PiRL NOTES 1

Paleoindian Research Lab, Department of Anthropology, University of Wyoming
(Department 3431, 1000 East University Avenue, Laramie, WY 82071)

February 2011

2011 FIELD WORK DATES – Hell Gap Site and Last Canyon Cave

June 4-13	Hell Gap
June 14-17	Break
June 18-27	Hell Gap (**WAS Summer meeting and Atl-atl throw; June 17-19**)
June 28-July1	Break
July 2-11	Hell Gap
July12-15	Break
July 16-25	Last Canyon

Hell Gap. Principal Investigators and collaborators (Marcel Kornfeld, Mary Lou Larson, George Frison and Vance Haynes)
The 2011 field work dates have been set, so begin to plan your summer! We will be starting at the Hell Gap Site, where we will continue excavation of the Middle Paleoindian Cody component. The Advanced Archaeological Field School will be running concurrently with the excavation. For those of you interested in the field school please see the web site for our course or contact the instructors (Mary Lou Larson – mlarson@uwyo.edu or Marcel Kornfeld - anpro1@uwyo.edu).

2009 WAS summer meeting and amateur atl-atl throw

Hell Gap field camp in 2009

Last Canyon Cave. Principal investigators and collaborators (Marcel Kornfeld, Mary Lou Larson, Judson Finley, Thomas Minckley, Mark Clementz)
Following Hell Gap the field camp will move to northern Wyoming to continue investigations of Last Canyon Cave in the Pryor Mountains of south-central Montana. The small rockshelter is yielding a 40,000 year old paleoclimatic record in the form of fauna, pollen, phytoliths, various stable isotopes, grit ingested by animals, and other forms of proxy data bearing information on the paleoenvironmental conditions just prior to and confronted by the earliest Americans. Last Canyon will thus complement other sites in the region, such as the rich fauna from Natural Trap Cave with other types of Late Pleistocene records. See "Research Supplement" below for more information on Last Canyon.

The last two pages of PiRL Notes contains pertinent information regarding field conditions and camping arrangements for the summer of 2011 as well as an application form for interested potential participants.

IN THE NEWS

GEORGE FRISON RECEIVES TWO AWARDS

American Quaternary Association (AMQUA) awarded George Frison the Distinguished Service Award (at right) for contributions he has made to Quaternary sciences. The award was presented at the 2010 AMQUA meeting on the University of Wyoming Campus.

The UW Alumni Association presented George Frison with the Medallion Award for outstanding service to the University. Frison received the award at Homecoming in November, 2010.

AMQUA FIELD TRIP TO MIDDLE PARK

The American Quaternary Association (AMQUA) meeting was held at the UW campus in Laramie in mid August of 2010. The meeting focused on late glacial rapid climate change, climatic reversal, and glacial retreats, perfect topics of interest to PiRL readers and supporters. The program of the conference should still be available on line at (http://www.amqua.org/publications/abstracts/amqua2010-abstracts.pdf) and the Field Guide is available at the Shlemon Center for Quaternary Studies at UW (http://faculty.gg.uwyo.edu/bshuman/Pubs/AMQUA_2010_FieldGuide.pdf).

Pre-and post conference field trips. The pre-conference trip to the Medicine Bow Mountains was led by Bryan Shuman (UW Geology/Geophysics department). The two day post-conference field trip led by Bryan Shuman and Marcel Kornfeld began in the Laramie valley (below left), visited North Park sand dunes and glacial features of the Sierra Madre (Park) Range, followed by visits to the highest and earliest known North American bison kill site in Middle Park (below right), as well as other Middle Park early Paleoindian localities. The latter included the elevationally highest Cody age bison kill (the Jerry Craig Site), the Barger Gulch Troublesome Formation procurement area, the Folsom components of Barger Gulch localities including Area B with a Folsom structure, and the Paleoindian components encased in the Barger Gulch alluvial terraces.

JUDSON FINLEY IN TENURE TRACK JOB

Judson Finley, our geoarchaeologist for the Bighorn region rock shelters, and former UW anthropology alumni, landed a tenure track job at the University of Memphis. Fortunately his research interests still lie in the Bighorn region and we look forward to working with him, there and elsewhere, for many years to come.

VOLUNTEER OF THE YEAR – PAUL PLUTA

Paul Pluta (at right) flew all the way out here from Temple University in Philadelphia to bust up a large roof fall piece in Last Canyon Cave that allowed placement of surveying equipment. Paul went back east briefly after the field season, but returned by the fall and took a position with Metcalf Archaeological Consultants in Eagle, Colorado.

