# ABSTRACTS FROM THE KELSO CONFERENCE PAPERS

## 1987-2019

## Kelso Conferences on the Prehistory and Archaeology of the Mojave and Colorado Deserts

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# 1.0 1987: Zzyzx, September 26-27

## 1.1 Everson, G. Dicken, University of California, Riverside
**"*Astroarchaeological Analytical Cosmology in the Mojave Desert*"**

This paper explores the ramifications of prehistoric rock art and/or rock structures in the Mojave Desert region as they relate to prehistoric astronomy. Specifically, several sites will be reviewed in terms of celestial significance.

## 1.2 Larson, Daniel O., University of California, Santa Barbara
**"*Impacts of Climatic Variability and Population Growth on Virgin Branch Anasazi Cultural Developments*"**

This paper examines how climatic variability affected the cultural development of the Virgin Branch Anasazi, a prehistoric population which occupied the southwestern Great Basin between 300 BC and AD 1150. It is suggested that two major drought episodes, AD 1000 to 1015 and AD 1120 to 1150, contributed to significant change in Virgin Branch Anasazi adaptive strategies. The first extreme climatic event promoted the adoption of several alternative buffering strategies including intensive agricultural practices, increased reliance on storage, and the organization of large residential labor groups. The second drought, which followed 150 years of favorable climatic conditions and high levels of population growth, had a devastating impact upon the Virgin Branch Anasazi resulting in the complete abandonment of the southwestern Great Basin by that group. These two climatic events required entirely different responses, and we suggest that shifts in climate are best viewed as triggering culture change. The preconditions of population growth set the various levels of sensitivity to extreme climatic events and determined the precise nature of the culture change.

## 1.3 Lyneis, Margaret, University of Nevada, Las Vegas
**"*A Burial from Pahrump Valley: Some Enigmatic Information about Anasazi in the Eastern Mojave Desert*"**

A black-on-white bowl of Black Mesa design style (AD 850-950) was placed over the head of an individual buried at the Bowman Site. A bundle including projectile points, bone tools, hematite, limonite, and turquoise bead blanks also accompanied the burial. Points are long, slender, and sometimes concave-edged versions of Rosegate points. Is this an Anasazi burial? Did the Anasazi reside in Pahrump Valley?

### 1.4 Olson, Pat, Lost City Museum
**"*Prehistoric Architecture in the Eastern Mojave Desert*"**

Archaeological evidence of Western Anasazi architecture in the eastern Mojave Desert of southeastern Nevada not only reflects chronological sequence in construction techniques and preference for available raw resources for building, but also abandonment and reoccupation patterns. Data recovered from recent excavations at the Bunker Hill Site in the Moapa Valley indicates that the site was intermittently occupied throughout the entire Basketmaker-Pueblo continuum in the area.

### 1.5 Pinto, Diana G., University of California, Riverside
***"The ArchaeologicalCollection from Mitchell Caverns"***

Mitchell Caverns, located in the Providence Mountains, eastern Mojave Desert, were excavated in 1934, 1958, and 1968. The resulting collections contain a wide assortment of perishable and nonperishable artifacts which resemble many other archaeological components through the Great Basin. These artifacts include a large number of textiles, including two seed beaters, one winnowing tray, many basketry fragments, sandals, and cordage. Also included are chuckwalla hooks, projectile points, knives, fire-drill hearths, arrow-shaft straighteners, pottery, bone awls, a bone needle, and a scapula grass cutter. The caverns served as a site for habitation as well. The assemblage likely dates from AD 500 into historic times.

### 1.6 Rafferty, Kevin, and Peter Calos, University of Nevada, Las Vegas
**"*Archaeological Research in the Clark Mountains, San Bernardino County, California*"**

The Division of Anthropological Studies (DAS) of the Environmental Research Center, University of Nevada, Las Vegas, has recently completed a mitigation project at three sites in the Clark Mountains region: CA-SBR-4889, -5300, and -5303. Building on work initially conducted by the University of California, Riverside, DAS conducted intensive surface investigations and undertook an extensive program of subsurface investigations at these locations in order to examine a number of questions concerning the prehistory of the eastern Mojave Desert. These included basic chronological control and questions concerning cultural affiliations, examination of site morphology and site function/subsistence questions, definition of culture-specific residential or use areas on the sites, and numerous other questions concerning culture change and the function of cultural processes in the Mojave Desert. This paper is a preliminary report on the project, including the results, their interpretation and their implications for future research in the eastern Mojave Desert. It is hoped that this effort will serve as part of the baseline data set for future research in the region.

### 1.7 Schneider, Joan S., University of California, Riverside
**"*Distal Portions of Projectile Points: Can They Provide New Information? A Case Study from Afton Canyon*"**

Distal portions of projectile points are systematically ignored in the analysis of archaeological collections from the Mojave Desert and elsewhere. The possibility of new insight to technological process and interpretation of site use may be provided by the measurement of the angulation of the distal portion of a projectile point when the other variables and a reliable data base are considered. Cottonwood Triangular points from the Afton Canyon Site, CA-SBR-85, are used as an example of this type of analysis.

### 1.8 Schroth, Adella B., University of California, Riverside
**"*The Pinto Basin Site Revisited: Preliminary Results of 1972 Research Conducted by George Jefferson at the Pinto Basin Site*"**

This paper is based upon the data collected in 1972 by George Jefferson at the Pinto Basin Sites, CA-RIV-520, -521, and -522. At this time, only the material from RIV-520 has been analyzed. The geological considerations and the faunal analysis conducted by Jefferson are summarized and an analysis of the lithics collected from six test units is reported. From the faunal analysis, it appears that the Pinto Basin Site was occupied during the Holocene and possibly during a period when a greater amount of effective moisture was present.

### 1.9 Sutton, Mark Q., California State College, Bakersfield
**"*Consideration of a Hopi Migration across the Mojave Desert*"**

It appears that the homeland for the languages belonging to the Northern Uto-Aztecan (NUA) language group was in the southern Sierra Nevada/western Mojave Desert region and that those languages diversified into the four NUA language families (Numic, Takic, Tubatulabalic, and Hopic) about 3000 BP. As the Numic, Takic, and Tubatulabalic are still contiguous in the (postulated) homeland area and the Hopi are now located in the northeastern portion of Arizona, it is reasonable to postulate that they migrated there some time in the last three millennia. The basis for these inferences and the data supporting such a migration are reviewed.

### 1.10 Warren, Claude N., University of Nevada, Las Vegas
***"The History of Archaeology at Lake Mojave"***

Controversies about the age of the Lake Mojave assemblage have existed for some time. A historical sketch and discussion of the views of Elizabeth Campbell, M. J. Rogers, Frank H. H. Roberts, George Brainerd, R. F. Heizer, Claude N. Warren, and others are presented.

