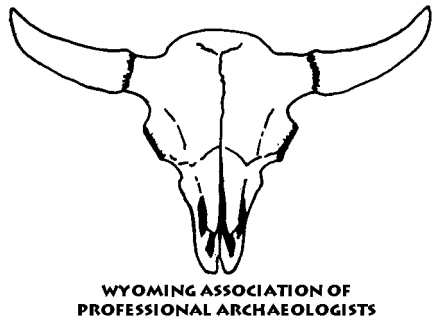
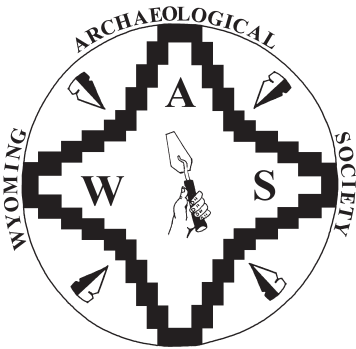


**2014 ANNUAL MEETING**  
**WYOMING ARCHAEOLOGICAL**  
**SOCIETY**  
**WYOMING ASSOCIATION OF**  
**PROFESSIONAL ARCHAEOLOGISTS**



**PROGRAM AND ABSTRACTS**  
**PINEDALE, WYOMING**  
**MAY 2-4, 2014**

# 2014 WYOMING ARCHAEOLOGICAL SOCIETY/ WYOMING ASSOCIATION OF PROFESSIONAL ARCHAEOLOGISTS ANNUAL MEETING PAPERS AND ABSTRACTS

## ABSTRACTS

Adams, Richard (University of Wyoming, Colorado State University), John P. Laughlin (Wyoming State Historic Preservation Office), and Halston F.C. Meeker (Colorado State University)

### ***MORIAH RANCH ARCHAEOLOGY***

The State of Wyoming recently acquired a 22 square mile parcel known as the Moriah Ranch in the Laramie Range. The ranch, located where the Rocky Mountains meet the Northwestern Plains, was archaeologically unknown until a 2013 Wyoming Cultural Trust Fund grant allowed students, volunteers, and professional archaeologists to spend ten days sampling the ranch's cultural resources. Crews found prehistoric sites in every one of the ranch's 22 sections. Significant surface artifacts range in age from Hell Gap projectile points to Historic metal arrowheads. Our project featured collaboration among the Wyoming Office of State Lands and Investments, the Wyoming State Historic Preservation Office, and the University of Wyoming's George C. Frison Institute. We conducted public outreach, began training future generations of Wyoming archaeologists, and demonstrated the educational potential of the Moriah Ranch. Our results will help State of Wyoming land managers to make informed decisions about this important parcel of public land.

*Brown, Leslie (University of Wyoming)*

### ***ISOTOPIC EXAMINATION OF HUMAN REMAINS ASSOCIATED WITH THE KORELL-BORDEAUX SITE (48GO54): $\delta^{13}C$ AND***

## **δ18O FROM BONE APATITE**

*Bone apatite from human remains (N=17) recovered at the 48GO54 site in Goshen County during the 1980 and 2009 field seasons was analyzed using stable carbon and oxygen isotope methods. Patterns related to the geographic mobility and overall sustenance sourcing of the members of the population during their final decade of life are detailed. Remains stained with degraded copper alloys were examined through the same procedural methods and differences in data are explored. Avenues for additional research at this site and similar sites are presented.*

*Burgess, Cher (Bearlodge Ranger Distric, U.S.F.S.) and David Porter (Bearlodge Ranger Distric, U.S.F.S.)*

## **COOK LAKE FACILITY MAINTENANCE: A CASE STUDY POSTER PAPER**

A proposal by the Bearlodge Ranger District regarding maintenance of a dam originally constructed in 1941 was used as an illustration of how the Section 106 process works. Resurvey of the dam, along with a search of past archaeological projects in or near the recreation area, documented an absence of historic properties within the project's Area of Potential Effect (APE). The environmental setting includes five landslides mapped in the proposed project area. No historic properties have been documented on these landslides leading to the suspicion that preservation of cultural materials was affected. Historic newspapers used to supplement agency records and photographs documented a lack of integrity in the earthen dam due to the size and frequency of past repairs. The Wyoming State Historic Preservation Office concurred with the agency's recommendation of "no historic properties affected" allowing the project to proceed as planned.