STUDENTS-IN-THE-FIELD

Brigid Grund (far right) and Houston Martin (second from left) field co-directors during the 2010 field season after freeing the suburban from an overactive spring. (M. Kornfeld-left, A. Norton 2nd from right)

POST-DOCS IN OUR LABS

Pablo Messineo Co-authors Reports and Papers.
Pablo Messineo, last year's post-doctoral student from University of Olavarria in Argentina co-authored a paper at the Society for American Archaeology meetings with Mary Lou Larson and Marcel Kornfeld on the results of his Two Moon analysis. He also contributed to the 2009 technical report on the continuing study of Black Mountain Archaeological District. His Hell Gap faunal analysis will be included in planned upcoming publications.

Nicolas Naudinot Arrives from France.

Nicolas Naudinot (at right) arrived in our labs in Laramie on January 5, 2011. Nicolas is on the prestigious ***Fyssen Foundation*** post-doctoral fellowship and will remain at UW for a year. He has begun working on the Hell Gap Locality III (north) collection, the least studied of the Hell Gap localities. Nicolas specializes in northwestern French Mesolithic cultures (the Azilian) and his interest in working with the Hell Gap Site lies in comparing the late glacial to post-glacial transition on the two continents. Hell Gap is one of only a few localities that contain information on this transition at a single locale on the landscape.

International Cooperative Agreements.
Our internationalization efforts have expanded with new co-operative agreements with the University of La Plata in Argentina and the Novosibirsk State University/Russian Academy of Sciences-Novosibirsk Branch. An informal agreement with the Institute of History and Archaeology of the Russian Academy of Sciences in St. Petersburg has also been reactivated. Mr. Norbert Wasilik, a PhD candidate at UW will be analyzing collections in Novosibirsk and St. Petersburg for his dissertation in which he will compare technological differences and similarities between Late Paleolithic Siberian/Russian Far Eastern and Alaskan complexes. Other informal agreements are being finalized for Wasilik's studies at Astafiev Krasnoyarsk State Pedagogical University in Krasnoyarsk. More information on this will be forthcoming in the next year. At the same time arrangements are being made for a Russian student from Novosibirsk to be in our labs during mid-July and August for participation of students from the University of Zagreb at our 2011 field sites.

THE AVOCATIONAL ARCHAEOLOGY PROJECT
For the 75th Society for American Archaeology (SAA) Meeting in St. Louis Cathy Poetschat and Marcel Kornfeld organized a poster paper session on avocationals in archeology. The session was sponsored by the Council of Affiliated Societies, a group within the SAA that represents regional avocational groups. The posters featured biographies of avocationals that made contributions to archaeology, but in the process presented histories and structures of state or regional societies throughout the US. The biographies highlight the diverse group of citizens that are interested in and contribute to archaeology and the vast and critical contributions they have made to our field. The posters have been converted into papers which are available in draft form. We are exploring possibilities for publication. In the upcoming issues of the PiRL Notes we may occasionally feature some of the avocationals from the Wyoming poster or from nearby states.

The Wyoming Archaeological Society Begins (from the Wyoming Avocationals poster).
Ray Bentzen a dentist from Sheridan, Wyoming was one of the founding members of the Wyoming Archaeological Society in 1953. Bentzen, along with other Sheridan Chapter members, joined William Mulloy, the first archeologist on the University of Wyoming faculty, at his Glendo Reservoir excavations in June 1957 to learn archeological field techniques and carry on their own investigations. Bentzen and others carried on the first systematic excavations at Little Bald Mountain, publishing the results in Plains Anthropologist in 1963 (Bentzen 1963). Other investigations followed at the Bighorn Medicine Wheel, Kaufman Cave, Middle Fork shelters, and elsewhere.

The Hilman Family (Mr. and Mrs. Fred Hilman) provided the venue for the organizing meeting of the WAS. Like many other Wyoming rural residents and ranchers, the Hilman's came into frequent contact with prehistoric and historic artifacts and realized their value for the understanding of Wyoming's past. The family remains a vital part of Wyoming's archeological community.



The Hilman family, from left to right: Diane, Elaine, Zane and Fred-the first president of WAS).

