PaleoCultural Research Group

Organization Report for 2005

HUDSON-MENG SITE, NEBRASKA

PHOTO BY MARK MITCHELL

Recent Past and Near Future

Diverse projects filled the year just past for PCRG. It has also been a time of proposing, planning, and seeking support for important new undertakings. In the forefront was continuing work on the multi-year program at Double Ditch Village. PCRG submitted a report on analysis and findings stemming from the 2004 excavation program at Double Ditch to the State Historical Society of North Dakota. Highlights include new information from radiocarbon dating that indicates the village was founded near the close of the fifteenth century, new information about changes in pottery and trade artifacts during nearly three centuries of occupation, and growing insights into interactions among residents of Double Ditch and their neighbors in several nearby Mandan and possibly Hidatsa communities.

If time allows during the coming year, we hope to collaborate with long-time colleague Kenneth Kvamme (U. of Arkansas) to integrate information from four years of geophysical study and test excavations at Double Ditch into a book-length synthesis of current knowledge about the site. This work would again be supported by the State of North Dakota as part of their commitment to bringing new knowledge about prominent State Historic Sites to the general public. PCRG's ongoing research at villages near Heart River, North Dakota continues to focus, directly or tangentially, on the history of interaction between the two prominent historic tribal groups in the region, the Mandans and Hidatsas. Not entirely by coincident, the Summer 2005 issue of *American Archaeology* magazine carried an article about Hidatsa and Mandan history and prehistory, featuring interviews with several PCRG members and scholars who have been actively researching important village sites in North Dakota during recent years.

The Southeast Excavation Block at the Hudson-Meng Site, Pine Ridge Country, Nebraska . Photo by Mark Mitchell.

One of PCRG's most important endeavors during the past year has been the continuing effort to start a program of emergency salvage archaeology at the Agate Basin age, bison kill site on Beacon Island, North Dakota. We have made very meaningful progress toward this goal, as discussed in a section that follows. Another project that has required significant attention from the research director during the past year was compilation of a volume titled *Plains Village Archaeology*, co-edited with Marvin Kay, that is now under review by the University of Utah Press. This book, with more than 20 contributors, is dedicated to W. Raymond Wood. Ray, in addition to being a preeminent scholar in the Great Plains, has strongly supported PCRG since its inception and has been a key participant in many of PCRG's village site investigations.

PCRG participated in three sponsored field projects and a workshop during the past year. As we anticipated a year ago, the U. S Forest Service invited PCRG to conduct a small excavation in collaboration with the University of Colorado Archaeological Field School at the Hudson-Meng bison kill site near the pine ridge escarpment in beautiful western Nebraska. This work occurred in June and is described below in a section authored by Mark D. Mitchell who directed the fieldwork. A brief investigation at Boley Village on the Missouri River north of Mandan, North Dakota took place early in July. Work at Boley built on much of what has been learned from recent studies

at Double Ditch Village, just across the river. The remainder of July and early August was devoted to continuing excavations at Menoken Village on Apple Creek a few miles east of Bismarck, North Dakota. Work at Menoken completed excavation at two houses that were partially opened in 1998-1999 and tested two other houses. Both the Boley and Menoken projects were supported by the State Historical Society of North Dakota, and fieldwork at both locations relied heavily on volunteer participation by several PCRG members as well as Society staff archaeologists. These projects are also discussed in more detail in sections that follow.

Jeff Burns.

Stacey Madden.

We happily report that the Scattered Village project, which began with fieldwork in 1998, reached its anticipated conclusion during the past year. In the spring, two videos targeted to fourth and eight grade classrooms were released. Inquiries about these can be sent to Robert Christensen of the North Dakota Department of Transportation at rchriste@state.nd.us. In October, the firm InColor Exhibits, Inc. applied final changes to ten permanent museum exhibits about the village that are installed in the Mandan Public Library. The City of Mandan and the State of North Dakota can be proud of how well they have brought the results of research at Scattered Village to the public at large.

Stacey Madden.

Mike Ratcliffe.

Another most interesting non-field project was a workshop focused on documenting and analyzing polyhedral blade cores from the Clovis-age Gault site in Texas. This event occurred at the Texas Archaeological Research Laboratory in Austin and was the fifth all-volunteer effort organized by PCRG that aided research at this highly significant locality. The Gault project is also discussed below. Several members have provided short essays about their research and field experiences. This includes a brief technical report by Elijah Ellerbusch on Clovis blade technology research at the Gault and Carson-Conn-Short sites and a photo essay by Denny Carley of Flagstaff that documents Paleoindian surface artifacts he has collected in widely separated parts of northern Arizona and west Texas. Several other members also give us brief summaries of their archaeology-related activities, mostly outside PCRG, during the past year.

Change is in the wind for PCRG during the coming year. Following three decades of large-project planning and execution and more than eight years at the helm of PCRG, the research director has made the decision to redirect his energies away from full-time involvement in the office and lab in Flagstaff and place them toward more interaction with family and friends and matters outside the business of "archaeology as usual." Where this will lead, in a personal sense, is not entirely clear, but it will mean that other people will take a much larger role in PCRG activities as this year moves along. There will be new leaders on the scene, and the scene itself will be different. PCRG does anticipate opportunities for its members to take part in several field projects this coming summer – perhaps more than ever before – and details about those opportunities will soon be distributed.

Stacey Madden.

Delia Moder.

The permanent staff of PCRG has done a tremendous job during the past year, conducting many tasks that are essential to ongoing work and project completions. In Flagstaff this includes lab supervisor Stacey Madden who has organized and supervised processing and analysis of several excavated collections, digital graphics specialist Michael Ratcliffe who produced drawings and illustrations for many reports and who conducted layout and composition for this annual report, and administrative assistant Delia Moder who keeps the office running, bills paid on time, and all records in order. In Cape May, New Jersey, Carl Falk brainstormed on many occasions, worked through the year analyzing vertebrate remains from many sites, and contributed to several project reports (he also co-supervised the dig at Menoken Village – see an update from Carl, below). Students and graduates from nearby Northern Arizona University provide much of the workforce in the Flagstaff lab, among them Leah Baskett, Jeffrey Burns, Austin Candela, Tracy Ellefson, Raynie Gordon, Stephanie Hallmark, Fraser Langdon, Reagan McGuire, Gracey McMain, André Rosenzweig Rivas, Stacey Slade, Bret Shallenberger, Michelle Qualls,

Mike Ratcliffe.

Jeffrey Burns.

and Debbie Tracey. Several other persons remain familiar collaborators on PCRG projects. These include Herbert Haas of RC Consultants, Inc., Las Vegas, Nevada (radiocarbon sample preparation and advisement); Robert Nickel of Lincoln, Nebraska (botanical analysis); Paul Picha of Bismarck, North Dakota (shell analysis); and Fern Swenson of Bismarck, Richard Krause of Tuscaloosa, Alabama, and Mark Mitchell of Arvada, Colorado, who each have participated in pottery analysis.

Phil Geib, long-time participant in many PCRG activities, stepped down as Secretary to the board coincident with his entry last fall in the PhD Anthropology program at the University of New Mexico in Albuquerque. We welcome new board member, Kimberly Spurr, who is also our new Secretary of the board (see the extended introduction to Kim, below). Other board members and officers include Carl Falk (Vice President) and Stan Ahler (President and Treasurer). The mailing address for PCRG is P. O. Box EE, Flagstaff, Arizona 86002. Communications may be sent there, to pcrg@infomagic.net, or to the individual e-mail or mailing addresses of board members. Membership records, fiscal records, and other formal documents and records of the organization are on file in accordance with state and federal laws at the office in Flagstaff.

Stan Ahler
Research Director
January 10, 2006

Mike Ratcliffe.

Kimberly Spurr.

New Board Member

Kimberly Spurr, the newest member of the Board of Directors for PCRG, has 19 years of experience as a professional archaeologist in the United States. Most of this time has been spent in the American Southwest, along with several years in the Rocky Mountains and brief stints on the southern and northern Plains. Kim holds a B.A. in anthropology from Colorado College (1988) and an M.A. in anthropology from Northern Arizona University (1993). She is currently employed as a project director for the Navajo Nation Archaeology Department in Flagstaff, Arizona.