*Eckerle, William (Western GeoArch Research), Andrea Brunelle (University of Utah Records of Environment and Disturbance Lab), Vachel Carter (University of Utah Records of Environment and Disturbance)Lab), Ken Peterson (University of Utah Records of Environment and Disturbance Lab), and Mitchell Power (University of Utah/Utah Museum of Natural History Garrett Herbarium)*

## **PALEOENVIRONMENTAL ANALYSIS OF A NEW LAKE CORE IN THE GREATER YELLOWSTONE ECOSYSTEM AND ITS IMPLICATIONS FOR ARCHAEOLOGICAL INTERPRETATION**

Sediment cores recovered in 2010-2011 from Soda Lake on

the western slope of the Wind River Mountains yield a laminated, continuous, high-resolution paleoclimate record that spans the last ~14,000 years. Documentation and analysis of 350 cm of sediment-core segments includes GeoTek imagery, magnetic and density readings, pollen and diatom analysis, carbonate loss-on-ignition, charcoal counts, tephra ID, and radiocarbon assay. Twenty five <sup>14</sup>C dates, one plutonium assay, and Glacier Peak tephra provide decadal-to-centennial sample-intervals, thus yielding exceptional chronostratigraphic control. The analysis allows paleoenvironmental reconstruction of vegetation, climate, and fire during the late-glacial and Holocene periods. Climate proxy data is compared to a Reid Bryson macrophysical climate model. Paleoenvironmental indicators are used to predict temporal changes in food resource availability for prehistoric groups.

*Elder, William (Central Wyoming College)*

*THE TRAIL TO SAND CREEK: A COLORADO CAVALRYMAN'S DIARY OF CAMPSITES AND SKIRMISHES ALONG THE ROAD TO INFAMY*

**POSTER PAPER**

Early Wyoming pioneer James Carr was a volunteer in the 3rd Colorado Volunteer Cavalry in late 1864. During his service he kept a detailed diary describing their marches and the locations of their campsites. On October 10, he described the massacre of a small band of Cheyenne led by Big Wolf encamped about ten miles southwest of Denver. Later, he described, camp by camp, the Cheyenne and Arapaho trail they followed from Denver to Sand Creek. This poster includes diary excerpts and locates as precisely as possible the sites of those camps using historic and modern maps and GIS technology.

*Grunwald, Allison M. (University of Wyoming)*

***CARTER/KERR-MCGEE: A FAUNAL ANALYSIS THIRTY YEARS IN WAITING***

Carter/Kerr-McGee, a stratified Paleoindian age site in north-eastern Wyoming's Powder River basin was excavated in 1977. Several Paleoindian complexes are present in the stratified deposits, however, the Cody component, a massive bison bone bed is the subject of my presentation. Although reported on by George Frison in 1984, a complete zooarchaeological analysis has never been completed and most faunal specimens remain in plaster

casts which enabled their removal from the field. Although plaster casting allowed for removal and transport back to the lab of a very fragmented (due to overburden crushing) assemblage, the next 35 years of storage with several mandated moves were not conducive to preservation. Currently, the documentation and excavation of the bone casts are underway, and this paper presents the preliminary results of the first thorough faunal analysis of the Cody component.

