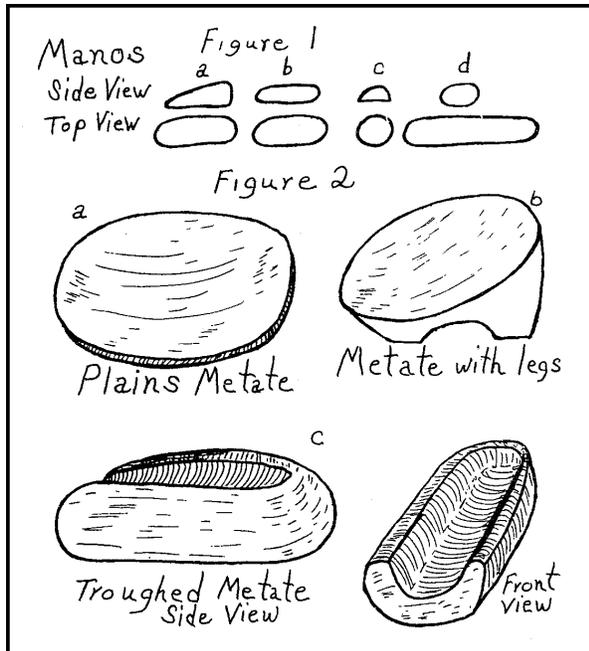
Some of the more advanced Pueblo cultures of the Southwest used metates which were supported by legs. This would place the face of the metate at a desired angle for the greatest efficiency. (Figure 2, b).

The mano and metate were also used as a hammer-anvil combination. They were used mainly, for pulverizing grains, seeds, roots and dried meats.

The pestle and mortar served nearly the same purposes as the mano and metate, only on a more moderate scale. The pestle was the pounder and the mortar was the grinder.

The pestle was usually an elongated piece of hard stone which was round in cross section. The base often times would be larger in diameter than the tip which was shaped to fit the hand. (Figure 3, a, b, c)

The mortar was cowl shaped, sometimes rather shallow and flattish and other times rather deep and shaped like a truncated cone. (Figure 3, d-e). Mortars were made of a variety of rocks. The Pueblo Indians of the Southwest and Mexico used lavas, some of which were very coarse grained in texture. Coastal Indians of California used a rather hard type of sandstone. Indians throughout central Wyoming used a grey colored steatite. In some sections



of Wyoming, natural cavities in limestone rocks were utilized. These small mortars are sometimes called "paintpots". (Figure 3 f)

Materials placed in the mortar could be broken into smaller fragments by pounding with the pestle. These smaller fragments could then be ground to a powder by downward and revolving pressure of the pestle against the bottom of the mortar. Roots, herbs and seeds for medicines, hematite and ochers for paints could be crushed and mixed in this manner.

The pestles and mortars of the pharmacists today have changed very little in shape from those used by the aborigines. The only difference is the material from which they are made.

Abraders have neither definite sizes nor shapes. They were used much in the same manner as one uses a file, whetstone and sandpaper today. Sandstones and pumice were the chief materials used for abraders.

One particular type of abradant found in Wyoming is the arrowshaft sander. This is usually a piece of sandstone in which a small straight trough about one-fourth inch in width is worn. (Figure 4) An arrowshaft placed in this trough and then rotated while drawn back and forth would soon be smoothed in the same manner as if a person used a piece of sandpaper.

Bone awls, needles and fish hooks occa-

sionally had to be repointed and sharpened. This was done with an abradant and often times left a series of scratch marks in the stone.

Abraders or smoothers were used extensively in pottery making. Gouges, celts, and axes could never have been edged or polished without an abradant.

Since these abraders nearly always were stones which were used just as they were found, they are seldom classified by archaeologists as actual products of primitive man's industry, but I believe that this implement has played a very important part in the lives of the American Indians and is therefore worthy of a separate classification.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1956. Volume 28,
 Number 1, pages 96-99

STONE ARTIFACTS
 By
L. C. STEEGE

With exception of projectile points, the chopping artifacts were probably the most widely used implements of all the Tribes and Cultures in the United States.

The most generally distributed chopping artifacts were the grooved axes. They ranged in size from a few ounces to ten and fifteen pounds. They were usually made of a fine grained, tough material, and show a very careful exacting workmanship. A great deal of time must have been consumed in the manufacture of these axes. . Even after the selection of a river-worn or a glacial-worn blank, countless hours must have been spent in pecking a groove around the stone, shaping the bit and poll, and finally grinding and rubbing the entire surface to achieve a fine polish which in some cases rivals the art of modern lapidarists.

Since these polished axes are seldom found in graves or in mounds, it leads one to assume that they may have been handed down from father to son for many generations. A close examination of some of the ancient logs used by the Cliff Dwellers in the Mesa Verde region of Colorado reveals the work accomplished by these implements. Since the majority of the bits of these axes were not too sharp, only small chips were removed in the hacking process. This gives the hewn end of the log a similar appearance to beaver cuttings.

Axes are classified as full grooved and three quarter grooved. (Figure 1). On rare occasions half grooved axes have been found. These are recognized by grooves or flutes on the two faces only. Extremely rare are the double bit-ted polished axes which have no poll. Another rare type as found by the author in the State of Utah, is the base or poll grooved axe which consists of an additional groove around the poll at a right angle to the main groove around the body. (Figure 1A)

Grooveless polished axes are known as Celts. They derive this name from their similarity to the grooveless axe used by some of the early Celtic Nations .of Europe. Celts, as a general rule, are wider at the bit than at the poll. They are fairly symmetrical which is a distinguishing characteristic from the adze, which is usually quite flat on one face and also much thinner. (Figure 2)

Most authorities classify a celt as being an unhafted axe, better known as a hand axe. This would place them in the category with the

direct percussion choppers. Since many of the celts have battered polls which could have been caused by hammering, I have placed them in the category of indirect percussion choppers. In reality, the celt must have been an all around tool and weapon. The smaller ones could have been encased in rawhide, mounted on a handle, and been a very effective tomahawk. Since there is such a variation in sizes, the celt could have been used as a hand axe as well as a chisel and wedge. The possibility of use as a skinning implement should riot be overlooked.

Chisels differ from celts in as much as they are usually long and slender. They are highly polished and have a sharp cutting edge. The cutting edges of some chisels show evidence of having first been chipped and then ground in order to achieve the sharp tapered edge.

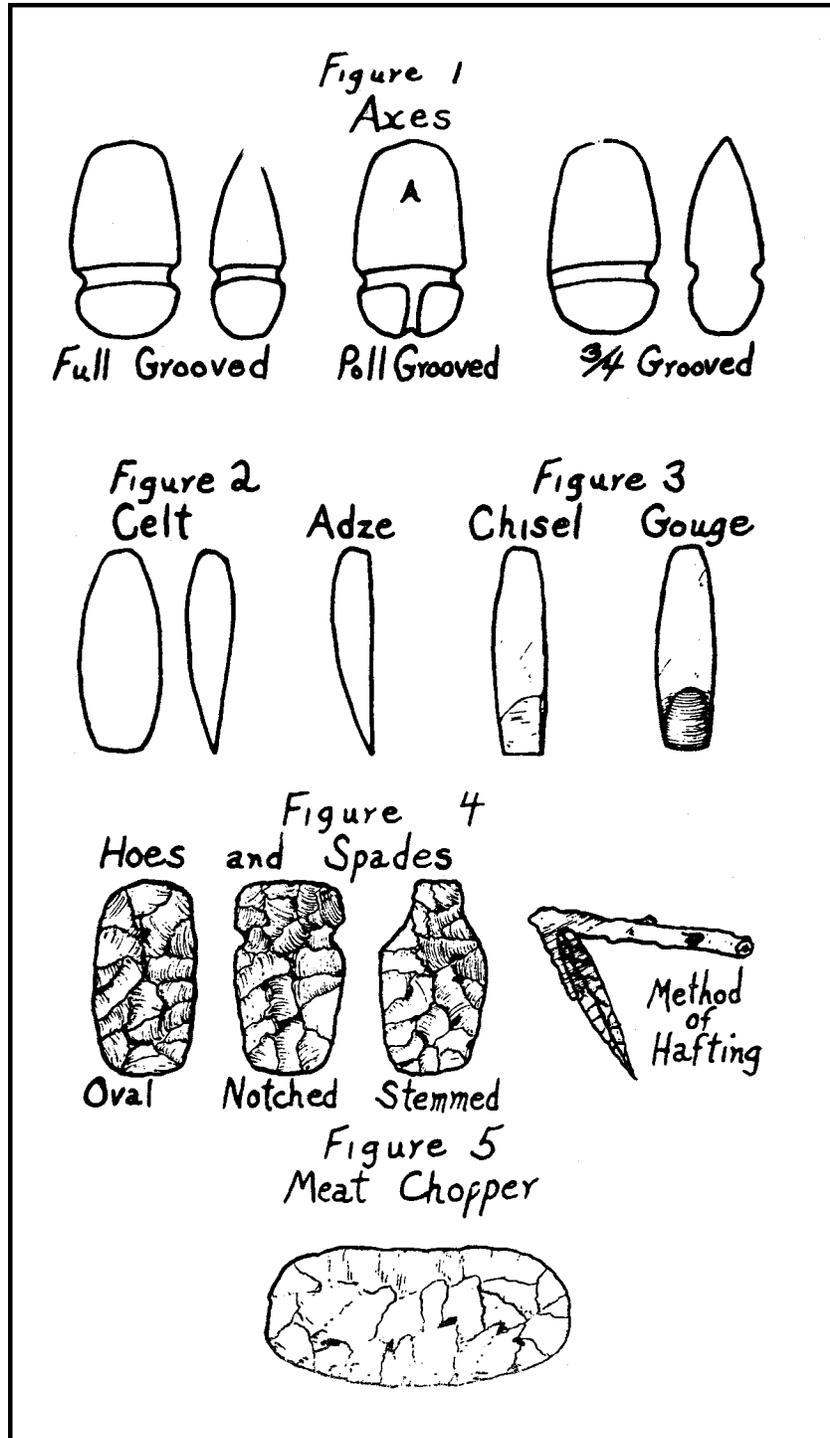
Gouges are similar to chisels except the cutting edge which is concave instead of straight. (Figure 3)

Whether or not ancient man used the chisel and gouge in the same manner as we do today is purely speculation. They must have been used by hand pressure only since very few, if any, would ever withstand any hammer blows.