In this position Kim has supervised and participated in a number of large-scale surveys and multi-year excavation projects in northern Arizona and southern Utah. These include an 18,000-acre survey in the Grand Staircase-Escalante National Monument, 200+ miles of survey for a pipeline right-of-way across the Navajo Reservation, and excavation of more than 25 Anasazi and Archaic sites prior to road construction projects. In addition to her role as project director, Kim is actively involved in training Native American anthropology students in field and lab settings.

Kim has been a member of PCRG since 2001 and participated in excavations at the Gault site (2001) and Beacon Island (2002). During the summer of 2005 she spent three weeks supervising volunteers excavating at a Xongnu burial site in the central steppes of Mongolia. Kim has a strong research interest in the physical anthropology of prehistoric populations (particularly paleopathology and demography) and also consults as a forensic anthropologist for local law enforcement agencies.

Boley Village

A brief but intensive field project was conducted by PCRG in collaboration with the State Historical Society of North Dakota at Boley Village, North Dakota. Boley is one of six or seven traditional Mandan settlements occupied for two centuries or more near the mouth of the Heart River. The site is on the west bank of the Missouri River, a few miles downstream and across from Double Ditch Village, just north of the modern city of Mandan. Research at Boley is being supported by generous volunteer efforts from several PCRG members and associates and by a federal Historic Preservation Matching Grant to PCRG, administered by the Society.

Julie Falk and Stacey Madden at Pit Feature 101.

Boley Village has fared very badly over the years – as do most such sites that are not under public protection – suffering continuous cultivation, impacts from large uncontrolled excavations, and major destruction from railroad construction and a recent housing development. Except for large, mixed artifact collections, little is known about the site. Early maps provide intriguing clues, however, indicating that the village may have originally been much larger before truncation by the river. The maps also show what were once large earthen mounds, a fortification ditch toward the site center built late in the history of the settlement, and a hint of an older fortification along the village perime-

Mark Mitchell (foreground) and Alex Cragg in Ditch 2.

ter. All these features remind us of Double Ditch Village, where recent studies have shown a very dynamic community, contracting markedly in size through time with corresponding changes in successive ditch and mound fortification systems.

With the dynamics of settlement at Double Ditch as a model, PCRG hypothesized that a similar pattern of settlement change could be documented at Boley. Ken and Jo Ann Kvamme's remote sensing techniques provided a clear beginning point for field study. Eight days of magnetic and resistivity survey along the cultivated site perimeter yielded the unmistakable patterns of, not one, but two lost fortification ditches snaking around the margin of the site. Scattered inside the two ditches were the magnetic signatures for numerous subterranean pit features. Remarkably, these ditches crisscrossed each other, indicating that they were designed to defend separate communities with somewhat different shapes and layouts. This suggests that the site may not have been continuously occupied, or that different groups of people may have lived there. This layout contrasted with the concentric ring ditch pattern for the constantly shrinking community at Double Ditch.

The excavation crew then sampled six key subsurface locations – each fortification ditch as well as four trash-filled storage pits within and between the ditches. This work was intensive but efficient, guided with pinpoint accuracy by remote sensing maps and hand coring. A stalwart crew [consisting of the archaeological staff of the Society (Fern Swenson, Paul Picha, Tim Reed), PCRG staff and members (co-directors Stan Ahler and Mark Mitchell, field assistant Stacey Madden, volunteers Bob Gardner, Carl and Julie Falk, Craig and Alicia Johnson, Peter Leach, and John Moret), and student volunteers Alex Cragg, Felix Gumbiner, and Lea Pace, straight from the Hudson-Meng dig] removed and waterscreened 7.1 cubic meters of fill in a short five days.

Peter Leach, in Ditch 2.

John Moret, in Ditch 3.

Peter Leach.

Paul Picha, Cooling Off.

Lab analysis is adding intriguing information. Pottery and trade artifacts indicate that the two ditches are quite different in age, and the four pit features also represent a significant span of time. One earlier pit feature is highly charged with fish bones, while a more recent pit contained waste from the manufacture of many bone fishhooks – evidence perhaps of a craft specialist at work? The most remarkable discovery is that several later features produced numerous chipped artifacts made of stone from sources quite exotic to the site area. Most of the non-local stones come from west-central and southwestern North Dakota, as well as from sources near the Black Hills in South Dakota. These exotic rock types are several times more abundant at Boley than at any other studied Mandan village near Heart River. The many tools made of these stones indicate direct use of the distant source areas, implying very unusual hunting territories or geographic interaction zones for later residents at Boley Village. Boley Village appears to be a settlement successively occupied by two different groups of people. Its full story may relate closely to oral traditions of a subgroup of Mandans who once lived at the Grand River in South Dakota before migrating to an area north of Heart River. The Boley project, while small, remains one of the most interesting yet undertaken by PCRG.

Bob Gardner, at the Screens.

Peter Leach.

Colorado University Students: Lea Pace, Felix Gumbiner, and Alex Cragg.

The **Craig Johnson family** has been involved in PCRG fieldwork since 1999. Rachel and Alicia have virtually grown up volunteering for excavations at Menoken, Double Ditch, and Boley, taking on added responsibilities with each passing year.

Rachel – I like the surprise of finding artifacts while excavating. I also enjoy feeding and photographing the Double Ditch ground squirrels, playing with camp mascot Milo, and climbing several hills overlooking the Missouri River. It's fun having the seemingly omni-present plains wind blow through my hair and the cool view up and down the Missouri from on top of a high hill. I also like to go to Space Aliens with my older sister Alicia to eat and play games.

Craig Johnson.

Rachel Johnson at Double Ditch.

Alicia Johnson Screening on the Boley Project.

Alicia – I love to waterscreen. I get to see all the cool artifacts and enjoy making real progress with each processed load of sediment. I like being part of a team, knowing that what I accomplish is important in contributing to the overall success of each field endeavor. Where else can I enjoy the company of people like Bob Gardner and his Simon & Garfunkle tapes while doing physically demanding activities that keep me in shape for the upcoming fall high school volleyball season.

Craig – PCRG provides a unique opportunity to maintain his interest in Plains Village archaeology, sharpen his excavating skills, and renew old professional relationships. It is really interesting and informative to confer with Stan and other archaeologists about the interpretation of what I find and to make certain decisions on what to do next based on those interpretations. This point was demonstrated last year at Boley where it was difficult to determine the limits of a fortification ditch based on conflicting information. The physical demands of fieldwork were put into contrast by the vagaries of North Dakota weather over the past several years. You can go from a blistering 100° in 2002 at Double Ditch to two successively cool seasons at the site in 2003 and 2004, only to end up back at hot and humid 95° conditions at Boley in 2005. It makes me wonder how the Mandans at Double Ditch and Boley adapted and thrived during similar past periods of unpredictable and harsh weather.

Peter Leach.

Craig Johnson at Boley Village.

Beacon Island

The eroding and highly significant Agate Basin bison kill site at Beacon Island, North Dakota, a property owned and managed by the Omaha District of the U. S. Army Corps of Engineers, has been discussed in previous annual reports. Early in 2005 PCRG and the Corps submitted an application regarding the Beacon Island site for a grant from the Save America's Treasures Program administered by the U. S. National Park Service. Among other things, the SAT Program provides grants for emergency excavations (data recovery) at endangered and nationally significant archaeological sites such as Beacon Island.

Throughout the year, momentum has built for a salvage excavation program at Beacon Island that will save its contents from destruction. A turning point was passage in February of a formal Tribal Resolution by the Mandan-Hidatsa-Arikara Nation (Three Affiliated Tribes) based at New Town, North Dakota, that urges treatment of the site by the Corps through emergency archaeological excavations. The project research plan, approved by the Corps and an advisory panel of tribal and governmental representatives, calls for two seasons of fieldwork, analysis and reporting of all data, and development of museum displays and related educational materials. Identified organizational participants will be PCRG, the State Historical Society of North Dakota, and Fort Berthold Community College in New Town, which will coordinate the involvement of Native American participants in the program. The Corps has given priority to partially funding the program from its current FY 2006 budget, meaning that some work tasks should begin very soon.

Late in 2005 PCRG learned that $250,000 has been earmarked in the FY 2006 budget of the National Park Service to be used for a Save America's Treasures grant for Beacon Island. To be implemented, this grant requires an updated work plan and a one-to-one match of non-federal funds or in-kind contributions. This grant, its match, and funding from the Corps in 2006 will clearly launch the excavation program at Beacon Island, while additional funds will be needed to bring the full research plan to completion. PCRG staff are currently working on three tasks necessary to implement the SAT grant: (1) identifying key, lead researchers for this multi-year project; (2) raising non-federal funds sufficient to (over)match the SAT grant and complete the multi-year program; and (3) confirming the physical space where the lab part of the project will take place (not likely in Flagstaff due to logistical and other constraints).