*Holt, Nico O'Neal (Central Wyoming College)*

**THE LIGHTNING CREEK BATTLEFIELD: SITE OF WYOMING'S  
"LAST INDIAN FIGHT"**

In 1903, a sheriff's posse of men who wanted to rid Wyoming of Indians waited under a deep cutbank along Lightning Creek in eastern Wyoming as a wagon train of Sioux families slowly approached from the west on their way home to Pine Ridge. A shot was fired by someone, followed by volleys, and old Lakota men and teen-aged girls fell dead or wounded. The sheriff and a deputy were also killed. Surviving Indian men were charged with murder, the event was debated in Cheyenne, in the White House and on the floor of Congress, then largely forgotten, except by some locals who, during the 1950s and 60s, used bullet-riddled Sioux remains as party decorations. The location of the isolated battlefield was also forgotten, except by a few ranchers. In the summer and fall of 2013, Central Wyoming College archaeology students located and recorded the site in an attempt to better understand what transpired there.

*Johnson, Katie (Central Wyoming College)*

**CANYON CREEK: A TIE HACK'S TALES; A 2013 REISS MEMORIAL SCHOLARSHIP PROJECT**

The world of the Rocky Mountain tie hack has become obscured by time. Few publications exist about their lives, few of the archaeological sites that document their existence have been recorded, and few people are aware of their contributions to 19th and early 20th century America. This part of our history is disappearing along with the older generation that still remembers those days. This paper presents the results of archaeological recording of a previously unknown tie hack community and related sites near Union Pass in the Wind River Mountains. The site was located with assistance of Joe George who lived there in the 1930s and provided information about the archaeological remains and stories about life in that community and the industry.

*Kornfeld, Marcel, Mary Lou Larson, and George C. Frison (PIRL, University of Wyoming)*

**HELL GAP REINCARNATION AT 25**

The first Hell Gap investigations ended in 1966, nearly 50 years ago. Twenty-five years later the second round of studies began with the donation of a part of the site to the Wyoming Archaeological Foundation and outright purchase of some surrounding parcels. The result has been phenomenal. This presentation is a progress report of the past 25 years at Hell Gap (1988-2013), including improvements to the facilities, results of investigations, as well as future plans and prospects.

Laughlin, John P. (Wyoming SHPO), Richard Adams (Colorado State University), Jessica Starks (University of Wyoming), and Halston Meeker (Colorado State University)

**TEN THOUSAND YEARS IN TEN DAYS-THE MORIAH RANCH ARCHAEOLOGICAL PILOT PROJECT  
POSTER PAPER**

Purchased by the state in 2012, the 12,947.27 acre Moriah Ranch in southeast Wyoming is managed for the benefit of Wyoming's school children and other designated beneficiaries. In 2013, the Wyoming State Historic Preservation Office, with approval and support from the Office of State Lands and Investments, collaborated with Colorado State University and the University of Wyoming to apply for a Wyoming Cultural Trust Fund grant that would be used to perform 10 days of archaeological reconnaissance and student instruction on the Moriah Ranch. Work on only a fraction of the ranch resulted in the recordation of over 30 new sites as well as countless isolates. Presented here is a visual record of the variety of artifacts recorded during the ten day session.

*Mackie, Madeline (University of Wyoming)*

**WYOMING HAND SPRAYS: INSIGHTS INTO THE CREATORS OF THREE ROCK SITES JOHNSON COUNTY, WYOMING**

Demographics are commonly studied among ethnographic hunter-gatherer populations but often neglected archaeologically due to the difficulty in directly identifying age and sex from archaeological materials. Rock art hand sprays offer an opportunity to determine the demographics of rock art creators. An experimental hand spray reference collection from Laramie, Wyoming was used

to create equations that estimate age and sex. These equations were then applied to 78 undated partial and complete hand sprays from three rock art sites in Johnson County, Wyoming. The demographic make-up of artists offers insight into possible exclusion during creation and use of the rock art sites.