In classifying hoes and spades, the names are synonymous with the larger types usually being called spades. They vary in size from about four inches to twenty inches in length. The most common shape is oval but some of the more rare types are notched and stemmed.

The three types of hoes and the probable method of hafting are shown in figure 4. The handle is a forked branch from a tree. The blade was held in place by rawhide lashings around it and the fork of the handle. The blank selected for the hoe or spade was shaped by percussion flaking with little or no emphasis stressed for sharpness, the main desire being a well tapered bit or chopping edge.

Hoes and spades were the agricultural implements of ancient man. They are seldom found in Wyoming, especially any which show a degree of soil polish from use. A great number of these artifacts have been found around the quarries in the "Spanish Diggings" area but I doubt if any were ever used in that area. The greatest concentration of these artifacts seems



to be in the entire Mississippi Valley, with the hub centering in the States of Tennessee and Kentucky. Hoes and spades made of quartzite, which originated in the quarries in the "Spanish Diggings" area, have been found in mounds in Ohio. The extensive use of these digging tools can be visualized with the construction

of one of these mounds. Thousands of cubic yards of earth had to be dug with these crude implements to account for the size of some of the mounds.

Probably the most popular chopping artifact of the Plains Indian was the meat chopper which was used in the same manner as our

cleaver is today. They were very similar to the oval hoe or spade, the main difference being the edge of the chopper. One edge was sharp for cutting and the opposite edge was blunt so as not to injure the hand holding it. (Figure 5) They were quite large and heavy. The weight, together with a sharp edge and the force of a hand working it in a downward stroke, made this chopper a very excellent implement for dividing a large carcass into smaller portions which could be handled more easily, and also for cleaving bones, joints and tendons: They were also used for splitting the long bones in order to extract the marrow.

Of all the chopping artifacts described in the preceding paragraphs, only the meat chopper is found in any abundance in Wyoming. A few grooved axes have been found, but celts, adzes, chisels and gouges are practically unknown. Hoes and spades are rare. Most all the choppers were artifacts of the more permanent type of cultures which existed throughout the Mississippi Valley and the Coastal areas of the United States.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1956. Volume 28,
 Number 2, pages 213-215

STONE ARTIFACTS: SCRAPERS

By
 L. C. STEEGE

Scrapers are the most abundant of all the stone artifacts used by the Plains Indians. Since the skins of wild animals were used extensively for clothing, robes, moccasins and shelters, the preparation of these skins necessitated the use of great quantities of scrapers; hence their common occurrence throughout the Plains regions.

How often have you heard this phrase? "I guess this is some sort of a scraper." It appears to be a universal habit of amateur archaeologists and collectors to place any artifact which cannot be readily identified into the scraper class. This is a very common and erratic practice and should be avoided at all times.

Scrapers are a very definite artifact. They were designed and made for a definite purpose.

Scrapers are different from knives in as much as the scraper is a flake and the knife is a blade. The knife is V-shaped in cross section, the edge being tapered from both faces. A knife is relatively thin whereas a scraper is usually thick. The edge of a scraper is beveled by pressure flaking from the dorsal face only. This tends to give the working edge a sharp hooked surface which is essential for maximum efficiency. The ventral face of a scraper shows little or no flaking. The surface remains smooth and slightly curved since this side was the conchoidal surface of the original flake.

Scrapers are classified as *end scrapers* and *side scrapers*.

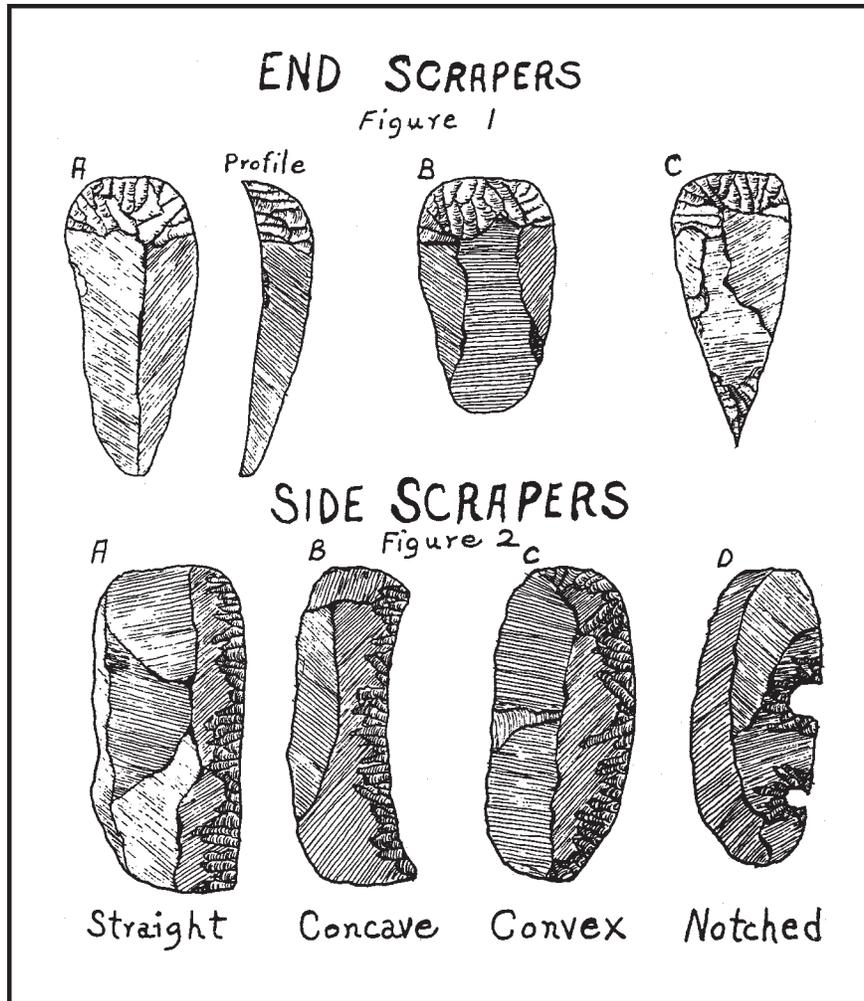
End scrapers are made with the working edge at the narrow end. Their shapes are roughly sub-triangular and rectangular. They were used by being held in one hand between the thumb and the index finger. For this reason end scrapers are sometimes referred to as "thumb scrapers."

End scrapers are divided into two classes known as "keeled" and "on flake." The keeled variety (Figure 1 A) are subtriangular in shape and have a thick stout end made for hard work on heavy hides. The on flake variety (Figure 1 B) are somewhat lighter tools and have no definite shape.

End scrapers with working edges on both ends are not uncommon. These are known as double end scrapers. End scrapers which were pointed on one end (Figure 1 C) were also used as borers and gravers. End scrapers were sometimes stemmed. This type was mounted on a short shaft or handle. Greater pressure could be applied with this implement.

Side scrapers are found in a variety of forms, shapes and sizes. The working edge of the side scraper is along the broad end instead of the narrow end as on the end scrapers. The side scraper was held in one hand with the working edge of the scraper held very close to the object to be scraped. The object was then scraped along a straight line, sideways, or in a circular motion according to the results desired by the operator.

Side scrapers are divided into four classes: Straight (Figure 2 A), Concave (Figure 2 B),



Convex (Figure 2 C), and Notched Figure 2 D). Each class is characteristic by the general shape of the working edge.

Notched scrapers were used for scraping cylindrical objects such as stems and shafts. They were also used to shred sinew.

a goodly amount of finished artifacts, I will not attempt to deviate from this common practice either.

At the beginning, any sharp edge of a thin flake was considered sufficient for a good cutting edge. When the edge became dulled and chipped from use, the flake was discarded and another picked up either as found in nature or struck off from some suitable material. There was no standard for size or shape; the main requirements were that it be large enough to be held in a hand and sufficiently thin, sharp and strong enough to cut skin, flesh and wood. This type of cutting artifact undoubtedly lasted for a long period of time. By blunting one edge of the flake, a great deal more pressure could be applied to the flake without injuring the hand holding it. A slight convex cutting edge ending

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1957. Volume 29, Number 1, pages 107-110

STONE ARTIFACTS: CUTTING ARTIFACTS
 By
L. C. STEEGE

Since it is envisaged that the American Archaeologist, both amateur and professional, will persist in using the term "blade" in a very broad and classificatory sense as a catch-all for

in a point added considerably to the efficiency of this flake knife. In our knives today, even with their many specialized functions in our modern lives; we see very little change in the shape of the metal blade over the stone flake knives of ancient origin.

The evolution of the flake into a blade came with the development of flaking techniques. At this stage we have a somewhat rough unifaced or bifaced implement with a strong irregular V-shaped cutting edge. These blades were discoid or ovate in form and were considerably larger than most flake knives. (Figure 1A)

Through the medium of pressure flaking, edges could be thinned and straightened causing a much sharper cutting edge. Some blades were pointed (Figure 1B) which I classify as "Points."

Leaf shaped blades (Figure 1C) and triangular shaped blades (Figure 1D) were used very efficiently as knives. These types are found almost everywhere in North America. Many show very careful exacting workmanship with finely retouched edges.

The more highly specialized types of knives are the "tang knives". (Figures 2A and 2B). These are not a very common form and consequently are choice pieces for collectors. At first these tang knives were found only in Texas but occasionally one has turned up in other Western States. Some very beautiful specimens have been found in Wyoming.