### 1.11 Yohe, Robert M., II, and Robert E. Parr, University of California, Riverside
**"*The Excavation of Rochester Cave: A Preliminary Report on Archaeological Investigations near Sugarloaf Mountain, Inyo County, California*"**

During a recent archaeological evaluation of a portion of eastern Rose Valley near the base of Sugarloaf Mountain in southern Inyo County, California, numerous unrecorded archaeological sites related to obsidian quarrying activities and biface manufacture were encountered. Among these was a small cave (CA-INY-3415) with a disturbed cultural deposit that merited further evaluation. Due to the small size of the cave and its disturbance by relic hunters, the entire interior deposit was excavated. Early results from this excavation suggest that further analysis of the recovered cultural materials and ecofacts will make a significant contribution to the prehistory of this little-studied area.

# 2.0 1988: Nipton, December 10-11

## 2.1 Binning, Jeanne Day, and June Wishner, University of California, Riverside, and Casitas Springs, California

***"Biface Reduction in the Coyote Lake Area"***

Two recent papers focus on the role of the percussion biface in Great Basin prehistory. No longer is it automatically assumed that these items are tools. This presentation evaluates proposed scenarios concerning the role of percussion biface reduction in Great Basin prehistory in light of data collected from two archaic surface sites and one late subsurface site destroyed during the building of the Los Angeles Department of Water and Power's Intermountain Project Coyote Ground Electrode.

## 2.2 Everson, G. Dicken, University of California, Riverside

**"*Continuing Research into the Possible Celestial Significance of Rock Art Sites in and around the Mojave Desert*"**

Many rock art sites have been recorded in recent decades. While a few may offer some associated habitation site or other relevant cultural data in assisting interpretation, most of these sites are not so luxurious, but rather, stand in isolation. Rock art features themselves may range from one or two random drawings to whole canyons or hillsides festooned in stone age creativity. Some of these sites deserve a second look as celestial relationships may reveal a practical function in keeping track of time.

## 2.3 Lyneis, Margaret M., University of Nevada, Las Vegas

**"*Ceramics from the Central Mojave Desert: Three Problems*"**

Recent analysis of pottery samples from several areas of Fort Irwin and adjacent Cronese Basin lead to three propositions. (1) Our current taxonomic structure is counterproductive. (2) Most pottery was made very close to where it was found. (3) There are always either too many sherds or too few sherds in samples; in the Mojave Desert, we need larger samples than are usually forthcoming as a byproduct of sampling lithic assemblages.

## 2.4 Schneider, Joan S., University of California, Riverside
***"Freshwater Bivalves as Paleoenvironmental Indicators"***

Freshwater mussel remains *(Anodonta* sp.) are often associated with archaeological sites in the Mojave Desert. Shells can provide a variety of information, both cultural and environmental, that, combined with radiocarbon dates, can make a significant contribution to the knowledge of the prehistory of the Mojave Desert. Preliminary analysis of a small sample from East Cronese Lake can be used to document the minimum length of at least one lake stand.

## 2.5 Sutton, Mark Q., California State University, Bakersfield
***"More on the Archaeology of the Fremont Valley"***

Investigations in the Fremont Valley of the western Mojave have resulted in the identification of a mesic period ending about 1000 BP. Both Rose Spring and Late Prehistoric Period settlement-subsistence patterns have been identified through excavations at sites dating to during and after that environmental event. The Rose Spring Period sites are situated in both lakeshore and streamside environments, while the Late Prehistoric material is situated in streamside environments only, indicating a change in ecological adaptation as a result of lake desiccation. Implications for social and political patterns in the area during the Late Prehistoric are discussed, as well as implications from new chronological and ecological data.

## 2.6 Taylor, Thomas T., Southern California Edison Co.
**"*Archaeological Investigations at Danby Dry Lake: CA-SBR-5393, Eastern Mojave Desert, San Bernardino County, California*"**

An artifact assemblage, including diagnostic projectile points of the Lake Mojave and Humboldt Concave Base types, has been discovered in a fluvial setting on a sand ridge bordering the contact between a major wash and Danby playa. Elsewhere, these point types have been dated to the 10,000-8000 BP and 5000-2000 BP periods, respectively. A firm dateable context is so far lacking at Danby Lake. The setting of SBR-5395, however, suggests a Holocene timeframe. A wetter-than-present environmental context during the time of occupation is also inferred. Implications regarding climatological and environmental change and Holocene cultural adaptation are addressed.

## 2.7 Warren, Claude N., University of Nevada, Las Vegas
***"Artifacts and Gravel Bars at Nelson Lake"***

Two interpretations of the association of artifacts with offshore gravel bars at Nelson Lake are evaluated. Various evidence indicates that this association at Nelson Lake is probably an example of artifactual redeposition.

## 2.8 Wessel, Terri Caruso, and Michael E. Perry, Edwards Air Force Base, and East New Mexico University
***"KER-1830: A Prehistoric Archaeological Site in the Western Mojave Desert"***

CA-KER-1830 is a temporarily occupied multi-locus prehistoric campsite located on the western fringe of the Mojave Desert in the Antelope Valley, north and east of the present town of Rosamond. This prehistoric site was studied initially to determine the effect of historic disturbance due to borrow pit excavation. As a result of this impact, a variety of analyses were initiated to determine the significance of the resource and the effect of the impact. The most important analytical technique was the collection and submission of 49 samples of obsidian artifacts to Sonoma State University for chemical characterization. Local lithic materials were analyzed to determine whether activity areas could be discerned in the loci. Sourcing of materials was accomplished to allow visual placement of materials to known quarry sites. Lithic reduction sequences were delineated at the site to attempt definition of schemes of reduction. Functional criteria of tool curation and expediency were also investigated based on exotic and local materials at KER-1830 and provide information on problems of sourcing and applying sourcing information to Antelope Valley prehistoric archaeological sites. Economic interaction will be explicated based on types of exotic materials and artifacts. Comparison of projectile point distributions and obsidian presence will be explored. Local lithic materials will be analyzed based on technology, economy, and functional attributes of intra- and inter-site patterns of artifact populations. Interpretations of reduction sequences of Antelope Valley sites will include the role of different locally available materials at CA-KER-1830 and possible rationales of reduced materials movement in the Antelope Valley.

## 2.9 Wilke, Philip J., and Adella B. Schroth, University of California, Riverside
**"*CA-SBR-5872: A Prehistoric Lithic Raw Material Prospect in the Castle Mountains, San Bernardino County, California*"**

In October 1988, a program of data acquisition was undertaken to document archaeological remains at site CA-SBR-5872, identified as a prehistoric raw material prospect, located in eastern San Bernardino County, California. This report details the results of the field and laboratory investigations and discusses the role of the site in the lifeways of the prehistoric inhabitants of the area.