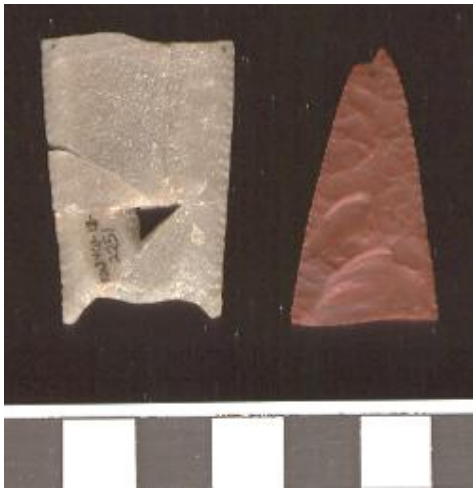
Other founding members of the WAS were: John McClintock, Margaret Powers, Pauline McIntosh (Yost)

FEATURED STUDENT RESEARCH
Hell Gap Structures.
Kele Johnson, a UW undergraduate, has been collecting spatial information on objects in the vicinity of the structures from the Folsom age Midland component of Locality II at the Hell Gap Site. Kele has completed the basic data collection and is in the process of creating a database so she can produce maps to analyze the distribution of objects within and surrounding the structure.

RESEARCH SUPPLEMENT (WHAT ARE WE UP TO?)

BIGHORN REGION
Southsider Cave, Rice Cave, and Other Studies. (Principal investigators: George Frison and Danny Walker) Analysis and write-up of a number or rockshelters investigated in the 1970s is progressing and nearing completion. These significant shelters have been a part of Rocky Mountain prehistory and folklore, being presented in various overviews and summaries of regional prehistory, but they have never been fully reported. The sites hold an incredible wealth of information about prehistoric cultures and peoples from late Paleoindian times, through the Archaic and later periods. These sites form the background for our investigations of Two Moon Shelter, BA Cave, Greyhound, Last Canyon, and elsewhere in the region.

Black Mountain Archaeological District (BMAD). (Principal investigators and collaborators: Marcel Kornfeld, Judson Finley, and George Frison; with students and post-docs: Matt Rowe-Indiana, Pablo Messineo-Olavarria, Karina Bryan-BLM, and Dori Ridenour)
Field work at the BMAD entered its 17th season. The focus in 2010 continued on BA Cave and Two Moon Shelter, in the former removing what we suspect are Late Paleoindian components and in the latter expanding the horizontal extent of the exposure of the Early Paleoindian levels. The excavations this year did not result in any surprises, however, the continuing analysis is beginning to yield results. The deeper cultural components in BA Cave are yielding significant quantities of bone allowing us to extend the previous interpretation of human paleodiets deeper in time. At this point we know there is a link in the past 4000 years between periods of poor environmental conditions (for example droughts) and the intensity of human subsistence pursuits. With the new samples we will be able to extend that back several thousand years. In Two Moon shelter the expansion of the horizontal extent of the excavations is allowing for the analysis of spatial distributions of artifacts which in turn is providing evidence of changing uses of the interior shelter space through time. At present all we can say is that space use differs in the Early and the Middle-Paleoindian components that seems to be at least partially controlled by large roof fall events that determine where early people accomplished their daily tasks. Continuing analysis also resulted in the discovery of a previously unrecognized small sliver of the second Folsom point (the Phosphoria chert specimen).



Folsom points from Two Moon Shelter, the Phosphoria piece is on the right.

IN AND OUT OF WYOMING
Middle Park Paleoindian Project (MPPP). (Principal investigators: Marcel Kornfeld and George Frison)
Field work in Colorado's Middle Park abated significantly after the major projects of the late 1990s and early 2000s. Over the past several years, however, we have made significant progress towards completing this early phase of the project in anticipation of designing future studies for the region. A number of thesis, dissertations, publications, and specialists' analyses have been completed. More significantly in the past two years Frank Rupp of the BLM's Kremmling Field Office has secured resources for completing illustrations, data bases, and laboratory analyses that will allow us to complete the publications for the current phase of the project.