The purpose of the tang is for the attachment of a short handle. This handle was for better control of the blade as well as enabling the user to have an unobstructed view of the cutting operations, especially while cutting a definite pattern. If the truth were known, I believe that a good many of the larger off-center "arrowhead" which are found everywhere, would fall into this tang knife classification rather than into a class of projectile points. Just where the line of distinction should be drawn is strictly the opinion of the individual collector.

"Slitters" (Figure 2C) are a relatively new classification. These may be typed as a tang knife, however; they are single notched and have but one barb which is the cutting edge. These tools which were mounted on a short

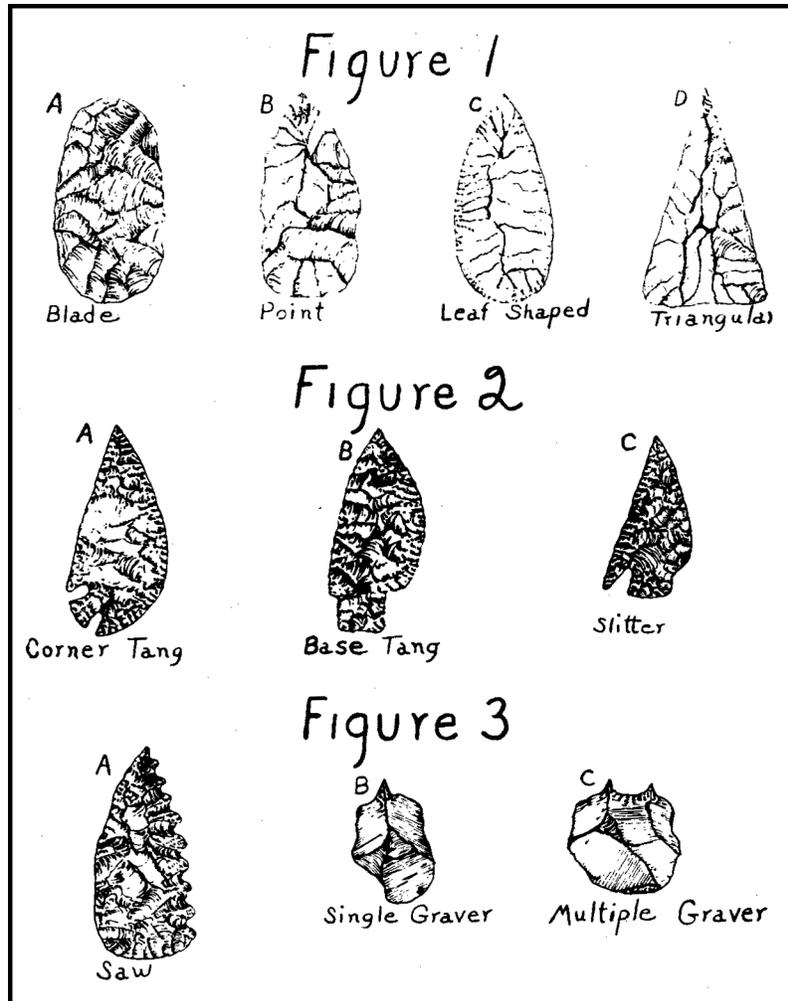
handle were very effective skinning knives. The point was inserted through the skin of a bird or animal and the tool rotated until the barb was brought beneath the skin. Then by drawing the barb along at an angle under the skin, the latter was easily cut and the flesh beneath it was unharmed. It was very easy to follow a straight or curved line since the tool was always held in place by the barb which extended ahead of the cut. With this tool it was a simple task to remove the thin tender skin of birds.

Not all single notched artifacts can be classified as "slitter." Barbs were often broken off projectile points by accident. A careful examination of single barbed points often reveals a sharp retouched edge which indicate a definite cutting function.

Occasionally a person finds a blade which has a deeply serrated edge. (Figure 3A). These artifacts are the precursors to our modern steel saws, They were not too practical except for use on soft material. They were used for grooving and notching of wood and for rasping and leveling of high spots on wood and bone. "Saws" were not common in the Plains Regions. They were used by some of the Pueblo cultures of the Southwest area but their greatest concentration seem to be in the States of Missouri and Arkansas

Gravers (Figures 3B and 3C) are incising tools. The main feature of a graver is a stubby sharp point formed on the edge of a flake or a flake artifact. The point is formed by pressure flaking directed from a single side of a flake resulting in the point being unworked and flat on one face. The points nearly always show a slight bevel or twist and were usually formed on a dorsal ridge where it tapers to the edge of a flake.

Although not a common artifact, gravers are found throughout all of the United States. They were found at the Lindenmeier Site on the Wyoming-Colorado border forming part of the Folsom Complex. They were found in New Mexico in the Sandia Cave. They are associated with the Clear Fork Complex in Texas. Gravers have been found in Paleo-Indian sites in Pennsylvania, and Massachusetts and with Archaic Cultures in Louisiana, Illinois and Wis-



consin.

Gravers had many uses. The most common was the engraving of bone, shell, wood and soft stone. Examples of this engraving art on bone were found at the Lindenmeier Site. These little tools could certainly be used for piercing operations such as tattooing and sewing. The eye in a bone needle could be carved with a graver. They were always used in a gouging fashion, that is by a forward pushing movement with the tool held in the same manner as a chisel. Multiple pointed gravers are not uncommon.

This important little artifact is often overlooked by many amateur archaeologists due to the simplicity in design. If you find a flake with a small point or spur, study it closely; perhaps you have found a graver.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1959. Volume 31,
 Number 1, pages 101-108

**STONE ARTIFACTS:
 PERFORATING ARTIFACTS**

By
L. C. STEEGE

One of the most controversial of all the stone artifacts to be classified are the drilling types. Collectors will readily agree as to the identification of these artifacts, but, how many of these stone tools actually show any use as a drill?

An iron-clad classification as to the limits of size and form is impossible for these artifacts. From a mechanical and technical standpoint in order to be practical, the stem of a drill would have to be made quite thick to withstand the

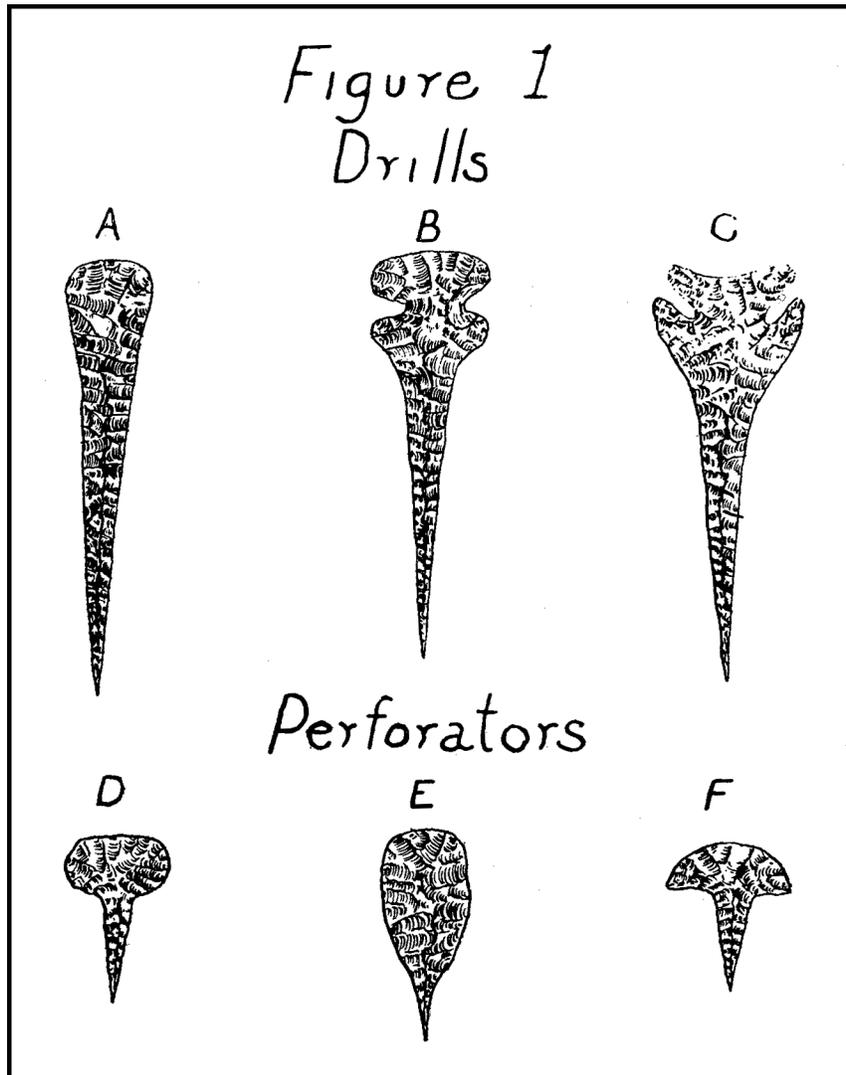
downward pressure and the twist in addition to the resistance of the object being drilled. Thin-stemmed drills would never stand up under such use.

The drilling of hard objects such as stone and slate would naturally impart a ground surface on the point of a stone drill. The drilling of softer materials such as wood or bone would eventually leave a glossy polish on the drill point, yet upon close examinations of these so-called drills, I have still to find my first evidence of such usage.

It is my opinion that these implements with the long, slender stems (Figure 1; A, B, and C) were used as pins or fasteners for robes, cloaks and blankets and not for drilling purposes as heretofore believed.

Perforators and borers are the small short-stemmed tools of the "drilling" classification. (Figure 1; D, E, and F). These may be described as a short, sharp, and tapered point made on a flake or blade of flint and having a flat base which was easily grasped between the thumb and the folded index finger. The cross section of the point is roughly lozengic with sharp edges which add abrasion to the penetrating power of the tip. These perforators were used with a twisting, reaming motion with downward pressure applied for penetration. Holes could be made in buckskin, wood, shell, bone, steatite, slate and soft stones.