# 3.0 1989: Amboy, November 11

## 3.1 Akin, Marjorie H., University of California, Riverside
***"Keeler Quarry: A View from a Site"***

A recent reexamination of a petroglyph site, located near the eastern shoreline of Owens Dry Lake, is used as a springboard for a review of explanatory models for the interpretation of rock art sites in California and the Great Basin. Interpretative models and methods of analysis used by Julian Steward, Robert Heizer, Jay von Werlhof, and others who have visited or reported on this site will be reviewed.

## 3.2 Everson, G. Dicken, University of California, Riverside
**"*Lithic Identification of Rocks in the Mojave Desert: A Field Kit and Cookbook For Archaeologists*"**

A frequent question arising in the field is: "What kind of rock is this?" Sometimes an artifact or lithic scatter is the focus of inquiry, but often an on-site assessment of the local lithic materials is desired. A few quick, one-step procedures with several ordinary pocket tools are sufficient to establish a useful identification of most rock types likely to be encountered in the Mojave Desert.

## 3.3 Lerch, Michael K., and Gerald A. Smith, University of California, Riverside, and San Bernardino County Museum Association
***"A Metate Quarry at Elephant Mountain, Daggett Area Mojave Desert, California"***

One hundred years ago, Father Joaquin Pasqual Nuez, a Spanish priest accompanying the Moraga expedition in the vicinity of what is now Daggett along the Mojave River, noted in his diary that the expedition's encampment was at "a place where there was considerable water below a hill of red rock very suitable for mill stones." Having long been intrigued by that reference, we realized upon the discovery of an archaeological site several years ago that the site was quite probably the same one mentioned by Father Nuez. The site is an extensive quarry area for the procurement of blanks for the manufacture of ground stone implements, principally metates, or "mill stones." This paper reports the ethnohistoric context of the observation by Nuez, describes the site, and offers some preliminary interpretations of the role and function of this site and others like it in the aboriginal lifeways of the Mojave Desert.

### 3.4 Parr, Robert E., California State University, Bakersfield
**"*A Lithic Reduction Site near Rosamond, Kern County: A Report on Archaeological Testing at CA-KER-519*"**

Site CA-KER-519, located west of Rosamond in the western Mojave Desert, is a lithic reduction area containing relatively few artifacts. The site apparently represents a reduction locus for locally obtained lithic material, primarily rhyolite. Archaeological testing included excavation, mapping, and surface collection. CA-KER-519 provides information on lithic procurement subsystems and technological aspects of quarrying.

### 3.5 Schneider, Joan S., University of California, Riverside
**"*The Mojave River and Archaeology: 'Desert and River in the Mojave'*"**

Recent archaeological inventories and testing at locations along the upper Mojave River have focused the author's attention on site formation and destruction processes in desert riparian environments. Rapid development of this area along the upper Mojave River has created a need for a predictive model for the location of archaeological remains, particularly those of prehistoric cultures before the Late Prehistoric Period. Using work carried out along the Nile as an analog, along with recent playa core analysis at the terminus of the Mojave River, and a few radiocarbon dates, some suggestions for that model are made.

### 3.6 Schroth, Adella B., University of California, Riverside
***"Preliminary Report on Survey Work at Danby Dry Lake"***

Preliminary survey work has located 10 prehistoric sites along the margin of Danby Dry Lake in San Bernardino County. The content of the sites raises questions concerning our present accepted chronology for the desert and the stands of Danby Dry Lake. According to hydrological studies, Danby Lake has not held water of any appreciable amount for the last 10,000 to 12,000 years. The current research suggests that these studies are in error.

### 3.7 Sutton, Mark Q., California State University Bakersfield
**"*Archaeological Investigations at a Millingstone Horizon Site on the Upper Mojave River*"**

Recent archaeological testing along the route of the Mojave Siphon Project in the Summit Valley resulted in the discovery of a buried site within the project boundaries. The eastern portion of the site will be destroyed by the construction of a new pipeline, and data recovery was proposed. The nature of the site is discussed, along with the research design for the data recovery.

### 3.8 Warren, Claude N., University of Nevada, Las Vegas
**"*Changing Use of Faunal Resources at Atlatl Rock, Mojave Desert, Clark County, Nevada*"**

The archaeological sequence at Atlatl Rock provides a record of the changing use of fauna over the last 3,000 to 4,000 years. Bighorn is the major faunal resource until the early Pueblo occupation. At that time, bighorn is reduced in frequency and is replaced by tortoise and lagomorphs. Possible reasons for these changes are discussed.

### 3.9 Wilke, Philip J., and Louis A. Payen, University of California, Riverside
**"*An Atlatl Dart from a Lava Tube near Pisgah Crater, San Bernardino County, California*"**

An essentially complete but badly fragmented atlatl dart was discovered in the fall of 1988 by cavers exploring lava tubes in the Pisgah Crater lava field. The dart consists of the following: a complete foreshaft, possibly of catclaw acacia; an essentially complete white chert side-notched dart point still attached to the foreshaft with sinew but apparently without the use of pitch; a probable single undecorated mainshaft, probably of elderberry, in two large pieces and many small ones, the tapered ends socketed and wrapped with sinew; a backshaft of undetermined wood species consisting of several pieces of the mainshaft; loose remains of fletchings of undetermined number that once were attached radially, at least at the proximal ends of the feathers, to the quills in at least two places each. The nature of the discovery among rockfall suggests an accidental loss rather than a cache. The presence of probable mountain sheep dung suggests that a wounded animal was chased nearly 2 mi. into the lava field across a hostile terrain of lava where it was dispatched after taking refuge in the lava tube. The age of the flows at Pisgah Crater is generally set at under 5,000 years, but no systematic studies in this regard have ever been undertaken. Overall, the find is reminiscent of dart shafts from Newberry Cave. This discovery is only the second known in California of a dart point still attached to the foreshaft. Continuing analysis is focused on radiocarbon dating of the shaft and the dung, identification of the feathers and woods, blood residue analysis of the point, sinew, and foreshaft, and the production of an accurate replica of the complete dart.

### 3.10 Yohe, Robert M., II, University of California, Riverside
**"*The Second Half of Rose Spring: Archaeological Fieldwork at CA-INY-372, Loci 2, 3, 4, 5, and 6*"**

The focus of archaeological fieldwork at Rose Spring during 1988 and 1989 has been directed toward the various loci south of the main site, Locus 1. No professional investigations had been conducted at these areas prior to the work of the author. Recently, nearly 15 $m^3$ of cultural deposit have been excavated at these newly defined loci. The preliminary findings of this field season will be discussed in this presentation.

# 4.0 1991: Stovepipe Wells, September 28

## 4.1 Basgall, Mark E., and M. C. Hall, Far Western Anthropological Research Group, Inc.
***"Perspectives on the Early Holocene Archaeological Record"***

This paper reviews certain aspects of early Holocene archaeology in the north-central Mojave Desert. Conventional perspectives regarding the nature of paleoenvironments during this period, the distribution of archaeological sites, and the functional affinities of Lake Mojave Period assemblages are examined in light of data acquired recently from Ft. Irwin and adjacent lands. There is a need to considerably refine current models of post-Pleistocene adaptations in the southwestern Great Basin.