The most recent analyses indicate that we have recorded over 400 chronologically diagnostic objects in Middle Park from at least 83 archaeological localities that contain a total of 116 Paleoindian components. This database is useful in comparing the Paleoindian occupation in Middle Park with other areas of the Rocky Mountains surveyed by our colleagues such as Bonnie Pitblado of Utah State University and Pegi Jodry of the Smithsonian Institution. Together with our earlier excavations at Upper Twin Mountain, Lower Twin Mountain, Jerry Craig, and Barger Gulch, we have a diverse array of Paleoindian activities represented that includes bison procurement, raw material extraction and transformation into tools, various camp sites, and temporary locations presumably for resource extraction. This body of data shows that Paleoindian occupation in Middle Park is old and continuous, only the Clovis period is not represented. The first Coloradoans of the high country apparently adapted early to the mountain basins and its resources, exploiting every ecological niche from the cold desert basin bottoms to the high alpine tundras of the continental divide.

Last Canyon Cave. (Principal investigators and collaborators: Marcel Kornfeld, Judson Finley, Thomas Minckley, Mark Clementz, and Mary Lou Larson; with students: Noah Berg-Mattson, Crystal Friese, Paul Haslehorst, Jonathan Hoffman, Houston Martin, and David Reid)
During the 2010 field season the goal of the project was to continue investigation of the 10,800 year old feature in the back of the shelter, the large pit feature with its associated sub-features towards the front, take high resolution samples for pollen and other paleoclimatological studies, and re-evaluate the stratigraphy of the shelter. We also recorded the surface site in the cul-de-sac below the shelter. Tipi rings reported in this area were recorded and mapped as were several hundred chipped stone artifacts. One of the rings contained a stone bead (at right).

A high school student David Reid and a geology graduate student Paul Haslehorst, working with our collaborators (Drs. Tom Minckley from Botany and Mark Clementz from Geology/Geophysics) identified a change in the level of grit in prehistoric sheep diet from the pre to post Last Glacial Maximum, a finding with paleoeclimatological implications. We continue to pursue studies with extant samples to shed more light on changing paleoclimates and paleoenvironments of the Late Pleistocene. In this regard one of this year's specimens is a caribou antler, only the third such specimen from this part of the Rocky Mountains and only one of two with an approximate date that indicates that caribou were present in this part of the Rocky Mountains at the end of the Pleistocene. The archeological record of the shelter continues to be sparse, but we recovered a large, thick minimally shaped, metate below the pit feature in front of the shelter. The metate seems to have been stored (cached) for later use as it was apparently intentionally placed upside down, possibly even buried or cached below the large pit feature.

Caribou antler fragment recovered in an approximately 13,000 year old layer at Last Canyon Cave.

To study the shelter we assembled an interdisciplinary team, including paleobotanist (Dr. Tom Minckley, UW Botany), paleontologists (Drs. Mark Clementz, UW Geology/Geophysics and Russ Graham, U. Penn.), geoarcheologist (Dr. Judson Finley, U. Memphis), and scholars from other institutions. To protect the site, the Bureau of Land Management gated the shelter. The protection came with a price, space in the small shelter precluded a place to set up survey equipment to record excavations, hence a bear size boulder had to be removed from the front of the shelter to allow for survey equipment (see Volunteer of the Year, above).

Recent Contributions to PiRL Research Efforts

Larry Amundson
Tyson Arnold
Dick Burgess
Allen Denoyer
Marcel Kornfeld
Mike McGonigal
Richard Reider
Terry Wilson

2010 Crews and Volunteers

This year's field and lab teams included a diverse group from throughout North America and Russia. The crew and volunteers, included undergraduate students from the University of Wyoming, University of Colorado at Boulder, Temple University in Philadelphia, and Fareast State University in Vladivostok, Russia, graduate students from the University of Kansas and Texas A&M, high school students from Colorado, and volunteers from Colorado and Wisconsin. To all we are extremely grateful for the success of our field projects. We particularly acknowledge Larry Amundson for picking up the kitchen tent pieces as well as the stored food as we roared into camp after a four day break following one in a series of summer windstorms that for yet another time took down our tent.

Volunteers and crews: Larry Amundson, Kristina Barger, Dick Burgess, Bob Godsoe, Brigid Grund, Mark Luzmoor, Houston Martin, Jeremy Meerkreebs, Gavin Norris, Alexandra Norton, Stephen Oskay, Paul Pluta, Olga Popova, Will Reynolds.

If you do not wish to receive PiRL Notes please let me know at: anpro1@uwyo.edu, or USPS: Marcel Kornfeld, Department of Anthropology, Department 3431, 1000 East University Avenue, Laramie, WY 82071, U.S.A.

Cover page artwork courtesy of Allen Denoyer

February 11, 2011

Dear Volunteer/Visitor,

This letter is to inform you about general conditions, arrangements, and schedules at the sites that will be investigated in the summer of 2011.