All this portends a substantial field program at Beacon Island during the coming field season, likely to continue through most of the summer. Excavation will be preceded by a remote sensing study designed to map the bonebed and hearth features in detail. Sizeable excavation crews will proceed with the meticulous work of exposing, mapping, photographing, and removing the bonebed and associated artifacts. With luck, access to the site and "island" will be by land rather than by water, if surrounding Lake Sakakawea remains at record-low levels. PCRG members should soon receive information about participation in this project – on the ground, in the lab, and in the fund-raising arena.

Brian Austin

Excavations in Progress, House 17.

Menoken Village

Menoken Indian Village State Historic Site is a very significant location on Apple Creek, east of Bismarck in central North Dakota. It is a fortified terminal Late Woodland settlement occupied circa AD 1200 by bison-hunters and plant gathers who were on the verge of changing to a new lifeway based on maize gardening. Menoken is a registered National Historic Landmark, owing to the unusual story it has to tell about the transition from hunting-gathering to gardening and settled village life in the Northern Plains. PCRG last did fieldwork at Menoken Village in 1998-1999, when parts of two dwellings were excavated and several additional areas were tested. In 2005, PCRG returned to expand the study of these two houses and other site areas, with this work again sponsored by the State of North Dakota and conducted in collaboration with the State Historical Society of North Dakota.

Michael Frolich.

An Elevated View of Excavations in House 17.

The two houses studied at Menoken were both earth-covered and oval in outline but differed markedly in other architectural details. House 2 was a semisubterranean pit house with few support posts and sidewalls possibly made of stacked sod. House 17 was built on the surface with walls formed by numerous large wood posts. Our main research questions, in 1998-1999 and 2005, centered on comparing and explaining the use and history of these two dwellings.

Evidence from 1998-1999 indicated that the two houses were effectively the same age, did not differ in season of use, and did not differ greatly in activities carried out within and nearby. Yet our previous excavation coverage at the two houses was not comparable. Nearly the full interior of House 2 had been excavated, while work at House 17 more broadly sampled its interior and exterior but did not fully expose its floor plan. Work

in 2005 therefore focused on exposing a complete architectural plan for House 17 as well as exposing and sampling directly comparable living areas inside and outside both structures. In addition, we tested two houses outside the fortification ditch to learn how they compared to Houses 2 and 17 in age and artifact content.

Michael Frohlich.

Terry Wiklund, Videographer for the North Dakota Dept. of Transportation, Interviews Fern Swenson.

Fieldwork at Menoken was conducted in two intensive 8-day sessions. As in the Boley Village project, discussed elsewhere, the field crew consisted of staff archaeologists from the State Historical Society and several PCRG staff and member volunteers. Most of the participants appear in the accompanying photographs, and three volunteers provide perspectives on their Menoken experiences in the accompanying stories.

John Vicha Excavating Just Outside House 2.

The renewed excavations at Menoken Village were highly informative. Four areas were opened entirely outside House 2, revealing a cache of antler pieces back of the house, an unusual post pattern in front of the house, and sheet middens and shallow trash-filled basins on either side of the structure. Work at House 17 was more extensive. The full house floor was revealed, with an entryway at the end facing southeast. An interesting pattern in features outside House 17 emerged. Several well-formed hemispherical basin pits were found near the entrance of House 17, while no comparable features were found anywhere near House 2. Most unexpected was discovery of a large undercut pit, Feature 10, behind House 17. This pit had a small orifice but was nearly two meters across at its base. It contained a jumble of redeposited fill with associated terminal Woodland pottery and some large bison skeletal sections. Feature 10 resembles a typical Plains Village pit used to store corn and other foodstuffs, albeit one that may have been used only briefly before rapid infilling with refuse from the hunt. This pit seems to provide yet another link to the Plains Village lifeway that residents of Menoken Village must have known about.

Evidence from the new work suggests that Houses 2 and 17 may contrast in important ways. The spatial arrangement and range of activities outside the two houses appear to have been quite different, based on types and locations of features, with more diverse food storage and processing activities occurring at House 17. Information from the two tested pit houses outside the fortification ditch adds more variation. One house (H15) burned, and had a large amount of bison bone debris and other refuse on the earthen roof that collapsed to the house floor. The second house (H16) did not burn and contained few artifacts except for a small concentration of bone refuse and flintknapping debris deliberately swept into the central hearth when the structure was abandoned. Ongoing analyses and lab studies will clearly add much more new information about this intriguing site.

Michael Frohlich.

Fern Swenson of the SHSND and Amy Mossett of the Mandan-Hidatsa-Arikara Nation Discussing Site Interpretation.

Michael Frohlich.

Most of the Crew at Menoken Village. (Front) Tim Reed, Kacy Hollenback, Carl Falk, Julie Falk, Fern Swenson, Paul Picha, Stan Ahler. (Back) Alexander Sakariassen, Aaron Barth, Michael Frohlich, Stacey Madden, Andrew Gold, Richard Krause.

Michael Frohlich.

Richard Krause at House 17.

Reminiscences

At the outset of the 2005 summer field season there was every reason to suspect that the ruins of Menoken Village were produced by a late Woodland hunting and harvesting community. Nevertheless, the site had ceramic, bone, and stone tool technologies, domestic architecture, and fortifications that suggested acculturation toward the norms of contemporaneous Initial Middle Missouri tradition horticultural populations, making it of theoretical significance to the study of Middle Missouri tradition dynamics. It was for these reasons I considered it an honor to join PCRG's 2005 Menoken research team.

Brian Austin.

Fine-Screened Artifacts.

My experience there was, without doubt, the capstone to my 45-year archaeological career. The research design was theoretically sound, admirably clear, strategically explicit, and tactically precise. Formerly excavated areas were reopened and expanded with minimal difficulty, and the test of previously untested areas proceeded with near surgical precision thanks in large part to past remote sensing work. The PCRG volunteers worked with care, precision, and enthusiasm in 1x1-m units and 10 cm levels, each detailed on well-designed and easy to use unit and level forms. Features were drawn to scale and photographed. All large artifacts were piece plotted. The dirt remaining was removed and waterscreened through 1/16-inch mesh. The artifacts, cultural debris, and other specimens thus obtained were detailed in a field catalog designed to facilitate the upcoming laboratory analysis and quantification of all classes of specimens.

Michael Frohlich.

Bob Gardner, Ed Maixner, Carl Falk, and Julie Falk at House 17.

The field camp was spacious, clean, and comfortable. The food was ample, well prepared, and nutritious. The level of compatibility among research team members was remarkable. Camp life gave me the opportunity to renew old friendships, relive past episodes of my life, and learn of the intellectual benefits, pitfalls, trials, and tribulations experienced by my colleagues at various universities and other institutions. I may be wrong, but throughout I thought a good time was had by one and all.

The privacy provided by housing in separate trailers gave me the opportunity to interact in an intellectually meaningful way with my 14-year-old son and to reflect upon my career as a professional archaeologist. Many of my early and a few of my later years were spent in the Middle Missouri subarea. My work in this region began in 1960 at the Leavenworth site in northern South Dakota. In those days the luxurious field camps were created from abandoned and rapidly deteriorating farmhouses usually some distance from the site to be worked. Most, however, were tent camps with two to four or more occupants per tent, a mess tent with bare bones cooking and eating space, and hastily constructed outdoor showers whose water was heated, often inadequately, by solar power. Towns were often many miles away over two-track, dirt or gravel roads. The opportunities for after work entertainment were thus limited to individual initiative, the creation of camp songs usually sung off-key, and a strong draw upon the near universal beer-mess.

These were the days when dams were being rapidly constructed and reservoirs filled. Our research designs were at best vague and usually confined to deriving a sample of the site's ceramic, bone, and stone tools, and if surface indications were present, sampling its domestic archi-

Michael Frohlich.

Tim Reed at House 2.

Michael Frohlich.