## 4.2 Campbell, Mark, Edwards Air Force Base
**"*Sierra Pelona Sites and the Need for Chronometric Data*"**

This paper reviews the concentration of prehistoric sites in the Sierra Pelona Mountains/Ritter Ridge area southwest of Palmdale and their spatial relationships. Several scenarios are set forth to illustrate the importance of chronological context in interpreting the clues they provide to prehistoric life in the region. Finally, ethnohistorical information is used to suggest a possible reconstruction of aboriginal life in this area.

## 4.3 Everson, G. Dicken, University of California, Riverside
***"A Quarry Complex in Rosamond"***

In the spring of 1990, a survey of two sections in the Rosamond Hills revealed the presence of several quarried deposits of high-grade rhyolite nodules and a vein of top-grade chert, connected by aboriginal trails to two rock shelters and an extensive habitation site. Test excavations during the summer of 1990 by CSU Bakersfield have yielded data that suggest a long and significant aboriginal utilization of these lithic resources.

## 4.4 Hall, M. C., and Mark E. Basgall, Far Western Anthropological Research Group, Inc.
***"Lessons to Learn from Newberry/Gypsum Period Archaeology of the Mojave Desert"***

However construed elsewhere, understanding of Mojave Desert prehistory remains formative. This is not an indictment of the substantive research accomplished to date, but rather acknowledges the evolving methodological and historical perspectives that come from an expanding data base. A good example of these changes can be found in considering certain critical aspects of the Newberry/Gypsum Period cultural deposits, approaches to their excavation and evaluation, and the vagaries of subsequent behavioral reconstruction.

### 4.5 Lawson, Jan, Death Valley National Monument
**"*Cultural Resource Management at Death Valley National Monument*"**

A brief summary of Cultural Resource Management in Death Valley National Monument elicits a few good laughs and a sobering look at the effects of "benign neglect" on our nation's historic treasures. Nothing short of a thought revolution and an absolute commitment to continuous improvement in Cultural Resource Management will save our vanishing heritage. A suggestion on how to reverse the trend is offered.

### 4.6 Lerch, Michael K., University of California, Riverside
**"*Archaeological and Geomorphic Studies at CA-SBR-6682: A Lake Mojave Site at Bristol Dry Lake, near Amboy, California*"**

Point provenance mapping, surface collections, and test excavations, combined with a program of backhoe trenching and drilling, were used to assess the significance of site CA-SBR-6682. This site is an extensive campsite containing Lake Mojave points located on the playa margin of Bristol Lake adjacent to the mouth of major wadi systems. It is situated on deflated lacustrine sediments and has no subsurface deposit. However, a detailed lithic analysis, including replicative experiments, obsidian sourcing, and a review of regional geology, allowed for a number of inferences regarding site use and general chronological placement to be made. A review of recent literature based on sedimentological and paleoclimatic studies conducted at Bristol Lake indicated that the lake has always been ephemeral in nature, thus enhancing our understanding of early Holocene settlement patterns with regard to lacustrine resources.

### 4.7 McCarthy, Daniel F., University of California, Riverside
***"A Review of the Panamint Valley Rock Alignments"***

Rock alignments have been known in Panamint Valley, California, for over 25 years. Research efforts over the last ten years have accumulated information on more than 75 rock alignment sites, perhaps the largest concentration of such features in North America. These sites are found in the northern two-thirds of the valley. This presentation illustrates the environmental setting, methods of construction, and variety of abstract images observed to date.

### 4.8 Schneider, Joan S., University of California, Riverside
**"*The Production of Portable Stone Mortars and Bowls: Some Examples from the Mojave Desert and Adjacent Areas*"**

Portable stone mortars or bowls have a world-wide distribution and great time depth. The production of these implements was also carried out in the Mojave Desert and adjacent areas. Several examples of mortars in various stages of production give clues to a variety of production methods that include selection of material, shaping the rim and exterior by pecking and percussion flaking, and creating a central concavity. Replication studies suggest that large energy investments were made in the production of these items.

### 4.9 Sutton, Mark Q., and Robert M. Yohe II, California State University, Bakersfield
### "*Archaeological Investigations at CA-SBR-1913: A Late Village on the Upper Mojave River*"

Recent archaeological investigations were conducted at a late village along the upper Mojave River as part of a pipeline project. The investigations revealed the presence of structures, trade goods, a cremation, a possible ceremonial area, and subsistence-related artifacts. Ecologically, the inhabitants of the site were highly dependent on riparian resources, large mammals, and lagomorphs, but not rodents. Most of the recovered materials were found in association with structures, suggesting a winter occupation. Other site data suggest that CA-SBR-1913 is the most recent of a series of habitation sites following the changing course and elevation of the Mojave River.

### 4.10 von Werlhof, Jay, Imperial Valley College Museum
### *"Earthen Art of the Mojave River Basin"*

The Mojave River Basin is one of seven general areas of earthen art in the Greater Southwest. These areas include southern Nevada, the northern Mojave Desert, the Mojave River Basin, eastern Riverside County and the Colorado River, the Colorado Desert and northern Baja California, the Yuma River Basin, and northwestern Mexico. The general orientation for all is not only topographic but particularly is related to water. All three major liquid sources are included: springs, rivers and main drainages, and lakes or playas. The Mojave River group spreads along a west-to-east line that is relatively narrow and contiguous or in propinquity to the Mojave River. Where the river empties into the easternmost playas (Silver and Soda) the earthen art ends. Also, the most westerly of the art form is where the playa country begins, northwest of Barstow. It is not clear why some prominent playas do not display any earthen art, as at Harper and Coyote Lakes. It is possible that such art is there but remains undiscovered. There is a strong need to continuously search and research all desert areas for additional sites before attempting definitive conclusions about this least-known prehistoric feature.

### 4.11 Warren, Claude N., University of Nevada, Las Vegas
### "*The Lake Mojave Complex and Early Man Studies in 1937: The View from Twentynine Palms*"

Discovery of correspondence between Elizabeth Campbell and Ernst Antevs in the Campbell files at Joshua Tree National Monument has provided new data on the place of Elizabeth Campbell's early man studies in the California deserts, and why her work was rejected by the "established" early man authorities. Elizabeth Campbell published monographs on Pinto Basin and Lake Mojave archaeology in 1935 and 1937 respectively. In 1936 she was the first woman to publish a paper in *American Antiquity.* In these papers she presented a model for establishing a chronology for the prehistory of the California deserts (1936) and illustrated its use in the Pinto Basin (1935) and Lake Mojave (1937) reports. Her interpretations were not accepted and were criticized and rejected on erroneous grounds by the "established" authorities until the 1960s. E. B. Howard organized the 1937 International Symposium on Early Man at the University of Pennsylvania. This symposium was used as a means to publicize the "Folsom" finds and their antiquity. No other North American early man assemblages were knowingly admitted to the program. The politicking of M. J. Rogers and the bias of the organizers of the symposium resulted in a negative "position" on the validity of the great antiquity of the Lake Mojave assemblages, even though existing evidence did not support this position.