Occasionally one may find an object which had been too thick to drill from one side only. In such a case the drilling was restarted on



the opposite face with a result that the hole is roughly shaped like two hollow cones joined at their apices -- not always too correct due to deficient workmanship or a slight miscalculation on the part of the operator.

Drills ("Pins"), and perforators are found throughout the United States. Wherever chipped implements abound in numbers, you can expect to find these interesting stone artifacts.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1959. Volume 30,
Number 1, pages 101-108

**STONE ARTIFACTS: CEREMONIAL AND
PROBLEMATIC ARTIFACTS**

By L. C. Steege

Artifacts in this category include Pendants, Gorgets, Amulets, Effigies, Pipes, Discoidals and Perforated Disks.

Pendants (Figure A) appear occasionally in Wyoming in limited numbers. A majority of these are of the notched type and are triangular in shape with some variant specimens being more rectangular in shape. Some perforated specimens have also been found. Most of the pendants which have been seen by the author in various collection are made of some unusual stone such as clear quartz or obsidian. A notched pendant of obsidian was found during excavations at the Little Bald Mountain Site. A preliminary report on this research is published elsewhere in this *Annals*. These pendants were undoubtedly "good medicine" and were the decorative ornament of only a few people.

Gorgets, Amulets, Discoidals and Perforated Disks are seldom, if ever, found in Wyoming. They are generally associated with Mississippian cultures of the Southeastern portions of the United States. They also appear in the Great Lakes Region of the United States and Canada.

There does not seem to be a limitation as to the size and shape of a gorget (Figure B). The general overall description is a flat surfaced stone containing one or more holes. They are usually made of a softer stone such as slate,

although gorgets of hematite are not uncommon. The majority of gorgets are rectangular to oval in shape and rarely exceed one quarter inch in thickness.

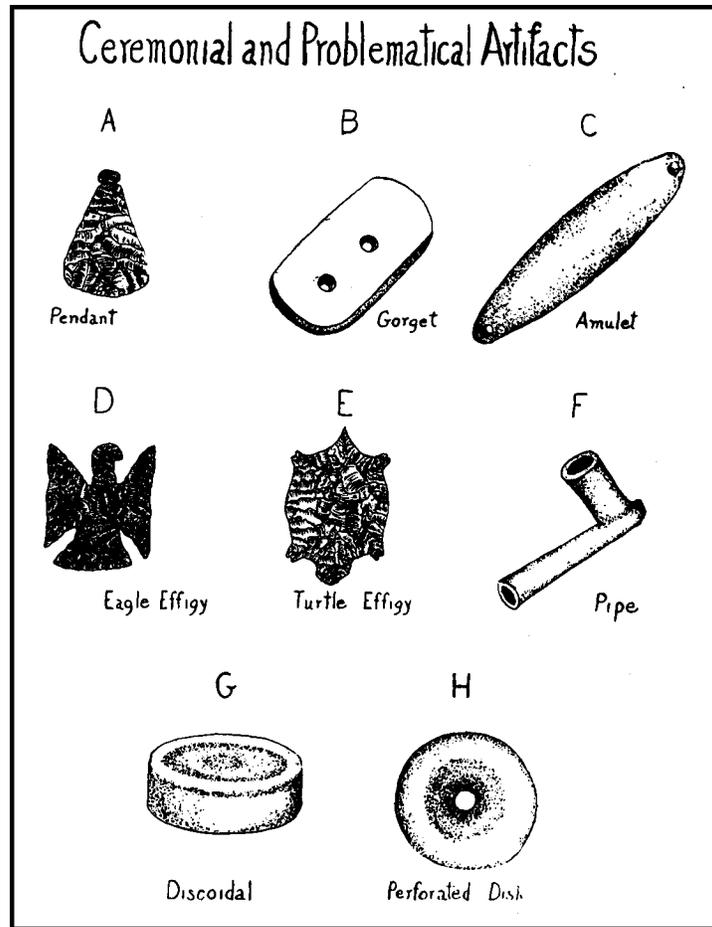
Amulets (Figure C) are generally cigar-shaped and are longer and thicker than a gorget. They are not as common as a gorget. Amulets are made of slate, greenstone, quartz and hematite. They may have grooves cut around the body or drilled holes through the ends. Some specimens have both grooves and holes.

The use of these two artifacts is decidedly problematical. Some authorities have concluded that these are atlatl weights, but in my opinion they would not be practical for such use. Perhaps the gorgets were the predecessor of the modern string or bolo tie. Cords could be lengthened or shortened by sliding. The gorget along them. This theory can be supported by the fact that some gorgets show cord wear in the edges of the holes. Amulet could have been used as a handle on the end of a rope or cord. They could also be used as a weight on a fish net.

Effigies (Figures D, E) are another rare item in the Plains region. The greatest concentration of these artifacts appears to be in the Mississippi Valley and Northeastern Oklahoma, even then they are found only on rare occasions. Many items of this nature are displayed in collections but the authenticity of these artifacts, in most cases, is rather doubtful.

The eagle and the turtle are the most popular in design. Some snake, lizard and flying bird design and profiles of human faces also appear. It is quite possible that a few highly skilled flint chippers of prehistoric origin did fashion a few effigies for ceremonial purposes but these number very few in comparison to the number of practical artifacts which were made for a definite purpose or use.

Other chipped artifacts of unusual shapes are called "eccentrics". These can be a multitude of sizes and shapes. The general shape is triangular and often resembles a projectile point with a weird array of notches and barbs. A high percentage of these eccentrics are of modern manufacture. The largest outlet for



these fake pieces is a dealer in Arkansas. If you must purchase an eccentric, make certain that it comes from a reliable source. There is no practical use for these artifact other than ceremonial or ornamental.

A pipe (Figure F) is truly an American originality and seems to have been used throughout the entire United States, until the discovery of America, smoking was unknown to our European ancestors. Even the prehistoric man of Europe knew no pipe. The exact age when smoking began in America has never been determined.

The pipe was an article of great importance to our stone age man and was made with intricate care. The stone material used was catlinite, sandstone, steatite, slate and shale. There seem to be no limitation as to size. Some held about a thimble full of tobacco while some large ceremonial pipe held nearly a pound of tobacco. Shapes were not restricted either. Some were T-shaped, L-shaped, platform and tubu-

lar. Some were plain and some were carved into animals, birds and even human figures in minute detail. Some pipes of the historic times were inlaid with silver.

There is no doubt as to the classification and use of the pipe. It was strictly ceremonial.

Discoidals (Figure G) are found in that portion of the United States lying east of the Rocky Mountains. They vary in sizes from an inch to five inches in thickness and up to ten inches in diameter. They are circular in outline and usually bi-concave, or cupped on each side. There are some which are uniconcave or single cupped, and some which have plane parallel sides. The latter are known as the biscuit types,

A study of the bi-concave variety of discoidal reveal the skill used in making the specimen. The uniformity of diameter, symmetry and thickness of the two cups leads one to believe that it could have been turned on a lathe. A few rough specimens have been found which I would term as unfinished. The majority are highly polished.

They are usually made of a hard stone, such as quartz, greenstone or hematite.

The use for a discoidal has never been successfully explained. The most logic use could have been for a gaming piece. This, of course, is merely an assumption and until a definite use is discovered, the discoidal will have to remain a problematical form.

Perforated Disks (Figure H) are sometimes classified as pendants although it is doubtful if some were ever worn due to their weight and size. These disks or "doughnut stones" are found in the Southeastern United States and on the Pacific Coast. They are made of hard stone, carefully drilled and ground and in some cases are highly polished. The more symmetrical varieties could have been used as spindle whorls on shafts of rotating drills. This added inertia would make the bow-drills more effective. In my opinion these perforated disks are a further development of the discoidals.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1958. Volume 30,
Number 2, pages 215-218

STONE ARTIFACTS: HUNTING AND WARFARE: THE WAR CLUB

By L. C. Steege

War clubs of some description were used during historic and prehistoric times by nearly all of the tribes of the Northwest Plains. These may be classified as two types.

The first type, probably the earliest, is known as the "flaked" type. Figure I, A-B. These are the double-bitted, percussion flaked stone heads which were notched on the top and bottom to facilitate the attachment of a handle. These are generally crudely chipped and seldom show any secondary retouching along the edges. This type of war club has been found throughout the central portion of Wyoming from border to border. The greatest concentration appears to be in the "Spanish Diggings" area.

The second type is the full grooved polished tomahawk (Figure I, C) which we generally associate with the historic tribes. The heads are made of an oval shaped stone, circular

in cross-section. These were fashioned from steatite, which was easily shaped by the individual, or a nature-shaped, river-worn rock was utilized. A groove was pecked around the body of the stone. A wooden handle could then be attached to the stone with rawhide. These were formidable weapons in the hands of the foe and were used throughout most of the Plains region.

The historic Cheyenne used till another type of war club. This was a round stone about the size of a baseball, which was completely encased in rawhide, and fastened to a long handle. These stone heads were not grooved or notched in any manner. The stones were utilized as they were found in nature. War clubs of this style are on display in the State Museum in Cheyenne. It is quite possible that weapons of this style were also in use by other historic tribes.