Stacey Madden, More Note-Taking at House 17.

tecture and fortifications. In doing so the site's "overburden" was systematically removed by digging trenches or squares of various sizes and the larger artifacts encountered were bagged and labeled. The remainder was deposited in backdirt piles that in some cases were raked and then "picked over" after rains for artifacts missed during dirt removal. Artifacts were commonly understood as any specimen small enough to be bagged in the field and attended to later in the lab. Features were construed as those artifacts whose size, complexity, or composition required in-the-field analysis and description. Feature contents were frequently, but not always, dry-screened and the specimens thus obtained bagged, labeled, and transported to the lab for later analysis and description. Fragments of charcoal, usually the larger pieces, were saved and when funds were available a sample was subjected to the relatively new technique of carbon-14 dating. The results were often disappointing and in some cases misleading. If they were large enough, wood samples were preserved and saved against the day in which a regional dendrochronological master chart might be constructed.

Under these conditions meaningful quantitative statements about artifact density and distribution were at best tenuous and at worst specious. Qualitative assessments were the analytical capital of the day and reference to authority the *sine-qua-non* of archaeological interpretation. These reminiscences, as faulty as some of them may be, stand in sharp contrast to the conduct of research at Menoken. Given the controls built into artifact recovery and record keeping in the Menoken work, qualitative judgments can be checked against the results of quantitative evidence. If the number of times I have been wrong in my own qualitative judgments is any measure, the Menoken approach is a major contribution to our discipline. When I return from my work in the field I am often asked by well-wishers "did you find anything?" With respect to the Menoken work I can honestly reply "more than I even know."

- Richard Krause

Michael Frohlich.

Andrew Gold, Michael Krause, and Paul Picha at the Screens.

Michael's Work

I am Michael Krause and I'm not an archaeologist like my father, but I did help out in a couple of digs. What I did at Menoken was meager but did make other people's work a bit easier. I pushed the full wheelbarrows down the hill to the waterscreen and returned them empty to the excavators. The downhill run with barrows full was the hardest. The uphill return was relatively easy and to save effort I often pushed three stacked barrows at a time. This approach required me to wait at the waterscreen until three barrows were emptied, allowing me time to test the virtues of one barrow as a chair and listen to music on my walk-man. I admit that sometimes I may have waited longer than I should have, but cries for the barrow boy soon changed that. Sometimes waterscreening was backed up. Barrows would then pile up and despite cries for the barrow boy there was nothing I could do about it. At such times a barrow backup slowed down the excavators' work but did not stop it. All I could do was remind the excavators that everyone could use a little break now and then.

- Michael Krause

Three high on the Return.

A Neophyte's Perspective on the Northern Plains

I was not sure what to expect when boarding the plane last July to travel to North Dakota. I was excited, to say the least. I had been reading about Middle Missouri archaeology for over a year and knew it was complicated, fascinating, and different from anything else I had ever done. I was also nervous. I have experience doing archaeological fieldwork all over the world and already participated in two other projects earlier that summer, but both of those projects were in the American Southwest. Volunteering at Menoken would be something different.

Menoken is a beautiful village located in an open grassy plain along Apple Creek just outside of Bismarck. It is a Late Plains Woodland community that dates to around AD 1200. I wanted to be involved in the project because I was intrigued by what had happened in the area both before and after people lived at Menoken. Additionally, as a ceramicist, I wanted experience working with the pottery of the region. I also desired to work with a group of researchers who were rich in experience and expertise in the area.

Michael Frohlich.

Kacy Hollenback and Richard Krause Talking Pottery.

I was almost the youngest person on the crew, and nearly the least experienced in field archaeology of the Northern Plains. In the beginning this felt a little awkward. The stratigraphy at the site was frustrating at times, and the "earth lodges" little resembled the "pithouses" of Arizona to which I had been exposed. Everyone was patient and did a wonderful job teaching me how to see new things in the archaeological record. Furthermore, daily discussions at the site and base camp were stimulating and educational. In the Southwest most researchers specialize in one area of archaeology (e.g., ceramics, stone tools, or soils). So I was impressed that at Menoken everyone I worked with knew something about all classes of archaeological remains. By the time I left in the beginning of August, I had gained new mentors, a deeper love of the archaeology of the region, and a new group of friends.

- Kacy L. Hollenback

Gault Blade Core Study

Mike and Zana Sturgill as Part of Team Micro.

The Gault site near Austin, Texas is now well known for its very intensive Clovis period, Paleoindian occupation (predating 11,000 BP). PCRG organized volunteer crews to assist in excavations at Gault in 2000-2002 and assisted in the analysis of microwear on Clovis stone tools in spring 2004. We were therefore pleased when Gault site Principal Investigator, Dr. Michael Collins of the Texas Archaeological Research Laboratory, invited PCRG to take part again in important laboratory studies of Gault Clovis artifacts.

One of the most distinctive aspects of Clovis culture is its use of very sophisticated prismatic blade technology. This technological feature may provide a clear link between Clovis and its antecedent culture, however distant, somewhere in the Old World. The Gault site, with about 140 blade cores and many hundreds of blades, blade tools, and blade fragments, provides one of the largest known samples of Clovis blade artifacts. In this context, PCRG was asked to contribute to a very intensive study of prismatic blade cores from the Gault site.

Eugene Gryba on Team Macro.

We organized a weeklong work session in November, with eight PCRG members and colleagues taking part. Our group was integrated with several TARL staff members, and an efficient assembly line and quality control procedure took place. The overall goal was to document the complete artifact life history involving core formation, blade production, use, and circumstances of discard for every blade core or fragment. Analysts were divided into two work teams, with key persons providing quality control at different steps in the analysis.

Intensive study of microwear on the cores occurred first, followed by detailed analysis of core technological history. Microwear analysis commenced where Phil Geib's documentation left off in April 2004 after study of 29 blade cores. Zana Sturgill, a skilled artist, provided multi-view drawings of each new blade core. Team Micro (Michael Sturgill, Elijah Ellerbusch, Stan Ahler, and Marilyn Shoberg [Gault microwear specialist]) then microscopically examined each core for traces of wear that held clues to the use-history of each artifact. A few cores were found to have been used for purposes in addition to blade production, and some cores exhibited more difficult to explain traces from contact with hard objects (see accompanying discussion by Elijah Ellerbusch).

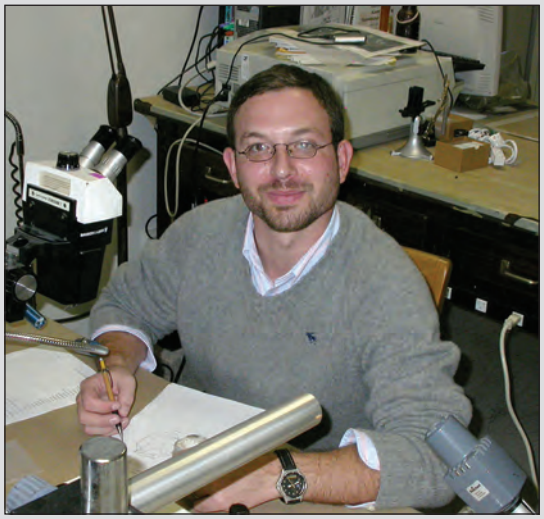
After microwear study, Team Macro then documented in great detail the morphological and metric aspects of each core and the technological history that was evident in complex overlays of core shaping flakes, blade removal scars, and platform alteration scars. Team Macro consisted of Shane Miller, Bobby Braly, Peter Condon, Eugene Gryba, Cinda Timperley, and Andy Hemmings (the latter two are Gault project archaeologists). The analytic process concluded with Mike Collins and Andy Hemmings reviewing all recorded data and making calculations about core shape and blade scar curvature.

At the end of the week, the intrepid analytic team departed happy, greatly enriched by hands-on study of the remarkable Gault site collection and having intensively documented about half of the blade core sample. We learned much about two fundamentally different Clovis core forms and core technologies (conical or cylindrical cores that produce straight blades vs. wedge-shaped cores that yield curved blades), and we gained insights into a complex but systematic sequence of reduction in wedge-shaped cores. Toward the end of the core-glazed week Stan and Elijah even speculated (fanaticized, hallucinated?) about blade cores being used for spark-making and fire-starting (perhaps an odd idea, but one easily tested experimentally).

Peter Condon and Cinda Timperley Recording Core Technology.

Reflections on Clovis Prismatic Blade Systems

by Elijah C. Ellerbusch



The Author at Work on Team Micro.