# 5.0 1992: Joshua Tree, November 14

## 5.1 Basgall, Mark E., and M. C. Hall, Far Western Anthropological Research Group, Inc.
**"*Observations on Temporal and Compositional Relationships at Goldstone (CA-SBR-2348), a Pinto Period Site Complex in the North-Central Mojave Desert*"**

The authors recently had the opportunity to conduct an initial reconnaissance of the Goldstone Site (SBR-2348), a much rumored but never reliably reported Pinto age complex south of Nelson Basin. Preliminary examination of the archaeological locality revealed the presence of at least 16 discrete depositional loci spread across an area nearly 1 km on the side. The artifact accumulations are described in brief, cultural assemblages are summarized, and temporal data from the site are reviewed. Limited subsurface testing at two loci disclosed intact, deep deposits containing dateable organics; surface indications suggest comparable circumstances exist in most other site areas.

## 5.2 Connell, S., T. Williamson, and S. Wells, University of California, Riverside
**"*Reconnaissance Investigation of Holocene and Pleistocene Sediments along the Mojave River, Southern California: Implications for Archaeological Studies*"**

Archaeological investigations can be improved by a knowledge of environmental conditions during the Holocene and Pleistocene. Reconnaissance mapping of the late Quaternary geology along the upper Mojave River from Summit Valley to Victorville, California, was performed in order to distinguish between Holocene and Pleistocene sediments. This evaluation demonstrated the physical relationship of late Quaternary sediments and landforms to geomorphic surfaces and their spatial distribution along this reach of the Mojave River. Results from this study provide preliminary data for buried archaeological sites associated with the largest riverine environment in the western Mojave Desert.

## 5.3 Earle, David D., Lancaster City Museum
**"*The Lovejoy Springs Site (CA-LAN-192) in the Nineteenth Century: Takic and Numic Speakers on the Mojave Desert Frontier*"**

This presentation briefly discusses evidence from the Lovejoy Springs Site in the Antelope Valley, suggesting late occupation (post-1830) of the locality by Native American peoples. This area was inhabited by the Vanyume or Mojave Desert branch of the Serrano language group during the protohistoric period. Information presented suggests that Numic speakers may have intermittently occupied the area after the 1820s, however. This appears to form part of a larger pattern of Numic infiltration of former Serrano territory in the southwestern Mojave Desert during the nineteenth century.

## 5.4 Everson, G. Dicken, University of California, Riverside
**"*A Demographic Dilemma: A Patayan II Vessel in La Quinta*"**

During the monitoring of the grading of site CA-RIV-3682, the remains of a large ceramic vessel were uncovered by heavy equipment. Construction was halted for archaeological evaluation. The vessel remained largely in situ despite the impact of a grader, and excellent radiocarbon dates were obtained from charcoal in superposition relative to the lowest shards. Implications suggest a significant cultural exchange between California deserts and the Arizona Gila River system.

## 5.5 Love, Bruce, University of California, Riverside
**"*Archaeology at Lovejoy Springs, Antelope Valley*"**

The main archaeological site at Lovejoy Springs, now the town of Lake Los Angeles, has been 80% destroyed, but a reexamination of past collections and analyses of recent work provides important data on the prehistory of the western Mojave Desert. Human activities date from at least the mid-first millennium BC and continue into the late prehistoric and historic periods. Undisturbed portions of the site have been identified, making future archaeological investigations possible. Due to the continuous deposition of eolian and colluvial sands interspersed with flood episodes on a site that lies by a major spring that may have been flowing throughout the Holocene, there is a real possibility that the Lovejoy Springs Site could yield a stratified record of the entire span of human occupation of the western Mojave Desert.

## 5.6 Pepito, Rosie, Joshua Tree National Monument
**"*Research Potential of the William and Elizabeth Campbell Collection of Prehistoric Objects at Joshua Tree National Monument*"**

During the 1920s, 1930s, and 1940s, William and Elizabeth Campbell systematically surveyed the greater California desert area. Most of their sites are located in the Mojave Desert. The vast collection from those surveys is currently housed at Joshua Tree National Monument and the Southwest Museum in Los Angeles. Sporadic reassessments of a portion of the collections have been accomplished. The National Park Service at Joshua Tree National Monument is actively encouraging research and reassessment of the Campbell material in order to better access and curate these collections.

## 5.7 Rhode, David, Desert Research Institute
**"*Obsidian Sourcing Studies at Yucca Mountain, Nevada*"**

To date, over 140 obsidian artifacts (mainly projectile points) from the Yucca Mountain region of the northeastern Mojave Desert have been geochemically sourced. These artifacts were derived from eight known obsidian sources: Fortymile Wash/Tonopah Wash, Pahute Mesa/Split Ridge, Obsidian Butte, Coso Volcanic Field, Kane Springs, Montezuma Range, Fish Springs, and Brown Bench (several unknown sources are also present). The geochemical sources represented suggest that obsidian used for artifacts was derived from sources located at distances over 100 km north, east, and west of the Yucca Mountain region. The greatest diversity of sources is found in Early and Middle Archaic projectile point series; Late Archaic points are almost exclusively derived from local sources.

## 5.8 Ross, Lester, San Bernardino County Museum
**"*An Archaeological Reconnaissance of Lost Horse Mountains, Joshua Tree National Monument*"**

During the summer of 1992, the Historic American Engineering Record documented the 1895-I930s Lost Horse Mine and Mill in Joshua Tree National Monument. As part of this project, an archaeological reconnaissance was conducted of the immediate region, resulting in the recognition of an historical archaeological mining district covering a 4 mi.$^2$ area of Lost Horse Mountains. Prehistoric sites are reported at springs adjacent to a juniper-pinyon woodland on the extreme northern district boundary. No prehistoric sites were observed in the mountains to the south, even with the presence of an extensive juniper-pinyon-oak woodland, extensive quartz outcrops, and a major basalt zone. If this site distribution is valid, then at least two determinants for prehistoric utilization of the region would include: (1) the availability of semi-permanent to permanent surface water immediately adjacent to food-processing biota; and (2) the presence of regionally scarce lithic resources. As corollaries, a paucity or lack of prehistoric sites could indicate: (a) unavailability of permanent surface water sources; (b) the presence of floral and faunal resources which duplicate biota adjacent to water sources elsewhere in the region; or (c) the absence of unique lithic resources. When applied to the spatial and temporal distributions of prehistoric sites, these determinants and their corollaries should serve as a basis for evaluating changes to the regional Holocene paleoenvironment, fluctuations in prehistoric populations, changes in the use of regional biological resources, and preferences for specific lithic materials during certain periods.