PROJECTILE POINTS

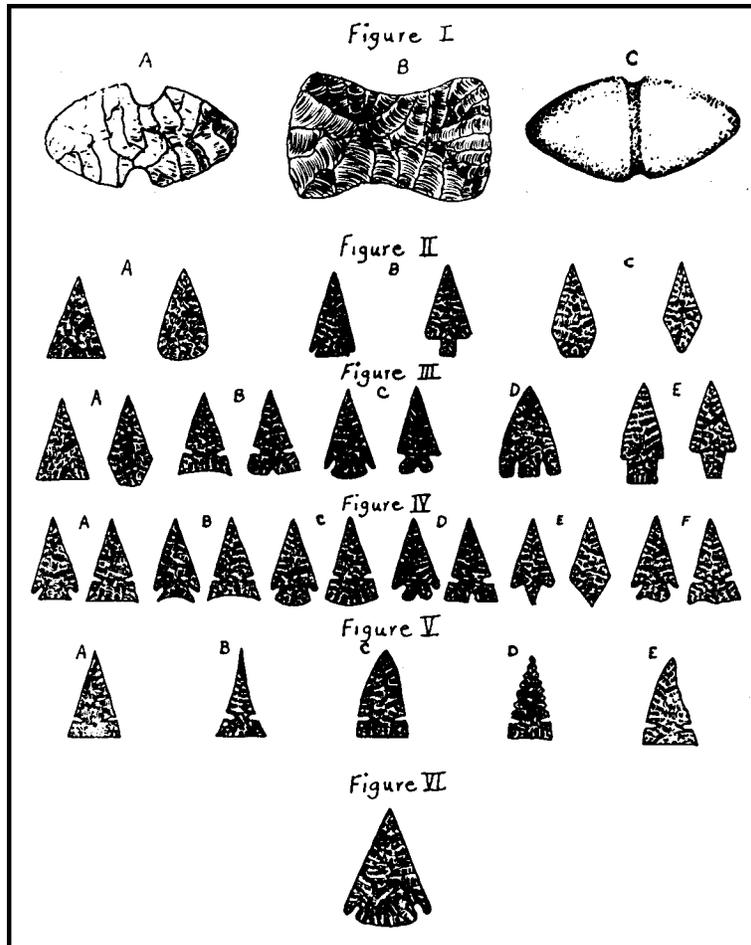
A foolproof classification for all projectile points does not exist. In most cases, previous systems have been too complex with too many types and sub-divisions of types. Therefore they were impractical for both the field man and the amateur. I have used the following described system for several years. Although this system is not complete for every detail, it does cover most of the stylized Plains types without involving too many sub-divisions.

The first general characteristic feature of a projectile point is one of three variations. The projectile point is either "non-stemmed" (N) figure II-A, "stemmed" (S) figure II-B or "shouldered" (Sh) figure II-C.

The simplest form of projectile point without a base distinct from the body is known as the "non-stemmed" type. The most common shape of this type is triangular.

When the base becomes narrower than the maximum width of the body of the projectile point as a result of notching either the edge or corners, we have a feature known as a "stemmed" point.

The third variation is known as a "shouldered" point. The distinguishing feature of this type is a base narrower than the body but without definite notches.



The second general characteristic feature of a projectile point describes the method of notching. There are five divisions in this classification. The first consideration is the “notchless” (X) variant, figure III-A. These can only be classified from either the non-stemmed or shouldered groups.

Non-stemmed points bearing notches cut into the edges are classified as “lateral-notched” or “side-notched” (LN), figure III-B.

Stemmed points having notched cut into the corners of the base are classified as “corner-notched” (CN), figure III-C.

Stemmed points bearing notches cut into the base are classified as “basal-notched” (BN), figure III-D.

Stemmed points bearing shoulders formed by notching are classified as “shoulder-notched” (SN), figure III-E.

The third general characteristic feature of a projectile point is the description of the

base. The same descriptions apply to the non-stemmed, stemmed, shouldered, notchless, and notched types previously described. There are six divisions of base types. The base may be “straight” (S) figure IV-A; “concave” (Ce) figure IV-B; “convex” (Cx) figure IV-C; “notched” (N) figure IV-D; “tapered” (T) figure IV-E; and “irregular” (I) figure IV-F.

The last characteristic feature of projectile points is the description of the edge. There are five divisions of edge types. The edge may be “straight” (S) figure V-A; “concave” (Ce) figure V-B; “convex” (Cx) figure V-C; “serrated” (Se) figure -D; and “irregular” (I) figure V-E.

The typical Plains projectile point, figure VI, may now be classified as follows: S-CN-Cx-S, a stemmed point (S), corner-notched (CN), convex base (Cx), and straight edges (S).

This concludes the series of the descriptions and classifications of stone artifacts.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1959. Volume 31,
Number 1, pages 101-108

**THE SEQUENCE IN NORTHERN PLAINS
PREHISTORY**

By L. C. Steege

Have you ever dreamed of the past and wondered about the ancient inhabitants of our country? Who were these people? How did they live? Where did they come from and where did they go?

The State of Wyoming is located in a region known to archaeologists as the northern Plains. Through the medium of archaeology much information has been gathered and compiled which has given us a rather complex picture of the area's first inhabitants. Although much of the evidence has come from outside our borders, many of the characteristic artifacts are displayed from surface collections which proves the existence of these people in Wyoming also.

The exact date of man's entry into the New World is not known. Evidence suggests that he may have been here for 20,000 years. No evidence of any great antiquity has been found in Wyoming which tells us that man has been in this region for more than 10,000 years. Anthropologists will agree that man's origin undoubtedly is in the Old World where he has existed for thousands of years. No skeletal remains have ever been found in the New World which suggests anything but "homo sapiens" or modern man. The Bering Straits appear to be the only logical route by which man made his entry into the New World from the Old.

A framework in which archaeological evidence from the northern Plains is classified has been tentatively divided into four major time periods. These are the "Early Prehistoric Period, Middle Prehistoric Period, Late Prehistoric Period and the Historic Period".

**The Early Prehistoric Period
(Pre-4000 B.C.)**

After the ice sheets from the last Glacial Stage had receded northward, nomadic groups of hunters appeared on the northern Plains.

Pleistocene mammals such as the mammoth, bison and camels formed a major portion of the diets of these people. It is quite possible that these people may have been a contributing factor towards causing the extinction of these animals.

These hunters made extensive use of the atlatl or spear thrower. They fashioned highly stylized projectile points of stone to tip their darts and spears. Many of these points have been found with the skeletal remains of the now extinct animals which these people hunted and killed.

To the south in New Mexico, stylized stone projectile points were found associated with prehistoric animal remains in a cave. Nineteen examples of these distinctive projectile points were found. These points are characterized by an inset on one edge only which forms a single shoulder. These have been given the name, "Sandia Points". Sandia points have turned up in other sites in New Mexico. Some have been found as far north as Alberta and Saskatchewan. They are rarely found in Wyoming. Sandia points have an antiquity of 15,000 to 20,000 years and are presently considered to be the oldest known points in North America.

Another stylized projectile point is named "Clovis Fluted" from having been first discovered near Clovis, New Mexico. Clovis points have been found associated with mammoth remains in many different areas through the Plains. These are lanceolate type points which are quite heavy and characterized by channels or flutes produced by the removal of a series of longitudinal flakes from each face. These points have an antiquity of 10,000 to 15,000 years. Although not too common, these points have been found in Wyoming.

A fluted point which has been found throughout Wyoming is known as the "Folsom" point. This point appears to have a wide range of distribution throughout the eastern slope of the Rocky Mountains. Folsom points are radically different from most types found in North America. They have no close similarities to any points found in the Old World. Folsom points are smaller than Clovis points and have two ear-like projections extending from the base.

The flute or groove is a result of the removal of one longitudinal flake from each face. In cross section this gives the Folsom point a hollow ground appearance. An ancient campsite located on the Colorado-Wyoming border just north of Fort Collins revealed many tools and implements as well as these fluted points which makes up the Folsom complex. Associated with these tools and points were the skeletal remains of prehistoric bison and camels. Folsom points have an antiquity of 9,000 to 11,000 years.

A point which is similar to the Folsom but is thin and not fluted is known as a "Midland" point. These also have ear-like projections extending from a concave base. These unfluted points have been found in the same site as the Folsom. Midland points have approximately the same antiquity as the Folsom points.

"Plainview" points resemble the Clovis types but are not fluted. These points are commonly called "Yuma", a term that is being abandoned by most authorities since it is too broad a category for any particular classification. In the Plainview site, the remains of nearly one hundred extinct bison were found. In this same deposit the stylized Plainview points were also found. A carbon 14 sample produced an approximate date of 9,000. Plainview points are widely distributed throughout the Plains from Mexico to Alaska.

The "Cody Complex" artifacts which derive their name from the "Horner" site located near Cody, Wyoming, deal with three different stylized types. The first is known as the "Scottsbluff" type which is a shouldered projectile point with a broad stem. The edges are essentially parallel and the faces bear horizontal flake scars. "Eden" types resemble the Scottsbluff points but are considerably narrower in relation to their length. Eden points are shouldered also but invariably the shouldering is a direct result of basal edge grinding.

There are two variants of Eden points which are identified by the flaking technique. They are either collaterally or transversely flaked.

The third artifact belonging to the Cody Complex is the "Cody Knife." This is a transverse blade, shouldered on one side, usually

having a parallel sided base. Carbon 14 obtained from charcoal in the Horner site revealed a date of nearly 7,000 years.

Although the same people used both the Scottsbluff and the Eden types of points, occasionally there appears to have been some groups who used only the Scottsbluff types. This type is more widely distributed and is found in many parts of North America. The Eden types have been limited primarily to the northern and central Plains.

Widely distributed throughout the Plains is a long, narrow and thin lanceolate point with a narrow concave base which has been named "Angostura." The flaking is fine and the parallel flake scars are usually directed obliquely across the face of the blade. Basal thinning and grinding may be present. A charcoal sample taken from a zone in which Angostura points were found in situ gave an approximate date of 9,000.

Points with forms similar to Angostura are named "Agate Basin". This type of projectile point was first found in east-central Wyoming. The points are long and slender. The bases are straight or convex. The flaking is always of the horizontal type with a fine marginal retouch. Basal thinning is usually absent. Some points are double pointed and resemble a laurel leaf. No date is available for this type at present.

A site near Laramie, Wyoming in which a distinct type of projectile point was found associated with bones of an extinct bison, "*bison occidentalis*", has been named the "Jimmie Allen Site", in honor of the man who discovered it. Allen points are unnotched lanceolate forms with deeply concave bases and well rounded corners. Bases and basal edges are ground which causes a slight constriction of the lower third of the point. Fine oblique flake scars are parallel across the face of the blade. The Allen site produced a carbon 14 date in the vicinity of 7,900.

