

NEW MEXICO ARCHEOLOGICAL COUNCIL 2011 FALL CONFERENCE

**Pre-Ceramic Hunters, Foragers, and Early Farmers in New Mexico**

**Hibben Center, University of New Mexico, Albuquerque  
Saturday, November 12, 2011**

**Co-sponsored by the Maxwell Museum of Anthropology, UNM  
*Subject to change before or during the conference.***

**Preliminary Event: Thursday, November 10, 2011**

7:00–9:00 P.M. Public Presentation: “Early Farming and the Fate of Archaic Hunter-Gatherers in the Albuquerque Basin.” Jim Railey discusses the coexistence of mobile hunter-gatherers and early farmers during the Late Archaic period. Free event. Hibben 105, UNM main campus.

**Saturday, November 12, 2011**

8:00–9:00 A.M. On-site registration; continental breakfast (Hibben Atrium)  
8:00–9:00 A.M. NMAC Business Meeting (Hibben 105)

**PowerPoint Presentations (Hibben 105)**

9:00–9:05 A.M. Opening Remarks

9:05–9:25 A.M. *A Report of the Comprehensive Analysis of Paleoindian Cultural Materials Excavated from the Sites that Comprise Blackwater Draw Locality 1, the Clovis Site* (George T. Crawford, Blackwater Draw National Landmark)

9:25–9:45 A.M. *Late Paleoindian Projectile Point Typology: A Consideration of the Firstview and Cody Complexes in Eastern New Mexico and Beyond* (Cheryl Fogle, University of New Mexico)

9:45–10:05 A.M. *The End of the Beginning: Late Paleoindian Parallel-Obliquely Flaked Points in New Mexico* (Bruce Huckell, University of New Mexico)

10:05–10:25 A.M. *The Water Canyon Paleoindian Site: Paleoenvironmental Inferences for the Pleistocene-Holocene Transition* (Robert Dello-Russo, Museum of New Mexico, Office of Archaeological Studies)

**10:25–10:45 A.M. BREAK**

10:45–11:05 A.M. *Late Paleoindian and Archaic Foraging Technology in the Northern Rio Grande Valley, New Mexico* (Bradley J. Vierra, Statistical Research Inc.)

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11:05–11:25 A.M. *Pre-Ceramic Occupation of the Southern Chuska Valley, Northwest New Mexico* (Timothy M. Kearns)

11:25–11:45 A.M. *Early Agricultural Settlements in the Big Burro Mountains of Southwestern New Mexico* (Christopher A. Turnbow, New Mexico Gas Company)

11:45 A.M.–Noon QUESTIONS AND DISCUSSION

**Noon–1:40 P.M. LUNCH**

1:40–2:00 P.M. *Central Rio Grande and Rio Puerco Spear and Atlatl Technologies as Exhibited at LA 46316* (Ron Fields, University of New Mexico)

2:00–2:20 P.M. *3,000 Years of Archaic Architecture—A Short History* (Matt Schamder, Albuquerque City Archaeologist)

**2:20–2:40 P.M. BREAK**

2:40–3:00 P.M. *Late Archaic and Early Farming Along the Rio Grande in the Albuquerque Area: Recent Discoveries Along Interstate 25* (Cherie K. Walth and Jim A. Railey, SWCA-Albuquerque)

3:00–3:20 P.M. *Interpreting Site Function and Settlement Context from Lithic-Assemblage Variability: A Study of Four Late Pre-Ceramic Assemblages from New Mexico* (Jim A. Railey, SWCA-Albuquerque)

3:20–3:45 P.M. ADDITIONAL QUESTIONS AND DISCUSSION

**Poster Presentations (Hibben Atrium, All Day Saturday, Nov. 12)**

*Burned Area Emergency Response (BAER): Archaeology and Fire at Carlsbad Caverns National Park* (Robert Z. Selden, Jr., Texas A&M University; Leigh A. R. Cominiello, University of New Mexico; Joel P. Lennen, New Mexico State University; David W. Kayser, and Richard Gatewood, National Park Service)

*Early Farming and the Fate of Archaic Hunter-Gatherers in the Albuquerque Basin* (Jim A. Railey, SWCA-Albuquerque)

*Early Intensive Farming in the Hondo Valley, Southern New Mexico* (Jim A. Railey, SWCA-Albuquerque)

*Keystone in Context: A Significant Middle Archaic Site in the Lower Rio Grande Valley* (Bradley J. Vierra, Statistical Research, Inc.)