## 5.9 Schneider, Joan S., and Claude N. Warren, University of California, Riverside, and University of Nevada, Las Vegas
**"*Preliminary Results of a Systematic Random Sample Survey of Prehistoric Cultural Resources at Joshua Tree National Monument*"**

Varied land use patterns were demonstrated by the preliminary results of a recent sample cultural resource inventory of Joshua Tree National Monument. A random sample of the Monument area was generated, stratified by eight vegetation zones and five regions. Eighty archaeological sites and 201 isolated artifacts were recorded in the 9.8 km$^2$ of intensively surveyed random sample transects, roughly eight sites and 21 isolates per km$^2$. The distribution of sites and isolates, as expected, varies with vegetation zone. The highest density of sites (about 21/km$^2$) was in the "A" stratum (Southern Bench/Granitic Outcrop plant community), while the lowest site density (about 2/km$^2$) was in the "B" stratum (creosote bush community). The distribution of isolated artifacts was only partially concordant with the distribution of sites; zones with low to moderate site density had the highest isolate densities. Data derived from the sample inventory indicate that several aboriginal land use patterns can be identified within the Monument. It is anticipated that further analyses of the data, along with specialized analyses of artifacts collected during the study (both in progress), will result in a clearer understanding of how aboriginal peoples used the resources of the Monument.

### 5.10 Schroth, Adella B., and C. Jill Petersen, University of California, Riverside
***"The Pinto Basin Survey"***

The paper reviews the results of the survey undertaken at Pinto Basin, located in the eastern end of Joshua Tree National Monument. The eastern 5 mi. of Pinto Wash have been covered and all of the areas described by the Campbells have been revisited. The area remains rich in cultural resources, and the sites are still intact.

### 5.11 Sutton, Mark Q., California State University, Bakersfield
***"The Numic Expansion as Seen from the Mojave Desert"***

Accepting the various arguments that Northern Uto-Aztecan diverged in the southern Sierra Nevada/western Mojave Desert area at some point in prehistory and that the Numic populations expanded out from their homeland from that location later in time, then these events should be discernable in the archaeological record of the Mojave Desert. This paper reviews the available archaeological evidence from the Mojave Desert as related to the Numic Expansion model.

### 5.12 Warren, Claude N., University of Nevada, Las Vegas
***"Time, Water, and the Pinto-Lake Mojave Interface"***

This paper describes the distribution of the Lake Mojave and Pinto sites in relation to water sources extant at the time of occupation of the sites. The evidence appears to indicate a cultural continuum in which Pinto Basin Complex (culture) develops directly from the Lake Mojave Complex at an early date and these two cultural complexes encompass the period of transition from the relatively wet period of the early Holocene to the arid mid-Holocene. The changing distribution of the sites appears to indicate a decreasing population or abandonment of the deep desert (below 2,000 ft.) in the central Mojave.

### 5.13 von Werlhof, Jay, Imperial Valley College Museum
**"*New Geoglyph Discovered along Mojave River below Afton Canyon*"**

A recently discovered geoglyph along the north bank of the Mojave River near the mouth of Afton Canyon is clearly of Lower Colorado River rather than Great Basin style. Further, the design is the Yuman (Mohave and Quechan) creator icon with two symbols common to both the Great Basin and the Lower Colorado River regions, and two symbols common only to the Great Basin. A similar creator figure along the Colorado River has been dated by the AMS radiocarbon method at about AD 1000, a date archaeologists only assumed before. The icon is likely Mohave, as is the one along the Mojave River. Malcolm Rogers identified Mohave pottery at sites several kilometers east of Afton Canyon, and numerous researchers recognize a major trail between the Virgin River and San Bernardino Mountains as a Mohave trade and travel route. Mohave habitation sites are not reported for the Mojave Basin, and it is curious that a sacred ground figure would have been emplaced so far from home territory.

### 5.14 Yohe, Robert M., II, California State University, Bakersfield
**"*A Preliminary Report on Archaeological Investigations at Breakfast Canyon Rockshelters (CAINY-272), Death Valley National Monument, California*"**

In late June 1992, at the request of the National Park Service, the Cultural Resource Facility at California State University, Bakersfield, conducted archaeological test excavations at two rock shelters (CA-INY-272) in Breakfast Canyon, Death Valley National Monument, California. The purpose of excavation was twofold: (1) to determine the depth and integrity of the cultural deposit in both rock shelters, and (2) to salvage a visible cultural feature (storage pit) that was in imminent danger of destruction due to its partial exposure in a wash. During test excavations, storage features were encountered in each shelter. These features contained numerous perishable artifacts, including basketry and tule matting, as well as the remnants of mesquite pods, pinyon nuts, and various cultigen seeds. Both features appear to date to within the last 150 years. This paper describes the structure of the two features and the results of the preliminary studies of their contents.

# 6.0 1993: Granite Mountain Reserve, November 6
## Organized by M. C. Hall, Joan S. Schneider, and Elizabeth J. Lawlor

### 6.1 Everson, Dicken, University of California, Riverside
***"A Burial at Thousand Palms"***

During the summer and fall of 1992, a cremation burial site was investigated near Thousand Palms, California. Despite early information suggesting that a burial was present, it nearly eluded discovery. Close cooperation between the Archaeological Research Unit, the Cahuilla Tribe, and the land developer allowed for the safe recovery, analysis, and proper reburial of the remains. The burial site is located in a wide belt of desert floor between the Indio Hills and the shoreline dunes of ancient Lake Cahuilla. Important questions concerning the movements and habitation patterns of native people following the desiccation of Lake Cahuilla have been raised over the course of this project.

### 6.2 Hall, M. C., University of California, Riverside
**"*Issues in the Geography of Prehistoric Archaeology in the Mojave Desert*"**

There are two general kinds of issues surrounding the geography of prehistoric archaeology in the Mojave Desert: those concerning the distribution of research efforts and how representative resultant findings are of hunter-gatherer adaptive patterns across the greater region, and those pertaining to the specific spatial dimensions of past land-use systems. In the former regard, notwithstanding the many factors which introduce sampling bias to archaeological investigations as a collective whole, the knowledge thus far realized provides avenues to gaining additional significant insight from already compiled information on prehistoric sites and assemblages. With respect to culture-historical geography, meanwhile, the problems at hand center on methodologies and techniques capable of yielding reliable perspective on the size and shape of annual foraging ranges. Comments on and suggested approaches to these inclusive issues are offered as preliminary considerations, among the many others that also merit attention, toward a needed, contemporary appraisal of research directions in Mojave Desert prehistory.