*Miller, Mark E. (Wyoming State Archaeologist's Office); Clint Gilchrist (Sublette County Historical Society); Danny N. Walker (Wyoming State Archaeologist's Office); J.D. "Sam" Drucker (Upper Green River Basin Chapter, WAS)*

### **ARCHAEOLOGICAL SEARCH FOR THE 1859 LANDER/BIERSTADT CAMP ALONG THE LANDER CUTOFF OF THE OREGON TRAIL IN SUBLETTE COUNTY.**

In March 2013, the Sublette County Historical Society (SCHS) and the Museum of the Mountain Man received two original glass wet plate, positive image, stereograms taken by Albert Bierstadt in 1859. These stereograms were donated to the society by local amateur historians Clint Gilchrist and Dawn Ballou. One of these, Plate #69, appears to be mislabeled as having been taken in Salt River Valley near the Wyoming/Idaho border and is believed instead to be a wagon camp along the Lander Cutoff of the Oregon Trail near a tributary of the Big Sandy River in Sublette County, Wyoming. A one day archaeological field investigation using metal detection transects and Global Positioning Systems (GPS) recorded a sample of the site to establish the presence of artifacts consistent with a mid-nineteenth century wagon/tent camp. The field investigations took place on July 30, 2013, and results are reported here.

Plavsic, Senka (University of Wyoming).

### **VISUAL CHANGES AS MEANS TO DETECTING HEAT TREATMENT IN CHERT AND QUARTZITE**

Ethnographic and archaeological records show that pretreatment of stones by thermal alteration before flintknapping was common in prehistory and practiced in various parts of the world. If done on proper stones and with care, heat treatment will produce stones with improved flakeability. However, heat treatment, besides improved flakeability, produces some side effects. Morphological changes of the stone artifact are likely to be used as the preliminary indication of thermal pretreatment. This technique produced varying success in identification of intentional thermal alteration in raw materials intended for flintknapping. This study was conducted on

quartzite and five different kinds of chert originated from all over the United States and it aimed specifically at defining visual changes in these particular kinds of stones.

*Schroeder, Bryon (University of Montana)*

***THE 45TH ANNIVERSARY OF THE SHIRLEY BASIN EXCAVATIONS. WHAT WE KNEW THEN AND WHAT WE KNOW NOW***

Over the last couple of years I have talked about the role the Shirley Basin Lodge site can play on both a local and regional level. I have argued the site can aid in our understanding of variability in Late Prehistoric settlement patterns of not only the central Rocky Mountains but the larger Great Basin culture area. Beyond these brief talks the conversation and research on the site has focused exclusively on the population migration known as the Numic Spread which at its core focuses on how Shoshone Groups migrated to what is now Wyoming. I will briefly touch on these issues again in this talk, but I would like to use this talk to focus on problems in potential research at the site. This will focus on past interpretations of the site and the limitations of the current collection in aiding new research. I will conclude with goals for future research as well as collaborative efforts that I argue can restore this site back to a national conversation.

*Servetnick, Christina (University of Wyoming)*

***TOPOGRAPHIC POSITION INDEX: DEFINING LANDFORMS FOR ARCHAEOLOGICAL RESEARCH  
POSTER PAPER***

Sites have been deliberately placed in relationship to their environment: near water, at a high point, protected from the wind, and so on. With ArcGIS and similar programs, we are able to discern the relationship between archaeological sites and geographical features across a large landscape, allowing patterns to be seen throughout a cultural area. One method for defining topographic features that is potentially of great use for archaeologists is the Topographic Position Index (TPI). Using slope and a fairly simple algorithm, or a free, downloadable add-on to ArcGIS, the user can easily classify terrain into a variety of categories such as ridge, valley, or steep slope. The TPI can be used at any scale and the categories can be adjusted, making it ideal for a variety of conditions and uses. The Topographic Position Index offers archaeologists an easy, repeatable method for determining the topography of a large



area, giving us new insight into the decisions behind the placement of cultural sites.