During the period of time from approximately 4,000 B.C. to 2,000 B.C., nothing is known of any cultural development in the area. We do know that there was an Altithermal Period during this time in which there was a definite increase in aridity as well as warmth. It is quite

possible that this climatic condition rendered this portion of the Plains unsuitable for habitation by both man and the big game animals which formed his main diet. Another theory suggests the possibility that cultural remains of this period have not been discovered to date.

The Middle Prehistoric Period (2,000 B.C. to 500 A.D.)

About 2,000 B.C. a few small scattered groups of people began drifting back into the Plains. At this time we have an entirely new and different type of inhabitants. The bison hunting nomads have disappeared and the area is now occupied by groups of peoples who are strongly oriented in their economy towards plant gathering and small animal hunting with little or no emphasis on big game hunting until later in the period. Through investigations of numerous stratigraphically superimposed levels in Wyoming and adjacent areas, we have been able to piece together considerable evidence concerning the lives of these gatherers. Some of the more notable investigations were made at Signal Butte, near Scottsbluff, Nebraska; Pictograph Cave, near Billings, Montana; the McKean Site in Crook County, Wyoming; the Shoshone Basin in central Wyoming, and recent research in the Glendo Reservoir area. In many levels, the most notable similarities are seen in the projectile point types. No pottery has ever been found in any of the Middle Period levels. The Early Prehistoric Period was also pre-ceramic.

As far as it is known, these early Middle Prehistoric people were not agriculturists. They did subsist on many different types of plants, roots and bulbs. Small rodents, frogs, grasshoppers and birds were other items of their diet. The presence of grinding tools, the mano and metate, suggests that plants were a major part of their diets. Shelters consisted chiefly of wickiup types of structures. Some caves were utilized if they could be found in ideal locations near streams.

As these peoples progressed through the centuries, they developed more of a trend towards big game animal hunting. Bison bones are present in the upper levels of stratified

campsites. Projectile points show finer workmanship. Bison traps have definitely been associated with this horizon. The present existing type of bison, "bison bison", has taken the place of the now extinct forms of the previous Early Prehistoric Period.

The bison trapping technique consisted of stampeding large herds of bison over a cliff which would either kill them or injure them to such an extent that they could easily be taken. The presence of many articulated skeletons in these traps suggests that more animals were killed than were utilized. This type of hunting was also practiced during the Late Prehistoric Period.

The presence of large quantities of *Unio* shells in the sites along some of the larger streams proves that shellfish also furnished a portion of food for the Middle Prehistoric Period people.

One of the earliest horizons of the Middle Prehistoric Period is present at Signal Butte I and the lower level at the McKean Site. These levels have an antiquity of around 3,500 years. The stylized artifacts are the projectile points. These vary around a single norm. The simplest form is a lanceolate shaped blade with a deep concave base and parallel basal edges. Another type is slightly shouldered which forms a scarcely perceptible stem. The bases of these types are still sharply concave and the basal edges are parallel. The third variant is a specimen with a pronounced shouldering caused by a slight lateral notch. Here again the base is deeply concave and the proximal edges are nearly parallel. The base and basal edges are sharp and show no attempt at grinding.

The later Middle Prehistoric Period points deviate somewhat from the earlier points. The style of this horizon centers around a corner notched variety. These vary from a large shallow corner notch which forms a slightly expanded base which may be either concave, convex or straight, to a deep narrow corner notch which forms a pronounced barb and an expanding base.

These types were in use until the bow was invented sometime about 500 A.D. and the start of the Late Prehistoric Period.

The Late Prehistoric Period (500 A.D. to 1800 A.D.)

The invention of the bow brought about many changes in the mode of living for the Late Prehistoric Period inhabitants. More emphasis was now placed on big game animal hunting. Agriculture was lacking, but a goodly amount of plants, roots and bulbs were still playing an important part in the diets of these people. Skin tipis were gradually coming into use. These were transported by dog travois which in the later years was replaced by the horse travois. Ceramic industries were started sometime before horses made their appearance. Pottery making was not too extensive in the northern Plains. Very few archaeological sites in Wyoming produce any potsherds.

With the introduction of the horse, bison hunting became much easier. A vast food supply was readily available for anyone wishing to tap the supply.

In the Late Prehistoric Period, the stylization of the projectile point has again changed as it did during the previous two prehistoric periods. Since arrows were now projected by bows in lieu of the atlatl, a lighter tip or point was now a necessity. A small delicate projectile point with side or lateral notches took the place of the larger corner notched varieties. Some variants include a small corner notched point with a slightly convex base and a small notchless type which is triangular in shape.

The Historic Period (post 1800 A.D.)

This period is almost self explanatory. A general influx of peoples from surrounding areas began gathering into Wyoming and the northern Plains when the horse-bison economy began to make available a vast, easily obtainable food supply. The westward movements of the white settlers also displaced some of the Tribes from their earlier habitats.

The stone projectile point gave way to the steel arrowhead. The steel arrowhead finally gave way to the gun.

Tipi Rings

Tipi rings or stone circles are prevalent

throughout the northern Plains. The explanation, as repeatedly given by misinformed persons, refers to the stones as being placed around the base of a tipi to hold down the skin covering. When the tipi was pulled down, the stones were left in their natural circular design. Unfortunately this simple explanation cannot be accepted in most instances.

Countless numbers of stone circles have been investigated in Montana and Alberta as well as in Wyoming. It is fairly conclusive that the greatest majority of these rings were never occupied. They are inconsistent in size as well as shape. In most cases they are found in the worst possible location for a campsite, on windswept, rocky hills away from water and fuel. Evidence of fires are nearly always lacking as well as packed floors within the circles. Artifacts are seldom found in a stone ring site.

About 500 stone rings were included in the Glendo reservoir investigations. Evidence suggests Middle Prehistoric Period construction and a problematical use.

End Scrapers

One interesting type of stylized stone artifact known as a "plano-convex snub-nosed end scraper" appears in all horizons from the Early Prehistoric Period through the Historic Period in an unchanged form. These implements were used by the thousands and have been found in all archaeological sites in all levels throughout Wyoming.

Summary

The picture of the earliest inhabitants of the northern Plains is one of small groups of nomads who hunted and killed a prehistoric bison for their main source of food supply. The excellence of the style and flaking of their projectile points reveals the highest peak of flint workmanship in North America -- truly an artist in stone flaking. The mystery of the disappearance of these people has never been solved.

The early Middle Period suggests famine-hunger-starvation. Small groups of families are constantly foraging and subsisting on anything that might be edible. The occurrence of the mano and metate indicate a vegetarian type

of diet. A degeneration in flint workmanship is visible since the role of hunting is in the minority.

The association of bison bones and bison traps in later horizons reveals an upward trend in a big game hunting economy coupled with the original vegetarian type of diet. Hunting pressure has produced finer flint workmanship. The predominate projectile point type is the corner notched variety.

The Late Period produced some radical changes in the living habits of the people. The bow was invented. Ceramic industries were started. Skin covered tipis were in use for shelters. The projectile point has changed to a delicate, finely chipped point with lateral notches. While there is no evidence available of a transitional period or overlap between the Early and Middle Prehistoric Periods, there is a definite overlap between the Middle and the Late Prehistoric Periods.

The picture of the final Historic Period is one of well mounted and mobile units. These people did excellent skin tanning and little or no work in stone. A strong war complex is present.

Perhaps the stone age peoples of North America can also be summed up in words by Lucretius in his poem, "De Rerum Natura". Lucretius was born in 95 B.C. This poem was completed about 53 B.C.

De Rerum Natura

Things throughout proceed
In firm, undeviating order, and maintain,
To nature true, their fixed generic stamp.

Yet man's first sons, as o'er the fields they trod,
Reared from the hardy earth, were hardier far;
Strong built with ample bones, with muscles
nerved
Broad and substantial; to the power of heat,
Of cold, of varying viands, and disease,
Each hour superior; the wild lives of beasts
Leading, while many a luster o'er them rolled.
Nor crooked plow-shares knew they, nor to
drive,
Deep through the soil, the rich returning spade;
Nor how the tender seedling to replant,
Nor from the fruit tree prune the withered
branch.

Nor knew they yet the crackling blaze t'excite,
Or clothe their limbs with furs, or savage hides.
But groves concealed them, woods, and hol-
low hills;
And, when rude rains, or bitter blasts'
o'erpowered,
Low bushy shrubs their squalid members
wrapped.

And in their keen rapidity of hand
And foot confiding, oft the savage train
With missile stones they hunted, or the force
Of clubs enormous; many a tribe they felled,
Yet some in caves shunned, cautious; where
at night,
Thronged they, like bristly swine; their naked
limbs
With herbs and leaves entwining.
Nought of fear urged them to quit the darkness,
and recall,
With clamorous cries, the sunshine and the day:
But sound they sunk in deep, oblivious sleep,
Till o'er the mountains blushed the roseate
dawn.

This ne'er distressed them, but the fear alone
Some ruthless monster might their dreams
molest,
The foamy boar, or lion, from their caves
Drive them agast beneath the midnight shade,
And seize their leaf-wrought couches for them-
selves.

Yet then scarce more of mortal race than now
Left the sweet lustre of the liquid day.
Some doubtless, oft the prowling monsters
gaunt
Grasped in their jaws, abrupt; whence, through
the groves,
The woods, the mountains, they vociferous
groaned,
Destined thus living to a living tomb.