### 6.3 Lawlor, Elizabeth J., University of California, Riverside
**"*In Search of Distinctive Phytoliths for Indian Ricegrass*"**

Phytoliths ("plant stones") are microscopic silica bodies formed in plants. The study of phytoliths has proved to be a useful adjunct to pollen and flotation analyses of prehistoric sites. I will report ongoing work on a reference collection of Mojave Desert plants. Because each plant produces different phytolith shapes (multiplicity) and different plants produce similar shapes (redundancy), identification of most plants relies on analysis of assemblages. For example, Indian ricegrass *(Oryzopsis hymenoides),* one of the most important local seed foods, shows different phytolith assemblages in its roots, stems, leaves, and seeds; these differ from *Stipa,* a closely related grass. Knowing this should make it possible to distinguish among soil samples taken from natural ricegrass stands, ash from ricegrass threshing areas, and ash from ricegrass seed storage facilities.

### 6.4 Laylander, Don, California Department of Transportation
**"*The Elmore Site and the Hydration of Obsidian from Obsidian Butte*"**

Investigation of the Elmore Site (CA-IMP-6427) offers an unusual opportunity to study the hydration rate for obsidian from the Obsidian Butte source. The site appears to reflect a very short-term occupation, well-dated by radiometric analysis to the mid-seventeenth century, associated with the final recession of Lake Cahuilla. Hydration-rind measurements provide insight into: (a) the calibration curve for Obsidian Butte material; (b) the size of the error factor in hydration measurements under near-optimal conditions; and (c) the problem of comparing hydration measurements on specimens from surface and subsurface contexts.

### 6.5 McDonald, Meg, Brian F. Mooney Associates, Inc.
**"*Archaeological Survey of Pisgah Crater Lava Flows*"**

Two extensive surveys covering approximately 7,500 acres of the lava flows extending south from Pisgah Crater to the Lavic Lake shoreline have revealed a large number and variety of prehistoric archaeological sites. Three separate flows formed the present landscape. The oldest created the lowest terrace above Lavic Lake, where the majority of sites are found. Lava on this terrace varies greatly in thickness, much of the area resembling a mosaic-like pavement of thin, cracked lava. The second flow forms a higher terrace and comprises extremely rough terrain; relatively few sites were observed on this surface. Located nearest the crater, the youngest flow was not included in the survey inventory. Extensive and well-known lithic prospects occur immediately east of the Pisgah flows, and most newly recorded sites are scatters of jasper derived from these prospects. One site with 32 petroglyph boulders is also situated in this general area. A trail, cleared through the intermediate lava flow, leads from the vicinity of the lithic prospects to the oldest lava terrace. Small embayments in the older flow, especially near the lakeshore, contain most of the sites; others lie on adjacent alluvial fans. More milling equipment, plus a few ceramic sherds, was found at sites along the lower lava flow/lakeshore interface. Several large sites were encountered at the western end of the oldest flow, including dense accumulations of flaked lithic debris with abundant bifaces but lacking any temporally diagnostic projectile point forms. One other site consists of a ca. 40 m-diameter rock circle and several smaller, associated rock alignments reminiscent of so-called "dance circles" along the Colorado River.

### 6.6 Moffitt, Kyle, and Linda Moffitt, University of California, Riverside
***"An Osteological Analysis of Burial Remains from CA-SBR-1549"***

There is a paucity of information available on the lifeways of Serrano peoples and for the Vanyume as well, a closely related native group which once occupied areas along the Mojave River. Exhumations at CA-SBR-189 and CA-SBR-1549 yield insights into Vanyume mortuary practices, including the use of *Yucca schidigera* during interment, possible trephination, and, most importantly, the practice of flexed burials in a region where cremation is viewed to have been the customary funerary pattern. The CA-SBR-1549 remains are also notable for the Desert Side-notched projectile point found next to the lower thoracic vertebrae.

### 6.7 Moffitt, Steve, University of California, Riverside
***"Scapula Tool Function in the Mojave Desert"***

While use of mammal scapulas as tools is well documented in the archaeological record of the Great Basin, their functional interpretation tends to be ambiguous. Some assessments portray scapula use as bark shredders, scrapers, saws, fleshers, or grass cutters. However, these conclusions are often based on the evaluation of artifacts lacking provenance. Recent discovery of two scapula tools, along with examination of one modified scapula from the Campbell Collection, supports the interpretation that their use in the Mojave Desert encompassed the processing of plant materials.

### 6.8 Pallette, Drew, Brian F. Mooney Associates, Inc.
**"*Investigation of Prehistoric Sites at Rogers Dry Lake, Edwards Air Force Base*"**

Brian F. Mooney Associates, under the direction of Brian Byrd, recently completed testing of six prehistoric campsites located along the shoreline of Rogers Dry Lake at Edwards Air Force Base. Five of the sites are primarily surface deposits with low densities of cultural material. However, one site, CA-KER-526, contains multiple buried components to a depth of 2 m. Radiocarbon dates of 3670 ±70 BP and 3770 ±70 BP were obtained from one excavation unit. The author directed the fieldwork and will briefly describe results of the study.

### 6.9 Pritchard-Parker, Mari A., University of California, Riverside
**"*Preliminary Report on the Recovery of Carbonized Seeds from CA-SBR-6055*"**

Open sites in the Mojave Desert have rarely been sampled for paleobotanical seed remains, in part because archaeologists have not expected such samples to be productive. Three of six 2-liter flotation samples collected in July 1992 from CA-SBR-6055 in the Castle Mountains did, however, yield carbonized seeds. Two of these samples were taken from a hearth discovered at 50-60 cm depth, the third 40-50 cm below the ground surface. The recovery of seed remains shows the value of flotation sampling and that this procedure should be standard in archaeological excavations. Larger sample volumes would likely enhance seed recovery rates.

### 6.10 Schneider, Joan S., Claude N. Warren, and Indre Antanaitis, University of California, Riverside, and University of Nevada, Las Vegas
***"Alluvial Fans and Archaeological Interpretations in the Mojave Desert: Examples from Northern Death Valley"***

Consideration of the lithic materials composing alluvial fans and the patination colors of fans can provide archaeologists with clues to aboriginal desert land use. A recent survey in northern Death Valley located a wide variety of archaeological site types. The distributions and frequencies of these site types are viewed in relation to the characteristics of the alluvial surfaces on which they occur as well as relative to permanent water sources.

### 6.11 Sutton, Mark Q., California State University, Bakersfield
***"Recent Investigations in the Eastern Mojave Desert"***

During the last several years, archaeologists from California State University, Bakersfield, have conducted investigations at a number of sites in the eastern Mojave Desert, most recently at Rustler Rockshelter and earlier in the Providence Mountains State Park, Mid Hills, and Vontrigger Spring localities. This paper provides a discussion of the results and findings of these various projects.

### 6.12 Torres, John A., University of California, Riverside
**"*Lithic Procurement Strategy in the Eastern Mojave Desert and the Use of the Juan Obsidian Source*"**

Lithic procurement strategies have changed throughout prehistory and entire land use patterns and social/tribal relations were affected by these changes. The change in hunting technology was probably one of the most significant influences on toolstone acquisition and employment. Lithic resources that may have been previously of little or no use, such as obsidian from the Juan source, could have become significant when the need for large pieces of stone diminished and bipolar reduction applied. Small obsidian clasts available at the Juan obsidian source would have provided a predictable lithic resource in late prehistory when projectile points could be fashioned from small bipolar flakes. Analysis of materials excavated from a small storage shelter and quarry site, located in the Castle Mountains and within 4 mi. of the Juan source, provides a basis to address this issue in lithic technology and other questions relating to subsistence patterns in the eastern Mojave Desert.