Three anthropology graduate students from the University of Tennessee at Knoxville were members of the PCRG team that did follow-up analysis of Clovis prismatic blade cores from the Gault site. Elijah Ellerbusch, Shane Miller, and Bobby Braly traveled more than 1000 miles from Knoxville to Austin, Texas for an opportunity to collaborate with PCRG and TARL faculty and staff in their ongoing blade technology research. Under the direction of Drs. Michael Collins, Stan Ahler, and Andrew Hemmings, the graduate students analyzed wedge-shaped and conical blade cores and learned to identify and map technological and functional signatures including blade removal sequences, core platform preparation techniques, transport damage, and use-wear related modification. They also had the unique opportunity to see a large part of the Gault site lithic artifact collection, well known among our readers as one of the most complete lithic tool production and use assemblages excavated from intact Clovis archaeological deposits in North America.

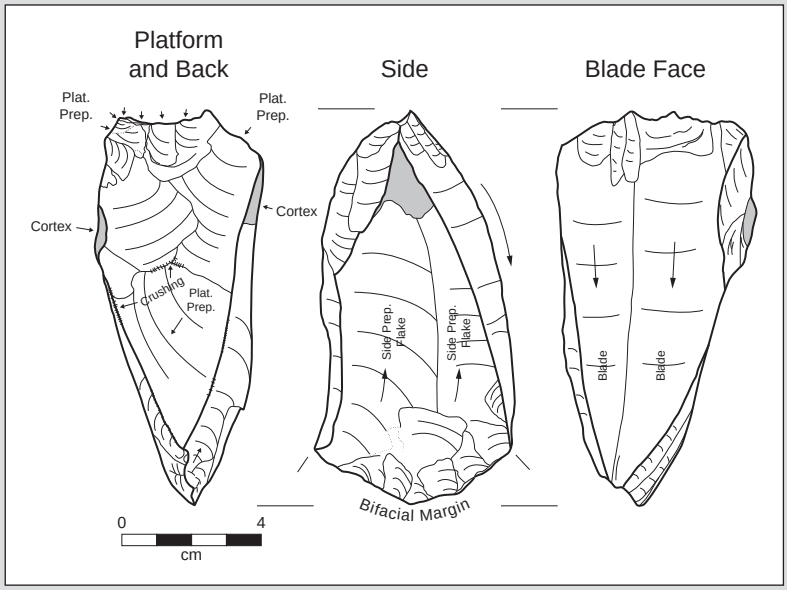
Previous study of the Gault cores by Mike Collins and his team revealed that one of the principal characteristics of the Gault assemblage is the high frequency in which wedge-shaped blade cores occur relative to conical cores. Wedge-shaped cores were often produced from large (dinner plate-size), flattened chert nodules with a lenticular cross section, usually choosing ones that were half-discs, naturally split along a fracture through the nodule center. The flat fracture plane was used as the core platform, and cortex was removed from the nodule faces by bifacial flaking around the curved half-disc margin. The bifacial edge joining the flat split plane (platform) functioned as an initial crest from which a series of long, curved prismatic blades with well-prepared platforms was removed. Gault blades often originated from a single platform and direction, although examples of bidirectional cores with two or more platforms are common in the assemblage (Collins and Lohse 2004). Several cores retained intact platforms and usable lithic raw material, while a number of others were likely abandoned after several unintentional hinge or step fractures diminished the availability of a suitable platform.

Low-power (10x-50x) microscopic examination of the cores revealed few, if any, signatures of attrition related to their use as tools, although several core specimens exhibit longitudinal crests with localized points of abrasion about midway from the platform that may reflect the use of a holding device to stabilize the core during blade removals. A single conical core specimen of particular interest exhibits many severely battered longitudinal crests with deep fissures and anomalous staining. The origin of the battering and staining on the crests remains unknown, but it may be evidence for stream-rolling or intense grinding during manufacture to strengthen the crests for blade removal. Even more intriguing, these signatures may be the product of intense heat-producing friction from contact with another stone. If further analysis substantiates the latter scenario, the Gault site may contain the earliest recognized fire-starting tool. Since the artifact was discovered in disturbed post-Clovis deposits, its function during the Clovis era will remain inconclusive.

The incidence and technological organization of wedge-shaped prismatic blade cores from the Gault site provides us with a revision to our earlier understanding of Clovis prismatic blade systems, which were once thought to be dominated by conical core production strategies (Collins 1999, 2002; Collins and Lohse 2004). We may tentatively expect that Clovis groups living in regions that contained large, flat nodules of high-quality raw material would have preferred the use of wedge-shaped core reduction strategies. This pattern obtains in west-central Tennessee, as evidenced by the discovery of a very large prismatic blade assemblage dating to the Clovis era at the Carson-Conn-Short site (Broster and Norton 1993, 2005; Broster et al. 1994, 1996).

Mike Collins Performing Final Calculations and Data Checks.

Located in the lower Tennessee valley, the Carson-Conn-Short site rivals the Gault site in its lithic artifact density and diversity; both sites likely functioned as Clovis habitation/workshop sites. Carson-Conn-Short has produced at least 216 Clovis prismatic blade cores and fragments, 37 of which have been identified as complete wedge-shaped cores. John Broster pointed out that wedge-shaped cores from this site were manufactured from tabular and bedded Fort Payne cherts, while conical cores were produced from rounded Fort Payne cobbles mined from secondary river deposits (John Broster, personal communication, 2005), indicating that the natural shape of raw material nodules partially dictated the core reduction strategy chosen by Clovis knappers. Other similarities exist between the Clovis blade assemblages from Gault and Carson-Conn-Short. Of foremost importance, prismatic blades and blade cores from both sites were manufactured primarily from local raw materials. Additionally, the entire spectrum of blade production was conducted at both sites and, although further analysis must be conducted, it seems that Clovis blades from both sites were used for a variety of



Wedge-Shaped Core from Gault. Digital Representation by Mike Ratcliffe from a Drawing by Phil Geib.

domestic activities.

These, and likely many additional, similarities may point to a common theme in the organization of Clovis blade systems in which prismatic blades were primarily produced, used, and discarded at central base camps. Central base camps, in this case, are seen as the hub of domestic activities and the locations in which the majority of hunter-gatherers spend most of their available time. In a logistically organized system, most adolescent and adult males would likely spend considerable time engaged in resource extraction and information gathering forays several kilometers (perhaps up to several days travel) from central base camps. Given that local foraging radii for women and children would likely be much shorter and not exceed a few kilometers (or a half-day walk) from the central base camp, the local population of a base camp at any given time would have been dominated by women and children, with some adolescents and some elderly folks present.

Bobby Braly and Shane Miller, University of Tennessee Graduate Students.

This leads to an intriguing spatio-temporal correlation between the production and use-life histories of prismatic blade artifacts and the demographic expectations of available flintknappers responsible for the implementation of prismatic blade systems. Women would have been heavy *users* or consumers of certain kinds of tools, and therefore may also have had a stake in the production of some of the same items, particularly standardized forms with dedicated functions. Given the potential demographic patterns at hand, is it possible that women and the elderly were responsible for manufacturing, using, and discarding prismatic blades in Clovis societies? Did children in Clovis societies learn this valuable flint-knapping technique from their mothers and grandparents at an early age by being exposed to it at central base camp sites? The archaeological problem at hand may force us to reconsider the gender roles of Clovis peoples, as well as the importance of identifying the locus of Clovis cultural reproduction or the "inheritance" of tool-producing techniques and traditions.

Andrew Hemmings Recording a Core Profile.

The author is currently analyzing the blade assemblage from Carson-Conn-Short for his MA thesis, so additional information regarding the organization of Clovis blade systems in the Mid-south is forthcoming. Notable similarities between Carson-Conn-Short and Gault, both in terms of the composition and technological organization of their blade assemblages, as well as their high artifact densities and frequency of site revisitations, warrant further archaeological comparisons. Furthermore, the mutual location of these sites within patches of highly productive Late Pleistocene resources, and perhaps centered on ecotone niches, warrants a comparison of regional Clovis settlement and subsistence strategies when additional details become available.