*Late Archaic/Early Agricultural and Early Formative Period Lifeways in the Non-Riverine and Riverine Settings of Southern Arizona* (Bradley J. Vierra, Statistical Research Inc.)

*Pre-Ceramic Sites at Carlsbad Caverns National Park, New Mexico* (David W. Kayser and Sam Denman, National Park Service)

*Sandy Rise: A New Look at Basketmaker II in the Western San Juan Basin* (Jim A. Railey, SWCA-Albuquerque)

*The Archaic Occupation at Four Sites in Southwestern New Mexico* (Timothy M. Kearns)

### **ABSTRACTS: POWERPOINT PRESENTATIONS**

#### **A Report of the Comprehensive Analysis of Paleoindian Cultural Materials Excavated from the Sites that Comprise Blackwater Draw Locality 1, the Clovis Site**

*George T. Crawford, Blackwater Draw National Landmark*

To date, there has been only one comprehensive attempt to describe eight decades of research at the Clovis site. No publication documents the extensive work, massive destruction by mining, cultural materials, unique cultural features, and extensive faunal record preserved at the Locality. A complete evaluation of the material and documentary collections of the Clovis Site was undertaken beginning in 2009. Much of the data from the collection is, as yet, unpublished while a small portion has been analyzed and republished in various forms since discovery. A fairly complete lithic analysis was, for the first time, undertaken for the entire collection representing the many cultural sites that make up the Blackwater Draw Locality 1. Supplemental to this, many osseous tools were recorded and analyzed and hint at a major component of a tool kit we know very little about. Current analysis of the materials and the context in which they were deposited imply a number of diverse activities on the landscape surrounding the central lake feature. As there are no lithic raw materials in the neighborhood of the Locality, the sources of the materials used for tools serve as a map of travels across and beyond the Llano Estacado. This brief paper does not attempt to explain everything learned from this analysis but serves to illuminate data that has lain in relative obscurity for many years.

#### **Late Paleoindian Projectile Point Typology: A Consideration of the Firstview and Cody Complexes in Eastern New Mexico and Beyond**

*Cheryl Fogle, University of New Mexico*

The Cody complex of the Late Paleoindian period includes Eden and Scottsbluff projectile points that are widely distributed across the North American Great Plains. Later Wheat defined two more projectile point types—Firstview and Kersey—which, together with the existing San Jon type, they were assigned to the Firstview Complex. Wheat's Firstview Complex was described as the Central and Southern Plains equivalent of the Cody Complex on the Northern Plains. The geographic division of Cody and Firstview is not accepted by all researchers; Bradley argued that the Firstview and Kersey types are technologically identical to the Eden and Scottsbluff types. I

addressed this typological problem by analyzing projectile points from 12 sites (four Firstview and eight Cody) in New Mexico, Colorado, and Wyoming. The four sites that Wheat included in the Firstview Complex are: Blackwater Draw (LA 3224) and San Jon (LA 6437), in New Mexico, and Olsen-Chubbuck (5CH3) and Jurgens (5WL53) in Colorado. Statistical procedures such as t-test and ANOVA showed that metric variables were not significant at the ninety-five percent confidence level, and analysis of qualitative attributes yield similar results. Since technological attributes of projectile point assemblages from the Southern Plains match those of Cody Complex assemblages on the Northern Plains, the Firstview Complex, including the Firstview and Kersey types, has no utility in late Paleoindian systematics.

### **The End of the Beginning: Late Paleoindian Parallel-Obliquely Flaked Points in New Mexico**

*Bruce B. Huckell, University of New Mexico*

Traditionally the Cody Complex has been viewed as the last of the Paleoindian cultural complexes in New Mexico. However, an on-going inventory demonstrates that projectile points very similar to the Jimmy Allen/Frederick type are present from locales across the state. Results of the study to date are presented, beginning with the geographic/environmental distribution of these distinctive parallel-obliquely flaked points. Examination of flake scar patterning reveals shared technological consistencies in manufacture among all of the documented specimens. Provenance studies suggest some patterning in lithic material source use and movement within central New Mexico, suggesting complementary exploitation of a range of biotic communities. Although still in progress, this research demonstrates a widespread, post-Cody Complex Paleoindian occupation in New Mexico.