As usual, if you are volunteering, you are welcome to camp with us. We normally leave camp by 6:30 am, so if you want to go to the sites with us, please arrive before 6:30 am or the evening before. We return to camp around 6 pm. If you plan to use your own vehicle, all camps this year will be accessible with a 2-wheel drive.

Both Hell Gap and Last Canyon Shelter are at relatively low elevations (approximately 5000 feet, 1500 m for Hell Gap). However we will undoubtedly still get cold, near freezing temperatures at the start of the field season, so some heavy clothing is a must. Such weather can occur any time of the year in the Rocky Mountain region, but in June and early July we will almost inevitably have one such spell. In addition, it may be wet, so bring some cold and wet weather gear (waterproof boots, ponchos, change of socks, and other extra clothing). That also means a good sleeping bag, long underwear, warm parka, poncho, weather-proofed shoes, a tent that will keep you dry, and a few oversize plastic garbage bags to protect your belongings from moisture in your tent. Of course it is just as likely that the weather will be warm/hot and dry. In fact it will inevitably turn so as the season progresses, so plan for both types of weather conditions and you'll be safe.

Exposure to the elements at high altitudes (although Hell Gap is just at 5000' – 1500 m, this is still high altitude as far as solar insolation is concerned) also requires plenty of sunscreen, lip gloss, hats, etc. Hot weather may require salt pills and definitely a water container (a 1 gal. bottle or canteen is recommended). Mosquitoes, gnats, ants, and other more insidious creatures are frequent visitors so be sure to bring insect repellent if desired. Small tents get tiresome after a while, so if you can spring for a tent you can stand up in and put a cot in, it's a good idea, but keep in mind that it has to be **wind worthy** (very large tents are not wind worthy). And by all means get real stakes for your tent, the stakes that come with your tent (any tent) from the store are worse than WORTHLESS, get 12" stakes even for small tents. Think of your comfort while camping. After working all day, a little comfort may be desirable. Other odd items that are a good idea include: solar shower (we will provide a shower enclosure for privacy at all camps), flashlight, extra batteries, water container (at least three gallons). We have running water at all camps this summer, but the wells are not bottomless and conservation is a must.

Please fill out the PiRL Volunteer Application Form (next page) and mail it to us as soon as possible.

See you in the field, call if you have any questions: Marcel Kornfeld (307) 766-5136 or e-mail anpro1@uwyo.edu.

PiRL VOLUNTEER and CREW APPLICATION FORM*

(One per applicant for each project, please)
____ Volunteer ____ Crew (check one)

Name: _____
Address: Street _____
City _____ State _____ Zip _____
Phone: _____ Cell Phone_____ E-mail: _____

I am interested in the _____ project (Please indicate the project in which you wish to participate), between _____ month ____ day and _____ month ____ day, _____ (year).

Volunteers are asked to participate for at least five days. If you wish to volunteer for multiple projects please copy this form and fill out a separate form for each project.

Will you need transportation from Laramie to the field site? Y___ N___

Do you have medical insurance? Y___ N___

Do you have any medical problems we should be aware of? Y___ N___

We may be in some isolated places without access to emergency services and it is critical for us to plan as much as possible; please describe your medical problems below:

If you have an expected medical condition that might require immediate treatment (for example allergic reaction to bees), please describe in detail below and on the back of this sheet what we need to do:

Would you be willing to pay $15/day for the time you spent as a volunteer to help support our projects? Y__ N__

Food, transportation, camping facilities and other amenities are provided for everyone in the field.

* This application form is required for your participation in the project, please mail it to:

Marcel Kornfeld
Department 3431
1000 East University Avenue
Laramie, WY 82071-3431

Volunteers: Please mail or email this form at least two weeks before the beginning of any project.

By submitting this form you authorize the University of Wyoming, its agents, successors, and assigns, to use and reproduce photograph(s) in which you appear in official UW publications, and I waive any right that I may have to inspect and approve said photograph (or any copy that may be used in connection therewith) or to receive compensation for the use of said photograph.

You are welcome and encouraged to take photographs in the field, but you must leave a copy (with file names meaningfully labeled) with the principal investigator or project director before leaving the field.

Because you may have to drive a University vehicle in an emergency we strongly recommend that you acquire an **ADDITIONAL USE OF NON-OWNED VEHICLE COVERAGE** from your automobile insurance carrier.