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Hudson-Meng

This year, PCRG renewed its collaboration with the University of Colorado's archaeological field school, directed by Dr. Douglas Bamforth. In 1999 and 2000, PCRG and CU conducted test excavations at the Willow Bunker site, a multi-component camp on the Pawnee National Grassland in northeastern Colorado. In 2005, the focus shifted to the Hudson-Meng site, a 9,500-year-old bison kill on the Oglala National Grassland in western Nebraska. As with the work at Willow Bunker, the Hudson-Meng investigations were made possible by assistance provided by the U.S. Forest Service. A generous financial donation from nearby resident Ray Graham directly supported the fieldwork.

Tour Group at the Waterscreen Station.

Hudson-Meng is the largest Paleoindian bison kill site in North America. The site, located on the northern slope of Nebraska's dramatic pine ridge, contains the remains of as many as 600 animals, along with Alberta spear points and chipped stone flaking debris. Extensive excavations were conducted there by Chadron State College in the mid-1970s under the direction of Dr. Larry Agenbroad. More limited investigations were undertaken by Dr. Larry Todd and Colorado State University in the 1990s, partially in preparation for the construction of a building enclosing a portion of the bonebed. Since 1998, the USFS has operated an interpretive center at the site and provided public tours.

CU Student, Chris Kerns.

In 2004, the USFS invited PCRG and CU to participate in a new research program at the site. The USFS and The Mammoth Site, a non-profit organization that recently assumed management of the Hudson-Meng interpretive center, believe that an active research program is an integral component of their public education mission and will help attract visitors.

Bob Gardner in the Southeast Excavation Block.

The 2005 investigation focused on excavation of several small blocks near the interpretive center. This work targeted the paleosol containing the bonebed, but in areas thought to be away from the bonebed proper. The primary research objective was to discover one or more Alberta camp activity areas functionally associated with the bison bonebed. A secondary objective was to identify additional cultural components that pre- or post-date the Alberta complex use of the site.

This year's work involved 33 people, including PCRG staff and volunteers, USFS volunteers, and CU students. Among the many volunteers participating in the project, PCRG member Bob Gardner took a particularly active role, contributing 16 days to the effort. Mark Mitchell directed the program and Stacey Madden and Lindy Potmesil were field assistants for PCRG. Five weeks were spent on the site, beginning just after Memorial Day. A total of 11.6 cubic meters of sediment was excavated, 10.2 cubic meters of which were processed through a fine-mesh recovery system.

Mark Mitchell and Alex Cragg at the North Block.

Although the excavations were limited in extent, they yielded important results that will help guide research in the future. The most intriguing finding is that the area around the bonebed appears to have been used repeatedly during Paleoindian times. Stratigraphic data suggest that at least one of these occupations may even pre-date the bonebed itself.

Stacey Madden, Field Assistant.

Excavations immediately adjacent to the enclosure building encountered a well-defined layer of cultural debris, including animal bones, charcoal, and chipped stone flaking debris, at an elevation approximately equivalent to that of the bonebed. Study of faunal specimens and chipped stone artifacts may better define relationships between this layer and other parts of the bonebed. Radiocarbon dating of charcoal associated with this layer will supplement these data.

Work north of the enclosure building indicated that it may be possible to trace the paleosurface on which the bonebed rests much farther north than previously believed. In this area the bonebed is covered by a relatively thin mantle of recent colluvium and is therefore a promising location for additional investigation.

Another aspect of PCRG's involvement with Hudson-Meng research is the analysis of waterscreen samples collected by CSU in the 1990s. During the 2005 field season, a few of these samples were examined to determine the feasibility of a larger project. Results were promising and plans are currently being made for a more systematic effort in 2006. When funds become available, reports summarizing the results of the field program and analytic studies will also be prepared.

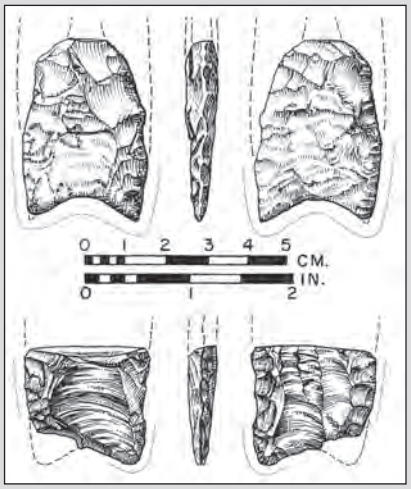
Excavations at the Bonebed Margin South of the Enclosure Building.

Northern Arizona Paleoindian Points

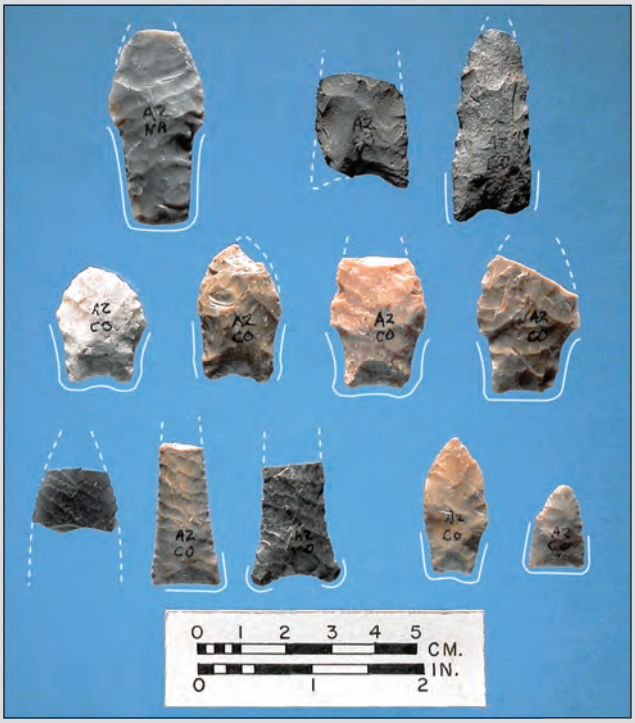
by Denny Carley

As an avid student of prehistory I have been conducting field surveys and recons in the Flagstaff area since 1979, when I came to Northern Arizona University as an art professor. Collecting diagnostic artifacts and toolstone samples has been an integral part of my research strategy. I did the same when I revisited relatives and lived in Texas and Oklahoma over the past 35 years.

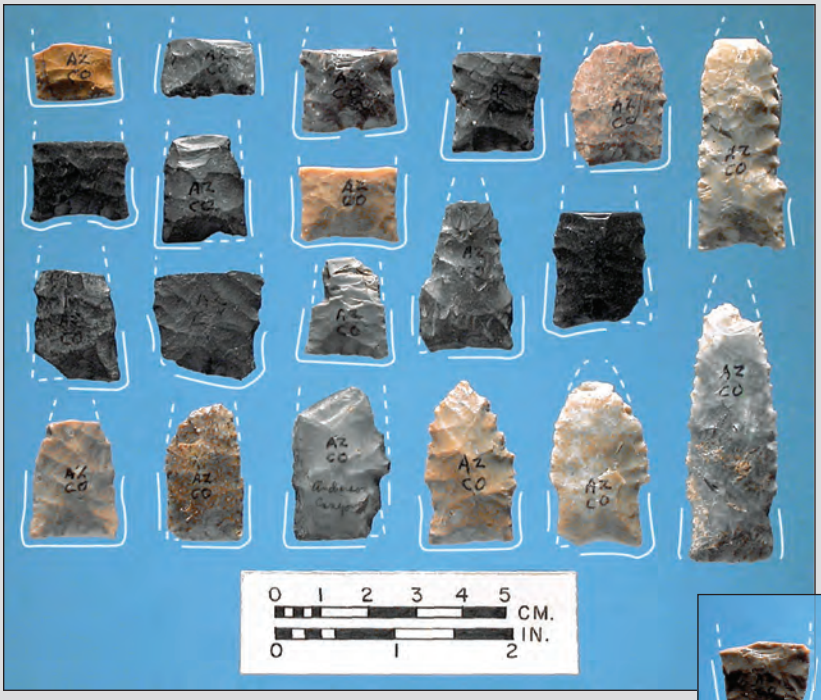
I have collaborated closely with archaeologists and paleontologists wherever I have lived. In Arizona, Phil Geib has been especially helpful with his expertise on regional artifact identification and toolstone sources. I have submitted reports to the Arizona State Archaeologist, Oklahoma Archaeological Survey, Texas Historical Commission, and others over the preceding years.



Clovis Points from Arizona. Kaibab chert (top) and Government Mountain obsidian (bottom). The obsidian specimen was the first Clovis point found and reported in the Coconino National Forest.