### **The Water Canyon Paleoindian Site: Paleoenvironmental Inferences for the Pleistocene-Holocene Transition**

*Robert Dello-Russo, Museum of New Mexico, Office of Archaeological Studies*

Archaeological testing at the Water Canyon site (LA 134764) has revealed the presence of a buried wet meadow deposit that existed for six thousand years over the Late Pleistocene - Early Holocene transition. As an archive of paleoenvironmental proxy data and chronometric data, the wet meadow deposit enables us to glimpse the vegetational community of the Paleoindian era and, by extension, the dramatic change in climate that ensued at that time.

### **Late Paleoindian and Archaic Foraging Technology in the Northern Rio Grande Valley, New Mexico**

*Bradley J. Vierra, Statistical Research Inc.*

A variety of foraging technologies were developed to cope with long-term changes in hunting strategies and tactics in the northern Rio Grande valley. Some Late Paleoindian points were primarily designed for penetration efficiency while implementing an intercept hunting tactic in open grasslands; however, others appear to exhibit some characteristics that are similar to

Early Archaic points. Early Archaic points represent a shift towards point durability that may be related to changes in hunting tactics that involved encounter hunting in more varied settings and the increased potential for target misses. In contrast, Late Archaic points exhibit a range of morphological and technological types. The use of a few generalized point types, and low tool replacement rates due to resharpening during the Early and Middle Archaic, was now replaced with a diversity of point types, greater penetration efficiency, high tool replacement rates, with little blade resharpening to extend tool use-life. Long-term changes in Late Archaic dart projectile point design involving increasing penetration efficiency eventually culminated in the use of the bow and arrow.

### **Pre-Ceramic Occupation of the Southern Chuska Valley, Northwest New Mexico**

*Timothy M. Kearns*

Archaeological investigations have demonstrated an intensive occupation of the southern Chuska Valley, a subregion of the San Juan Basin in northwest New Mexico, during the Basketmaker III through Pueblo III era. The same investigations have documented a less robust record of pre-ceramic occupation in the valley. The early settlement was ephemeral and sporadic and the archaeological record is obscured by deeply buried site settings. This presentation reviews the current status of the archaeological evidence for Paleoindian and Archaic groups in the study area and the subsequent colonization by early Basketmaker II agriculturalists.

### **Early Agricultural Settlements in the Big Burro Mountains of Southwestern New Mexico**

*Christopher A. Turnbow, New Mexico Gas Company*

Despite a growing body of data on Archaic period food production in the American Southwest, the transition from foraging to farming in southwestern New Mexico was not well known until a 1998 highway archaeology project in Grant and Hidalgo counties. Sponsored by the New Mexico State Department of Transportation, excavations along New Mexico 90 revealed the remains of three substantial Late Archaic/Early Agricultural period settlements dating from 810 BC to AD 120. Supported by a mixed farming, foraging, and hunting economy, these small residential occupations reflect reduced mobility; considerable labor investment in the construction of large storage pits, structures, and mortuary facilities; and evidence of broad trade networks in shell and obsidian.

### **Central Rio Grande and Rio Puerco Spear and Atlatl Technologies as Exhibited at LA 46316**

*Ronald C.D. Fields, University of New Mexico*

In 1949, an archaeological sample of one atlatl handle, 500 atlatl dart fore-shafts and nearly 480 dart main-shaft was recovered from LA 46316 by the University of New Mexico's Archaeological Field School. Additionally, over one hundred and ten projectile points and numerous rabbit sticks and other perishables were also recovered. Sigfred Sandberg's analysis (1950) per level revealed that both arrow and dart technology were contemporaneous throughout the deposits but existed in different frequencies. This is a preliminary assessment of dart

technology represented at LA 46316. This presentation will show the manufacturing techniques of darts, the paleo-ethnobotanicals used, the decorative crests on both dart main-shafts and fore-shafts, feather lengths employed, the different types of darts used, and reveal the 28 projectile points/or projectile point fragments that are still in their original hafts. The author will also reveal the data potential that exists and the importance of dating the materials to answer the research question - how late did spear and atlatl technology persist in the American Southwest.

### **3,000 Years of Archaic Architecture—A Short History**

*Matt Schamder, Albuquerque City Archaeologist*

Archaeological investigations in northern Rio Rancho have uncovered very important mid-Archaic to late Archaic sites which include a substantial number of structures or dwellings. Results of four data recovery projects encompassing 2,865 acres and 41 sites investigated from 1990 through 2009 will be highlighted. These projects identified 31 Archaic period structures dating from 2970 BC to AD 235. Six other structures from the same time span were also excavated in the Santa Fe area. The architectural details of these structures will be discussed from an evolutionary perspective, as will settlement systems and long term land-use patterns. It will be shown that relatively little change occurred with respect to architecture, and that land-use patterns begin to reveal some intensity of site occupation (midden formation) in some areas during the late Archaic. These results form a strong background of relative cultural stability against which to compare rapid scales of change in architecture and technology that occurred in the ensuing several centuries.