*Servetnick, Christina (University of Wyoming)*

### **THE EDEN-FARSON SITE**

The Eden-Farson site (48SW304) is a campsite located on the western edge of the Killpecker Sand Dunes in Sweetwater County, Wyoming. The main activity at the site was the final processing of pronghorn killed during a communal hunt. The site includes the largest known pronghorn bone bed in North America, with at least 212 animals represented. A single radiocarbon date places occupation of the site at 230+/-100 radiocarbon years before present, which is at the cusp of the Protohistoric Period, a time of profound cultural changes for Native Americans. Site excavations revealed the presence of a minimum of 12 lodges with workshop areas, hearths, and a wealth of artifacts. The artifact assemblage from the site has been the focus of several studies, and additional archaeological materials likely remain at the site. Due to the unusual nature of the site, with its extensive pronghorn assemblage, numerous lodge areas, and the Late Prehistoric/Protohistoric Period date, as well as the likelihood of finding additional features and artifacts, the Eden-Farson site is an important site to western Wyoming prehistory.

*Shimek, Rachael Lea (University of Wyoming)*

### **CANINE MULTI-PURPOSE TOOLS: DOMESTIC DOG USE ON THE NORTHERN GREAT PLAINS**

Dogs were the earliest domesticated animal in the New World. They accompanied the original colonizers of the North American continent on their initial journey and remained important to indigenous groups even after the introduction of other domesticates such as the horse. On the Northern Great Plains, dogs were integral to the livelihood of many different groups. They were the original multipurpose tool and were used as beasts of burden, hunting aides, sources of food and raw materials, alarm systems, camp custodians, and of course, companion animals. They also held ritual and symbolic significance for many groups. This paper presents some of the different ways that Plains Indian groups used dogs and integrated them into their societies. Accounts from European observers and ethnographic studies, along with scant archaeological evidence, are used to demonstrate the importance of dogs to the

indigenous societies of the Great Plains.

*Stanford, Dennis (Smithsonian Institution)*

**THE FIRST AMERICANS: ALTERNATIVE HYPOTHESIS**

Banquet Speaker

[no abstract]

*Stapely, Jordan (Central Wyoming College)*

**CULTURE CHANGE IN CAMBODIA**

If archaeology is done right, it is cultural anthropology. This paper looks at the archaeology and cultures of Thailand and Cambodia as observed during a six month cultural immersion journey backpacking in Southeast Asia. The primary theme is the collision of cultures. Indian and Chinese influences shaped local cultures for thousands of years, resulting in major kingdoms and traditions such as seen at the famous Angkor Wat and the Plain of Jars. More recent eastern and western influences affected development of the modern Thai, Laotian, and Khmer identities. Today, urban business centers of glass and steel are part of the global economy. Meanwhile, in rural areas, ancient but still vibrant traditional communities are struggling to survive being overrun by thousands of American and European college students with “spring break attitudes.” Signs are posted in English pleading with visitors who sometimes outnumber locals to respect local customs, to wear clothes, and not do drugs or appear drunk in public which set bad examples for local children. Fueled by the cheapest alcoholic beverages imaginable, young people from developed nations seeking exotic backdrops for their parties – a lucrative tourism component of globalization – threaten to degrade or destroy beautiful Asian cultures and archaeological remains from the past.

*Wiener, Bridget, Sarah Jacobs, Rachael Shimek, Kelsey Knox, and David Halperin (University of Wyoming)*

**THE 2013 SEASON AT THE HELL GAP SITE**

**POSTER PAPER**

This poster presents the results of the field work accomplished at the Hell Gap site during the 2013 field season. We describe the facility improvements, excavation areas, as well as the recovered artifacts. During the 2013 field season the excavation expanded eastward from the Witness Block, where early Paleoindian deposits were left unexcavated at the end of the 1960 field studies. Notable

finds from this season include flake and core refits and a mule deer tooth row. These add significant support for faunal exploitation as well as technological activity and site integrity questions. Additionally, the data accumulation relevant to site formation processes is placed in context of long term investigations of the site and implications are discussed.