Assorted points from Arizona. Rio Grande (1), concave base (2), Bat Cave? (4), enigmatic (3) and (2).



Eden Points from Arizona. Little Colorado Watershed cherts, Partridge Creek obsidian, and undetermined obsidians and basalt sources.

Most of the Arizona points illustrated in this report were surface finds east of Flagstaff in the Little Colorado River watershed. Some points were found on the rims above canyon water sources, but others were found up to eight miles from existing water sources. Eroded dry streambeds and hilly terrain suggest that intermittent flowing water may have been available during more pluvial times in the past.

The dominant toolstone sources for the illustrated Arizona points are available in primary and/or secondary deposits in Northern Arizona. They include Kaibab chert, Little Colorado River watershed cherts and chalcedony, San Francisco Mountains volcanic field obsidians, and Partridge Creek (Mount Floyd volcanic field) obsidians. These were identified macroscopically. The sources of other obsidian and basalt points are presently undetermined.

Partridge Creek obsidian, the most distant toolstone source for several Eden points, is ca. 100 air miles west of the find sites. There is also 3,000 feet differential in elevation of rugged terrain between the source area and the find sites, including the Mogollon Rim and deep canyons.

Projectile point type determinations for the illustrated points were made on the basis of discriminating attributes consistent with those in point type sites and the literature. Solid lines in the photos indicate lateral or basal edge grinding/smoothing discernable by tactile and visual inspection. Dotted lines indicate broken or chipped areas.

Angostura, Milnesand, and Agate Basin Points, comparing Northern Arizona (middle and upper row) and West Texas (bottom row) points found about 600 air miles apart.Assorted points from Arizona.

Member Activities and Plans

Several PCRG members scattered about the landscape have given us brief reports on their activities in the realm of archaeology. Founding member **Eric Feiler** reports from Boulder, Utah:

Eric Feiler.

Eric, Levi, Mary, and Keaton at a Barn Dance in Boulder.

Eric Feiler.

Stunning Sunrise Before a Storm on the Sugarloaf, Southern Utah.

Although my activity with PCRG has been much reduced since my departure from Flagstaff, I still continue to dabble in archaeology between my busy schedule of house-building, child-rearing, gardening, primitive skills education and occasional cow-punching (really, I'm not a good cowboy, but you do what you can to make a buck in remote southern Utah). In my wanderings in this vast and empty part of the Colorado Plateau country I walk across countless lithic scatters, looking for that elusive and really old hunter-gatherer site (there are enough other folks tracking the Anasazi and Fremont here). Although I didn't find it, this last year brought the discovery of a Clovis point not 1/2 hour from my house in Boulder. Fortunately, the finder is a friend and has shown me and the BLM the location of the site. After a site visit with representatives of the BLM and the local State Park, the BLM has asked me (as a PCRG member) to participate in a small sub-surface testing project this spring to determine if this surface find is part of a larger intact Clovis site. Just what I need to keep from finishing the construction of my house. More to come?

Carl Falk continued involvement in PCRG through work in his Cape May, New Jersey office, a facility featured in our 2004 annual report. Much of Carl's effort in the early months of 2005 was directed toward completion of a study of unmodified vertebrate remains from 2004 field program at Double Ditch. Nearly 10,000 identifiable specimens were sorted into taxonomic groupings employed in earlier site studies. Basic element identifications were recorded for most culturally significant fish, bird, and mammal remains. Combining these materials with data from the 2002 and 2003 Double Ditch programs, Carl and Stan completed an analysis that was included in the final report for the 2004 field investigation.

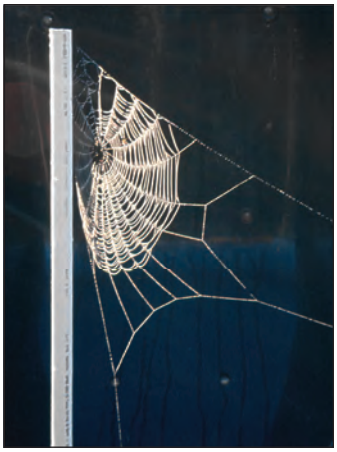
Michael Rohlich.

Carl Falk at Menoken.

In July, Carl and his wife – Julie McMahon Falk – traveled to North Dakota to participate in the Boley Village and Menoken Village field programs. During the last quarter of the year, Carl completed the basic identification of the unmodified vertebrate remains from the summer's work at Boley – some 3200 specimens. Analysis of these remains will be continued in 2006 in conjunction with preparation of the final project report. In October, Stan traveled to New Jersey and he and Carl carried out much of the analysis for the Boley modified bone and antler sample.

During the year, Carl continued analysis of vertebrate remains from the unfunded Jones Village project. Descriptive work with all non-mammal remains was competed. He and Stan also began an examination of the modified bone and antler remains from Jones. Finally, throughout the year Carl assisted Stan in the planning and development of aspects of many PCRG programs including work at Menoken Village, and the Beacon Island and Hudson-Meng sites.

As documentation of her experience directing an excavation at a Xongnu burial site in the central steppes of Mongolia, **Kimberly Spurr** provides the accompanying photo of



Early Morning Spider Web.

herself with the crew in transit between camp and the site. Kim is on the chestnut horse in the center.


Kimberly Spurr.

Kim and Crew in the Field in Mongolia.

Peter Leach is a regular participant in PCRG projects in North Dakota, and took part in the Boley Village dig this summer. He reports getting particular satisfaction from assembling a rogues' gallery of Boley participants. Peter let us draw from his gallery for photos in our Boley project piece. Closer to his home in St. Louis, Peter worked some more for Margaret Brown on her excavation at the original town site of Prairie du Rocher, Illinois. In the fall he attended the Mississippian Conference of Missouri Archaeology in Columbia and took in some interesting presentations by John Kelly and Mike O'Brien, among others. Mike showed slides of large collections by private landowners in the Missouri Boot Heel, including beads and what he thinks is the buckle from the strap on a bible that probably are from De Soto ... which got Peter (and us) to thinking, just what was going on then (1539-1543) on the Middle Missouri? To quench his archaeological thirst, Peter attends Friday Archaeology at Washington University most weeks and the monthly meeting of the Mound City Archaeology chapter of the Missouri Archaeological Society at the Missouri Historical Society.


Eugene Gryba.

Ells River, Northeast Alberta.

Eugene Gryba, who hails from Calgary, Alberta, has given us the following brief report on his activities that he titled "A Contract Archaeologist's 2005 Year." Eugene is one of the hardest working archaeologists in North America:

During the 2005 field season, I confined my archaeological activities to the plains and mountains within daily commuting distance of home, and to the Boreal Forest north of Ft. McMurray in northeastern Alberta.

An assessment of a proposed housing development just beyond the southeastern edge of Calgary resulted in the discovery of three sites, a homestead farm yard that by the presence of rectangular nails and settlement history of neighbouring quarter sections may date to around 1890, a small scattering of historic and prehistoric artifacts in a cultivated field, and a fairly extensive and undisturbed precontact butchering and occupation site. No diagnostic artifacts were found in the undisturbed precontact site. The deposits there, however, are poorly stratified and range to a depth of around 45 cm below surface. They yielded a wide assortment of locally available chert, siltstone, and quartzite, plus some imported obsidian and brown chalcedony, as well as a fairly good quantity of bison remains and lots of fire-cracked rock. Because it lies well within the proposed housing development, major excavations are planned for this site in the spring of 2006. The homestead site occurs near the edge of the property and can easily be avoided from impact during development.

During August and September, I led a 3-8 person team on a survey of a portion of a roughly 80 square mile oil sands lease. Set within heavily forested terrain west of the Athabasca River in northeastern Alberta, this proved to be a very challenging project in terms of general access and in locating sites. We worked 32 consecutive 10-12 hour long days and were lodged at an industrial camp equipped with showers, ready meals, recreation facilities, and internet connections. Among the least pleasant elements of this project were the pesky mosquitoes and black flies, and a blueberry crop which, compared to previous years, was quite abysmal. Also, we had commenced the fieldwork after an excessively wet period. Many seismic

lines throughout the lease proved impassable by all terrain vehicles, so we had to rely upon foot and helicopter for access. Despite these difficulties, we did manage to survey a fairly substantial part of our target area.