### **Late Archaic and Early Farming Along the Rio Grande in the Albuquerque Area: Recent Discoveries Along Interstate 25**

*Cherie K. Walth and Jim A. Railey, SWCA-Albuquerque*

In 2008, SWCA excavated six sites along Interstate 25, within Sandia Pueblo lands. The sites are positioned atop the upland bluff edges immediately above the Rio Grande floodplain. Three of the excavated sites contained the remains of Late Archaic occupations. These include a small Armijo-phase component at LA 123288, with the two other sites (LA 123289 and LA 123291) containing the remains of En Medio-phase pit structures, with an especially intensive occupation at LA 123291. Both sites yielded both wild plants and maize, with LA 123291 producing evidence of intensive, maize-based farming, and micro-floral remains from ground-stone milling tools suggesting that both maize and aquatic roots were processed with these implements. These data contribute to a growing body of evidence of late pre-ceramic, farming-based communities within the river valleys of the Albuquerque Basin. In addition, faunal evidence from LA 123291 (both skeletal remains and protein residues) indicates reliance on both rabbits and larger game, and suggests that big-game hunting was probably staged and carried out directly from this site, an inference supported by lithic-artifact data.

### **Interpreting Site Function and Settlement Context from Lithic-Assemblage Variability: A Study of Four Late Pre-Ceramic Assemblages from New Mexico**

*Jim A. Railey, SWCA-Albuquerque*

There is a long tradition of interpreting archaeological site function, mobility, and various aspects of settlement patterning from lithic assemblages. This paper builds on this tradition by examining evidence from four late pre-ceramic sites in New Mexico. These include two Basketmaker II farming-based hamlets in northern New Mexico, a logistical lithic-procurement and biface-production camp in the Enchanted Hills area of Rio Rancho, and a camp probably occupied by residentially mobile hunter-gatherers in far southeastern New Mexico. Late pre-ceramic remains at all four sites occur as stratigraphically sealed, single components, and all four were excavated using 1/8-inch mesh. Lithic-assemblage variability from these four sites is examined in conjunction with lithic raw-material availability, subsistence evidence, and numbers and kinds of features including house structures (or lack thereof). The results hold several important implications for certain theoretical models pertaining to lithic technology and mobility patterns.

### **ABSTRACTS: POSTER PRESENTATIONS**

#### **Burned Area Emergency Response (BAER): Archaeology and Fire at Carlsbad Caverns National Park**

*Robert Z. Selden, Jr., Texas A&M University; Leigh A. R. Cominiello, University of New Mexico; Joel P. Lennen, New Mexico State University; David W. Kayser, and Richard Gatewood, National Park Service*

On June 13-15, 2011, the *Loop Fire* burned 8,261 acres within the boundaries of Carlsbad Caverns National Park (CCNP). A Burned Area Emergency Response (BAER) team conducted an archaeological survey and site assessments within the impacted area from June 27-July 8, 2011. The project focused upon sites within the Walnut Canyon drainage and those along the southern ridgeline of CCNP. Within the fire boundary, 45 archaeological sites were found to have the potential for damage from this event. The BAER team, led by Richard Gatewood, assessed post-fire conditions, recommended treatments, and future site monitoring.

#### **Early Farming and the Fate of Archaic Hunter-Gatherers in the Albuquerque Basin**

*Jim A. Railey, SWCA-Albuquerque*

Maize-based farming was well established in the Albuquerque Basin by the 1<sup>st</sup> millennium B.C., but only within the river valleys that carve the basin floor. On the West Mesa, no pre-ceramic maize has yet been discovered, despite many more site excavations, and the collection and processing of many more flotation samples, than in the surrounding river valleys. These findings suggest the possibility that some of the late pre-ceramic remains on the West Mesa were left by mobile hunter-gatherers who co-existed with mixed farming-hunting-gathering groups concentrated along the basin's rivers. Still, following a peak in the early Late Archaic period, radiocarbon dates suggest occupation and use of the West Mesa declined in the 1<sup>st</sup> millennium B.C., as climatic instability and increased reliance on farming took hold. A major drought in the

3<sup>rd</sup> century A.D. may have dealt to the final blow to Archaic hunter-gatherers in the Albuquerque Basin.