Yet when, at length, rude huts they first devised,
and fires, and garments; and, in union sweet,
Man wedded woman, the pure joys indulged
Of chaste connubial love, and children rose,
The rough barbarians softened. The warm

hearth

Their frames so melted they no more could bear,

As erst, th' uncovered skies; the nuptial bed
Broke their wild vigor, and the fond caress
Of prattling children from the bosom chased
Their stern ferocious manners.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1959. Volume 31,
Number 2, pages 227-229

EARLY PREHISTORIC PERIOD:
Sandia Points
By L. C. Steege

Sandia points were first discovered in a cave in the Sandia Mountains of New Mexico and they derived their name from this location. Excavation of this cave was sponsored by the University of New Mexico and was started in February 1936.

The top layer of this cave consisted of wind blown dust, bat guano and pack rat dung. Scanty evidence revealed only intermittent occupation by man during recent times.

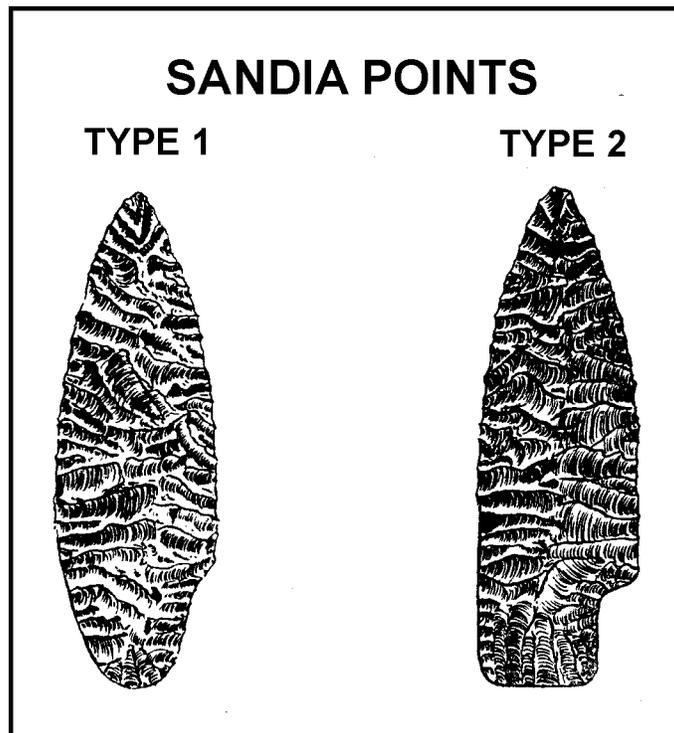
Below the top layer was a layer of calcium

carbonate varying in thickness from one-half to six inches. Below this crust was an occupation strata which produced Folsom points, gravers, a wide range of scrapers, three examples of worked bone and numerous flakes. Large numbers of animal bones were present and have been identified as horse, camel, wolf, mammoth, bison and ground sloth.

Below the second occupation strata was a sterile layer of water deposited yellow ochre which ranged in thickness from two inches to two feet. Under this ochre deposit was another occupation strata in which the nineteen Sandia points were found associated with remains of extinct forms of horse, camel, bison, mastodon and mammoth.

The "Lucy" site in New Mexico was excavated during the summer of 1954. This site also produced several Sandia points. These also were associated with the bones of extinct mammals which included several long bones of an elephant. This animal had been slaughtered in one of the many ponds located just above the shore line of Pleistocene Lake Estancia,

Sandia points have been divided into two types. Both are characterized by an inset on one edge which produced a single shoulder.



Type one has rounded edges and is lenticular in cross section. Type two has nearly parallel edges and is diamond shaped in cross section. The base of type two usually shows some thinning through the removal of longitudinal flakes. Both types have ground basal edges. Sometimes the grinding occurs beyond the shoulder. Sandia points vary in length from two to four inches, and in width from three-quarters to an inch and a quarter. The average is about three inches in length and one inch in width. The points are rather crudely flaked. The antiquity of these points range between 15,000 and 20,000 years and at present are considered to be the oldest known points in the new world.

I cannot emphasize too strongly that not every single shouldered point can be classified as a Sandia point. Only a very few specimens have been found which closely resemble the types from New Mexico. Many of the so-called Sandia points are merely unfinished specimens or a non-stylized form of more recent origin.

Sandia points have been found in other localities in New Mexico, Texas, Northern Oklahoma, Missouri, Iowa and Oregon. Several have been found in the four corners area. Some have been reported from Alberta, Canada, and one from the Province of Saskatchewan.

I have seen only one example that was found in Wyoming which I would definitely classify as a Sandia. This point was found in Sweetwater County and is a type two. I have examined several other specimens in private collections which have been regarded as Sandia points. These, in my estimation, are aberrant forms of a later time period.

were first discovered in 1932.

The original site was located in an area of ancient lake beds between Clovis and Portales, New Mexico. This is the arid region known as Llano Estacado. The points were found eroding out of deposits which had been exposed by wind action in the numerous blowouts of the region. Clovis points were found in direct association with bones of a mammoth in this region in 1936.

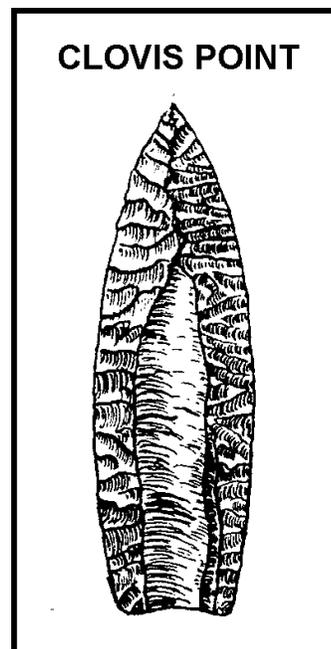
Another notable discovery of Clovis points associated with mammoth remains was made near the railroad station of Dent, Colorado, in 1932. The bones from at least a dozen different mammoth skeletons were found in this site. Three Clovis points were recovered along with these remains. Although much of the stratigraphy of this site was destroyed before any extensive studies could be made, it is assumed that the bones and artifacts were emplaced during an early phase of a glacial recession period probably a substage of the Mankato for which a rough date of] 1,000 years has been agreed upon by most geologists.

Archaeologists from the State Museum of Arizona excavated a site near Naco, Arizona, in 1952. A mammoth skeleton was uncovered here from which a portion of the hind quarters was missing, which suggests that this portion

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming, 1960. Volume 32,
Number 1, pages 124-126

**EARLY PREHISTORIC PERIOD:
CLOVIS POINTS
By L. C. Steege**

Clovis points have a wide range of distribution throughout the Northern Plains and Southern Plains regions. They derive their name from the city of Clovis, New Mexico, near which they



could have been carried away by the early hunters.

Associated with the remainder of the skeleton were eight stone projectile points of Clovis stylization. One point had severed the spinal cord at the atlas vertebra which undoubtedly had caused the death of the animal. The geology of this site was studied by Ernst Antevs and the deposits were dated by him in the vicinity of 11,000 years.

A site on the Lehner ranch, located near Hereford, Arizona, exposed by the Arizona State Museum, revealed the bones of mammoth, extinct bison, tapir and horse associated with weapon points and butchering tools of the ancient people who hunted and killed these animals. Thirteen Clovis points including three made of quartz crystal and eight cutting and scraping tools were found here.

There are numerous sites which could be mentioned that have revealed the evidence of the contemporaneity of man and mammoth. Most of these are located in the Southern Plains. By the large numbers of sites represented, it appears as though the Clovis point is limited only to the southern regions. This is not true as Clovis points are found in collections throughout the entire Northern Plains. A good specimen of this type was reportedly found several miles north of Edmonton, Alberta. Numerous finds have been made in Wyoming. One of the finest Clovis points ever found by the author was a specimen four and a half inches long. This point was a surface find about fifteen miles northeast of Cheyenne.

A point similar to the Clovis type is found throughout the entire United States. Most of these vary some in design from the true Clovis and their direct association with extinct fauna seems to be entirely lacking to this time.

Clovis points are well flaked fluted lanceolate types with concave bases and slightly convex edges. As a general rule, the flutes do not extend beyond half the length of the point, but occasionally one is found which is fluted nearly the full length. The fluting is caused by the removal of a series of longitudinal flakes from the basal concavity towards the point. In many cases there is evidence of a deliberate

dulling of the basal edges by grinding. Clovis points range in size from an inch to five inches in length and from three-quarters of an inch to an inch and a half in width. The average seems to be about three inches in length and an inch in width.

Clovis points have been found in stratified sites in deposits located below the "Folsom" types which proves that this generalized type is older than the specialized form which will be discussed in the next issue.

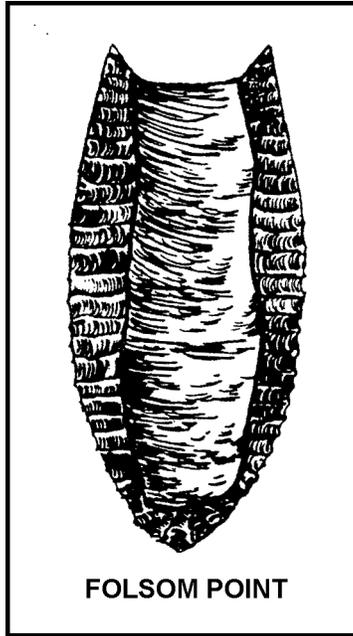
WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming 1960. Volume 32,
Number 2, pages 245-246

EARLY PREHISTORIC PERIOD: FOLSOM POINTS

By L. C. Steege

One of the most controversial points of the Early Prehistoric Period was discovered eight miles west of the town of Folsom, New Mexico, in 1926. The discovery of artifacts associated with articulated bones of extinct mammals of Pleistocene Age came quite unexpectedly with the excavation of a fossil bison remains. Two fragments of artifacts were found in the loose dirt of the diggings. A third fragment was found sometime later still in position in clay surrounding a rib of one of the bison. Later it was discovered that the third fragment was a portion of one of the two earlier pieces found in the loose dirt. When the two were fitted together, it was found that they formed a projectile point. After a report of the find was made, several scientists still believed that there was some accidental mixing of the deposits and that the projectile point was of a much later period. Work was resumed at this site during 1927 and 1928, and as soon as additional points were found, telegrams were sent to various institutions, and the "doubting Thomas" were invited to view the finds in situ. It was thus proven that there could be no doubt of the contemporaneity of man with the extinct bison deposits. This specie of extinct bison was known as *Bison taylori*.