By the end of this project we had opened over 12,000 shovel tests [!!!] and discovered 20 pre-contact sites. Most of the sites were along drainage courses; the ones most prolific in cultural remains occurred near the confluence of a large stream and the Athabasca River and likely represent a series of occupation events. At one site that extended over several hectares, we isolated eight distinct activity loci. Discrete activity loci were also identified at several other sites. The lithic artifacts found during this project were represented by locally available quartzite, siltstone, and chert. Among the notable discoveries of the 2005 season were a large side-notched point, a possible microblade core, and some microblade-like flakes. Major multi-stage excavations have been recommended for many of these sites since they are expected to be adversely impacted by oil sands development.

Other highlights of the 2005 year included attending the Plains Conference, which was held at the world's largest shopping mall in Edmonton, Alberta in October, and helping with the analysis of the Clovis blade cores from the Gault site at the Texas Archaeological Research Lab in Austin in the middle of November. Both of these events presented opportunities to renew friendships I had developed from the earlier Folsom conference/workshops.

I am also working with a University of Calgary student, Purple Kumai, on use-wear experiments and microscopic analyses with raw and heat-treated obsidian. Preliminary results of this work were presented as a term paper, and also at the Plains Conference in Edmonton and the Chacmool Conference in Calgary. Then, aside from the project reports, I prepared a paper for an archaeology book planned by the Alberta Government on the archaeology of northwestern Alberta. It's called "Heat Treatment Of Beaver River Sandstone: Experimental Results And Archaeological Evidence". As well, I submitted a paper to Lithic Technology *titled "An Assessment Of The Free-Hand Pressure Flaking Technique Of Pre-Contact North America." It's quite a lengthy paper. I'm still waiting word on it from George Odell (the editor). (I saw one of the reviewers at the Plains Conference, and she thought that it was a great paper!) That's it for now!*

Eugene Gryba.

Open Drainage in Oil Sands Lease Along Which Some Archaeological Sites Were Discovered.

Cherie Freeman, of Tucson, Arizona, hopes to join another PCRG dig during 2006. She gives us the following brief but tantalizing report of her several ventures in 2005:

First, I did an obsidian inventory and analysis project for Center for Desert Archaeology. A very big project! Then spent 22 May through July 1 with Bonnie Pitblado at Lake City, Colorado with her Utah State University Field School. We had 15 students from all over the US. Great group! Then on to Barger Gulch, Middle Park Colorado – a Folsom dig – with Todd Surovell and Nicole Waugespack, 4 July into Aug. Oh what finds we had. – A long, busy, and fun field season.

Craig Lee.

Craig Lee, Sampling Icefield Pass Bison Skull.

During the summer of 2005 **Craig M. Lee** returned to Southeast Alaska to conduct preliminary excavations at a newly discovered microblade site near the town of Thorne Bay. Based on its location, 15 meters above modern sea level, the site may be associated with a high sea level stand that occurred in the area around 9,000 years BP. Excavating in a temperate rainforest is tricky and has been described by some as an exercise in underground logging. Radiocarbon dates on charcoal in association with microblades and other chipped stone artifacts, including a small biface, are pending. Craig is continuing to work on his doctorate at the University of Colorado in Boulder.

Craig Lee.

Jennie B. & Craig Lee, in Northwest Colorado.

Ann Johnson, archaeologist at Yellowstone Park, Wyoming, usually has some exciting activities to report. This year, she reports being completely overwhelmed by demands from Washington for other kinds of reports. She's hoping 2006 will bring something new. **John Vicha**, who took part in the Menoken dig in July, indicates that the rest of his year was interesting and much like the previous one. John leads tours and conducts training sessions in the realm of archaeology at the Field Museum in Chicago – look John up next time you are there.

John Craig, resident of Salem, Oregon and veteran of PCRG field projects from Scattered Village to Beacon Island, joined three ventures at prehistoric and historic sites with the University of Oregon Archaeology Department. He gives us this report:

The first outing, a field school, was to locate the original miller's house at Boston Mill, the oldest flour mill in Oregon. Built in 1862 and disappearing in the early 1900s, we finally (after many 1 x 1-m units) located the wood beam and cut spike structure.

In October I joined a crew in John Day, Oregon to search for artifacts from a Chinatown which surrounded the existing Kan Wah Chung Museum. Oregon State Parks plans to expand at the site with visitor center, parking lot, etc., and our shovel probes turned up many significant artifacts. More work is slated for this summer.

A proposed golf course and housing development near Sunriver on the Deschuttes River required the developer to do extensive survey on three large prehistoric sites as well as five historic, early twentieth century log cabins. Using shovel probes and 1 x 1-m units our screens yielded thousands of stone artifacts. The report for this project is now being compiled by the University of Oregon.

Jennie Borresen Lee continues to work for Metcalf Archeological Consultants in Eagle, Colorado as a Staff Archaeologist. Although the oil and gas boom kept her in northwestern Colorado for most of the year, she was able to go to Southeast Alaska to excavate with Craig in July. Jennie and Craig have been continuing their investigations into the archeological potential of snow and ice-patches in Colorado with colleague Jim Benedict (2003 PCRG report). New research on museum collections in Rocky Mountain National Park revealed that bison remains recovered in association with snow and ice patches within the park in the early 1980s are up to 1,000 years old and of similar age to previous Colorado discoveries that will be published in the Spring issue of *Southwestern Lore*.

John Craig.

John Craig, Sampling a Log Cabin on the Deschuttes River.

Menoken Montage

Kacy Hollenback Infiltrates the Tour Group.

Kacy Hollenback Prepares to Bungie-Jump from the Sky-Lift.

Michael Krause Prepares for Fisticuffs with Local Hooligans.

Paul Picha Secures Drinking Water for the Field Crew Volunteers.

What are These People Doing?

Supporting Members

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PCRG Contributions

PCRG CONTINUES TO NUMBER and list contributions in the area of research and education that are produced by its members. We do this to provide a record of substantive products generated through the organization. The list is presented to enhance the dissemination of information deriving from PCRG projects. A list of PCRG Research Contributions that have been finalized since the last annual report follows. Gaps in the sequence indicate numbered contributions previously listed in annual reports or not yet available in final form. Copies of specific contributions are available for distribution upon request, either free of charge or for a nominal fee for duplication. The complete contribution list is available upon request.

65. *Archaeological Investigations During 2004 at Double Ditch State Historic Site, North Dakota*. Submitted to the State Historical Society of North Dakota, Bismarck. 350 pp. [2005] Stanley A. Ahler, editor. Authored by Stanley A. Ahler, Jeffrey Burns, Eileen Ernenwein, Tracy Ellefson, Carl R. Falk, Stacey Madden, Christine Markussen, L. Gracey McMain, Robert K. Nickel, and Fern E. Swenson.

66. Double Ditch Village: Three Centuries of Community Change, AD 1450-1785. Paper presented at the 70th Annual Meeting of the Society for American Archaeology, March 30-April 3, 2005, Salt Lake City, Utah. Stanley A. Ahler, Kenneth L. Kvamme, Phil R. Geib, W. Raymond Wood, and Fern E. Swenson.

67. Integrated Geophysical Surveys and Test Excavations Provide New Information on Settlement Plan and Chronology for Boley Village, North Dakota. Paper presented at the 63rd Plains Anthropological Conference, October 13-19, Edmonton, Alberta. Mark D. Mitchell, Stanley A. Ahler, Kenneth L. Kvamme, and Fern E. Swenson.

68. Recent Investigations at Menoken State Historic Site in Burleigh County, North Dakota. Paper presented at the 63rd Plains Anthropological Conference, October 13-19, Edmonton, Alberta. Fern E. Swenson, Stanley A. Ahler, and Carl R. Falk.

69. *Summary Progress Report on the 2005 Investigations at the Hudson-Meng Site, Sioux County, Nebraska*. Submitted to the USDA Forest Service, Nebraska National Forest, Chadron, Nebraska. 5 pp. [2005] Mark D. Mitchell and Stanley A. Ahler.

70. Excavation Program and Stratigraphy. Draft chapter prepared for inclusion in a project summary report titled *Continuing Archaeological Studies During 2005 at the Hudson-Meng Site, 25SX115, Sioux County, Nebraska*, edited by S. A. Ahler and M. D. Mitchell. Prepared for the USDA Forest Service, Nebraska National Forest, Chadron, Nebraska. 21 pp. [2005] Mark D. Mitchell.