**Early Intensive Farming in the Hondo Valley, Southern New Mexico**

*Jim A. Railey, SWCA-Albuquerque*

Along US 70 in the Hondo Valley, excavations were carried out at several Late Archaic and Formative-period habitation sites. The results provide new evidence of intensive early farming in the Sierra Blanca region, as indicated by high maize ubiquity and numerous large, bell-shaped storage pits. Although it was previously known that intensive farming was present in the region by A.D. 500, the US 70 findings push this pattern back to at least 100 BC, and possibly earlier. Also, the 91 radiocarbon dates obtained for this project indicate that ceramics did not arrive in the area until about A.D. 540–550.

**Keystone in Context: A Significant Middle Archaic Site in the Lower Rio Grande Valley**

*Bradley J. Vierra, Statistical Research Inc.*

Keystone Heritage Park covers about 52 acres on Doniphan Drive, including the El Paso Desert Botanical Garden. The Keystone Dam archaeological site is situated within the confines of the park. This location is great for a prehistoric campsite, because it is situated within an easy day's walk to both the Rio Grande and the Franklin Mountains. The site contains some of the oldest human-made structures identified in the U.S. Southwest, dating back more than 4,500 years. The remains of at least 23, and possibly 40, dome-shaped brush huts were identified. The site's large number of spatially concentrated structures, unique during this period, provides a rare glimpse into nomadic hunting and gathering, the earliest of human lifeways.

**Late Archaic/Early Agricultural and Early Formative Period Lifeways in the Non-Riverine and Riverine Settings of Southern Arizona**

*Bradley J. Vierra, Statistical Research Inc.*

Between 2005 and 2007 and under contract with the Arizona Department of Transportation, Statistical Research Inc. excavated the largest yet reported non-riverine Late Cienega (350 B.C.-A.D. 1) and Red Mountain phase (A.D. 1-450) phase settlements in Arizona. Located just west of the Phoenix Basin along U.S. 60 between Florence Junction and Boyce Thompson Arboretum, part of the project involved the complete excavation of 37 structures, hundreds of extramural pit features, and a small earthen reservoir dating to the Late Cienega or Red Mountain phases. These features were mainly located at Finch Camp and are interpreted as representing the seasonal activities of several family groups over a 700-year period. The robust radiocarbon and macrobotanical record indicate little if any reliance on cultigens, even though the largest project site produced the earliest evidence of utilitarian ceramic vessels in Arizona (if not the U.S. Southwest) and a small earthen reservoir was constructed during the Red Mountain phase. This poster focuses on the principle project findings and compares the marked differences among the non-riverine U.S. 60 sites and contemporary riverine settlements in the Tucson Basin.

**Pre-Ceramic Sites at Carlsbad Caverns National Park, New Mexico**

*David W. Kayser and Sam Denman, Carlsbad Caverns National Park*

Six of eleven archeological sites at Carlsbad Caverns National Park containing ring midden earth ovens or linear fire cracked rock features were found to be associated with Middle and/or Late Archaic period-style projectile points. Nine of these sites also contained brownware ceramics and or ceramic period points suggesting multiple periods of use and reuse.

**Sandy Rise: A New Look at Basketmaker II in the Western San Juan Basin**

*Jim A. Railey, SWCA-Albuquerque*

Large-scale excavations at the Sandy Rise site, along US 491 in northwestern New Mexico, uncovered the remains of a Basketmaker II (Late Archaic) pit-house hamlet, dating ca. 400-200 B.C. The Basketmaker II component was buried by up to 1 m of eolian sand, within a stabilized dune. The protected, stratigraphic context and narrow time horizon of this component provided a rare opportunity to investigate the layout and structure of a Basketmaker II settlement in this part of the state. The site contained seven pit houses, the largest of which was 5 m in diameter, and flotation samples suggested the occupants were engaged in intensive maize farming.

**The Archaic Occupation at Four Sites in Southwestern New Mexico**

*Timothy M. Kearns*

The identification of the Archaic period occupation of southwest New Mexico is largely based on the Cochise culture to the west and the Archaic Chihuahua tradition to the east. Western Cultural Resource Management, Inc. (WCRM) recently excavated four sites within the area where these two cultural areas overlap in Doña Ana and Luna Counties. Data from the four sites are summarized and combined with data from other projects in the area to address the cultural affiliation, temporal sequence, settlement, and subsistence aspects of the Archaic occupation in this region of the American Southwest.