In 1934, the Lindenmeier Site on the Colorado-Wyoming border was reported. The



Smithsonian Institution sent a crew under the direction of Frank H. H. Roberts, Jr., to investigate this site. This proved to be a habitation site where it was first possible to study the artifacts which make up the Folsom complex. Work progressed on this site for four years. Various implements as well as skeletons of long-horned bison and camels were found.

The cultural bearing strata of the Lindenmeier Site were covered to a depth from two to seventeen feet with alluvial deposits. From the lowest level came the specialized fluted points known as "Folsom" points. Associated with these points were graters, channel flake knives, and scrapers. In the scrapers only was there a wide variation of workmanship and form. No human skeletal material was found at the Lindenmeier Site.

Folsom points are radically different from most types found in North America. They have no close similarities to any points found in the Old World. Folsom points are smaller than Clovis points and have two ear-like projections extending from the base. The flute or groove is the result of the removal of one longitudinal flake from each face. In cross section, the Folsom point has a hollow-ground appearance. They are pressure flaked and show excellent workmanship. The average length is about two inches, and the width is about one inch.

The basal edges and concavity usually show evidence of deliberate dulling by grinding.

The Folsom point is well represented in the Northern Plains. Many examples appear in surface collections. While almost totally limited to the eastern slope of the Rockies, a few specimens have been found on the western slope.

Other notable discoveries of Folsom points have been made near Lipscomb and Lubbock, Texas, Helena, Montana, and numerous small sites in northern Colorado. A carbon 14 sample from the Lindenmeier Site produced a date of 10,720 years for the Folsom habitation level.

WYOMING ARCHAEOLOGICAL NOTES
Annals of Wyoming 1961. Volume 33,
Number 1, pages 104-105

EARLY PREHISTORIC PERIOD: MIDLAND POINTS

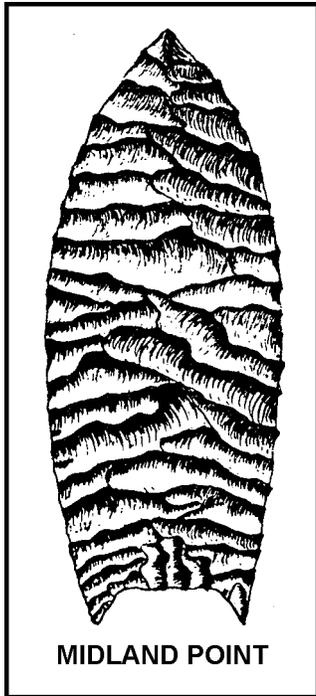
By L. C. Steege

The Midland point derives its name from the style of projectile points found at the Scharbauer site located near Midland, Texas. However, the Scharbauer site was not the first to produce these points.

Ventana Cave, located on the Papago Indian Reservation, about 75 miles south of Phoenix, Arizona, was the first site to produce a Midland point. This particular specimen was made of basalt, which is a material that is quite difficult to flake. Since this point was the same general shape as a Folsom without flutes, it was assumed that due to the nature of the stone, it was merely an unfluted Folsom point. Later this same style of point, made of materials which were relatively easy to flake, was found in other sites. This proved that the material used was not necessarily a conditioning factor.

The Lindenmeier site produced Midland points in the same levels with Folsom points. These were also considered to be unfluted Folsoms since they had been made from flakes which were much too thin to allow fluting.

The Scharbauer site was discovered by an amateur archaeologist, Keith Glasscock, in 1953. Glasscock found fragments of human



bones with some artifacts in a windblown area on a ranch owned by Clarence Scharbauer from whom the site derives its name. Realizing the potential importance of his find, Glasscock picked up the human bone fragments which were in danger of being blown away. However,

he did not disturb anything below the surface. He notified the Laboratory of Anthropology in Santa Fe, New Mexico of his discovery and sent them the bones he had picked up. The site was investigated by several notable archaeologists.

Twenty-one specimens of the unfluted variety and seven Folsom points were recovered from the Scharbauer site. A study of the unfluted points revealed that they had been made thin and flat intentionally and that they were a distinct type. In the report of the Midland discovery, these unfluted points are called "Midland" points.

Carbon samples from organic matter in the Midland level proved unsatisfactory for dating, due to the small amounts recovered and the irregularities in testing. Since the Midland points have been found in the same levels with Folsoms, it may be assumed that they are contemporaneous. If this is the case, the antiquity of the Midland point is approximately 10,800 years.

Midland points closely resemble the Folsom type. They are never fluted, and in general are smaller, flatter and thinner than Folsoms. The flaking is somewhat irregular.

EDITOR'S NOTE: Additional articles from *The Annals of Wyoming* will be presented in the next issue of *The Wyoming Archaeologist*, including the research reports on the Little Bald Mountain Site and the Medicine Wheel.

2009 CHAPTER INFORMATION

Absaroka Chapter

Chapter Address – PO Box 181 – Cody 82414-0181

Sylvia Huber, President – 307-527-7523

PO Box 522 – Cody 82414-0522

Email eagleofcody@trib.com

Kierson Crume, Vice President – 307-578-5929

PO Box 57 – Wapiti 82450-0057

Email keirson_crume@blm.gov

Rosemary Ginger, Secretary – 307-587-2041

2305 Tresler Ave – Cody 82414

Email rosginger@yahoo.com

Jackie Platt, Historian – 307-587-5031

202 23rd St – Cody 82414

Ancient Trails Chapter

Dr. Alice Tratebas, President

PO Box 883 – Newcastle 82701-0883

Casper Chapter

Dr. Mavis Greer, President – 307-473-2054

2599 S Paradise Dr – Casper 82604-3811

Email jgreer@greerservices.com

Dr. John Greer, Secretary – 307-473-2054

2599 S Paradise Dr – Casper 82604-3811

Email mgreer@greerservices.com

Gloria Boyce, Treasurer – 307-234-3898

7100 Old Salt Creek Hwy – Casper WY 82601-9612

Cheyenne Chapter

Dan Bach – Contact – 307-514-2685

316 Patton Ave – Cheyenne 82007-1183

Email macroflora@msn.com

Cherokee Trail Chapter – inactive

Fremont County Chapter

Margaret Harless, President - 307-856-3585

509 Northridge Dr – Riverton 82501-2625

Leniegh Shrinar, Vice President

146 Mazet Rd – Riverton 82501

Email lschrin@tribcsp.com

Donna Peterson, Secretary

PO Box 348 – Riverton 82501-0348

Bill Porter, Treasurer – 307-856-6744

522 Dinwoody Cir – Riverton 82501-2210

Email wporter@wyoming.com

June Frison Chapter

William Scoggin – President

PO Box 456 – Rawlins 82301-0456

Email scoggin@tribcsp.com

Julie Francis, Vice President – 307-745-3410

1403 Curtis St – Laramie 82072

Email jfranc@state.wy.us

Carmen Clayton, Secretary – 307-742-7669

855 N Pine – Laramie 82072

Email cclay@state.wy.us

Dale Wedel, Treasurer – 307-7445-6406

267775 Monroe St – Laramie 82070

Email dwedel@state.wy.us

Rawlins Chapter – inactive

Sheridan/Johnson County Chapter

Scott Burgan, President

1457 Pioneer Ed – Sheridan 82801-3333

BJ Earle, Vice President

PO Box 1106 – Buffalo 82834-1106

Sweetwater County Chapter

Bill Current, President – 307-362-0561

3200 Fir Dr – Rock Springs 82901

Teton County Chapter

Sal Rodriguez, President

PO Box 3033 – Jackson 83001-3033

Email happycampers525@msn.com

Alan Bartholomew, Vice President

PO Box 407 – Jackson 83001-0407

Email arryhead@aol.com

Jill Anderson, Secretary/Treasurer

PO Box 1364 – Jackson 83001-1364

Wyoming Archaeological Society, Inc.

Dale Wedel, President – 307-745-6406

2675 Monroe St – Laramie 82070

Email dwedel@state.wy.us

Janice Baars, 1st Vice President – 307-331-1177

1000 W 19th St – Wheatland 82201

Email baars@wyomingwireless.com

Larry Admundson, 2nd Vice President – 307-856-3373

85 Gooseknob Dr – Riverton 82501

Email jazzamundson@wyoming.com

Carolyn M Buff, Executive Secretary/Treasurer

1617 Westridge Terrace – Casper 82604-3305

Email jcbuff@bresnan.net

307-234-5424-h; 307-277-1370-c

Dewey Baars, Editor – 307-331-1177

1000 W 19th St – Wheatland 82201

Email baars@wyomingwireless.com

Wyoming Archaeological Foundation

Judy Wolf, President – 307-742-5526

1657 Riverside Dr – Laramie 82070

Email jwolf@state.wy.us

(term expires 2009)

Barbara Nahas-Keiry, Secretary/Treasurer – 307-868-2685

PO Box 3146 – Cody 82414-3146

Email nahas@tctwest.net

Term expires ()

Eva Peden, Immediate Past President

145 Baldwin Dr – Lander 82520

Dr. George Frison, ex-officio – 307-745-9277

4619 Oriole Ln – Laramie 82070

Email gcfrison@uwyo.edu

Dr. Mary Lou Larson, ex-officio – Laramie

Email mlarson@uwyo.edu

Dr. Mark Miller, ex-officio – Laramie

Email mmiller@uwyo.edu

**Carolyn M Buff
Wyoming Archaeological Society
Executive Secretary/Treasurer
1617 Westridge Terrace
Casper WY 82604-3305**

Non-Profit Org.
U.S. POSTAGE
PAID.
Laramie, WY 82070
Permit No. 24

RETURN SERVICE REQUESTED