### 6.13 von Werlhof, Jay, Imperial Valley College Desert Museum
**"*Type B Linear Geoglyphs and Their Probable Association to Circular Dance Ceremonial Sites*"**

Type B Linear geoglyphs are single line wandering designs with short appended or detached lines. Small (½ m) detached clearings are occasionally noted with these geoglyphs. Some of the Type B geoglyphs extend 300 m or more, but most are 100 m or less in length. Spirit breaks are also associated with many of the designs, as are quartz or basalt reduction (power acquisition) stations. Seldom are sherds or tools related to the sites, though there are recorded occurrences. Associated tamped areas indicate ritualistic activity took place at these non-economic sites. The Type B Linear geoglyph population is smaller than that of the circular dance sites; the distribution of both embraces common ground. Dance circles also display small cleared areas or appended lines, are generally devoid of sherds or functional tools, and have tamped areas ancillary to the circular ceremonial sites. The appended lines and small clearings noted in both site types were possibly monitoring stations for officials overseeing the ceremonies. While it is probable that both site types are related to similar ceremonial functions, it also seems likely that an evolution has taken place, the sequence developing from a linear to a circular pattern.

# 7.0 1994: Little Lake, September 24-25
# Organized by Dicken Everson and Jim Pearson

## 7.1 Eckhardt, William T., Naval Air Weapons Station China Lake
**"*Atlatls & the Landmark: Report of Discovery of an Atlatl Weight near Big Petroglyph Canyon, Inyo County, California*"**

Report of discovery (1992) and collection of an atlatl weight from the Coso Range, with discussion of provenience and other lines of evidence for early hunting technology in Big & Little Petroglyph Canyon National Register Historic Landmark.

## 7.2 Everson, G. Dicken, University of California, Riverside
**"*The Emic and the Etic: Misconceptions of Rock Art 'Alignments' and Celestial Motion*"**

Ever-popular among archaeoastronomers, efforts to reconstruct proposed celestial "alignments" with such features as ground drawings, rock art, and horizon markers have slammed into a Catch-22 scenario: "accuracy" is a cultural concept. While we are quite safe in presuming that prehistoric inhabitants of the Mojave and Colorado deserts made regular and accurate observations of heavenly phenomena, our ability to detect, much less prove, the presence of an astronomical observatory remains remote.

## 7.3 Fenenga, Gerrit L., Gwyn Alcock, and Mark M. Campbell, California State University, Bakersfield, and Edwards Air Force Base
**"*Chipped Stone Crescents in the California Deserts*"**

Chipped stone crescents are widely recognized throughout the western United States as early time markers primarily associated with the shorelines of Pleistocene lakes. The occurrence of these artifacts in the California deserts will be summarized, and some implications discussed.

## 7.4 Gardner, Jill, Sally F. McGill, and Mark Q. Sutton, California State University, Bakersfield
***"Buried Hearth Features along the Garlock Fault"***

Twelve buried hearth features (now recorded as CA-KER-3939) were discovered during geologic trenching adjacent to the Garlock Fault in the western Fremont Valley, just south of Red Rock Canyon. One of the features has a radiocarbon date of about 6000 BP, making it the oldest archaeological date in the western Mojave Desert. The data so far obtained on the position, content, ages, and associations of these features will be discussed.

### 7.5 Hall, M. C., and Mark E. Basgall, University of California, Riverside, and University of California, Davis
***"Culture and Environment in Arid Lands Prehistory"***

Three main considerations influence perspectives on prehistoric cultural behavior relative to paleoenvironmental phenomena. One focuses on the actual, effective environment occupied by people in the past, including the type, productivity, and availability of food, water, and raw material resources as well as demographic distributions, and how daily, seasonal, and annual subsistence-settlement activities were organized accordingly. A second addresses paleoenvironmental change as a potential causal factor in systemic directions in adaptation. The third looks at processes of cultural evolution operating independent of environmental circumstance. Complicating the culture-environment variable matrix are concerns over the: (1) chronological control of archaeological and environmental data; (2) physical resolution of paleoenvironmental proxy records; (3) extent to which the scale of climatic shifts affect reconstruction of local and regional human ecosystems; and (4) composition of the cultural landscape under investigation. Whether as proximal triggers or ultimate determinants, paleoenvironmental changes are often used to explain prehistoric adaptive trends. Such arguments can be quite compelling, but many fail to specify the critical points of linkage between land, climate, resources, and people, or to account for why supposed environment- induced cultural changes took place at one time/place and not another. Issues in deriving and explicating the culture-environment equation are explored with respect to Mojave Desert prehistory through evaluation of the regional record and case studies of how traditional societies have responded to similar situations in other arid environments.

### 7.6 Lawlor, Elizabeth J., and Andrew C. Sanders, University of California, Riverside
***"The Mojave Desert: What, Where, When, Who, Why?"***

What is the Mojave Desert? How does it fit into a classification of the world's deserts? Where are its boundaries and how are they determined? When did it start to resemble its current self? Who lived there in ethnohistoric times, and what were their relationships to each other? And why should why should we consider it a separate entity rather than an extension of the Great Basin or a transition zone between it and the Sonoran Desert? The answers usually are not simple; some published authorities often contradict each other. We will present a brief synthesis, distribute a draft paper by Lawlor, and hope to generate discussion by the assembled inquiring minds.

### 7.7 Laylander, Don, California Department of Transportation
**"*Ideology and Agave: Roasting Pit Densities at Table Mountain, Eastern San Diego County, California*"**

Agave roasting pits are a common feature of the archaeological landscape in some portions of the Southern California deserts. On the basis of a study of roasting pits in the Table Mountain area, it is argued (1) that the close spacing of agave roasting pits suggests that prehistoric peoples, under some circumstances, went out of their way to avoid reusing them; (2) that a valid explanation of such behavior in terms of the practical aspects of agave processing appears unlikely; (3) that more plausible explanations can be found in the realm of ideology; and (4) that such a conclusion has implications concerning reuse and avoidance in other aspects of the regional archaeological record.

### 7.8 Love, Bruce, CRM TECH, Inc.
**"*Mesquite Dune Archaeology in the Coachella Valley*"**

This paper presents a report of work in progress at a cluster of some 28 sites on the northeast shore of ancient Lake Cahuilla. Located in the present-day city of Indio in the Coachella Valley, a series of mesquite dunes, swales, and pans contains a range of prehistoric sites, from a sherd scatter of three pieces to a 5-acre habitation complex with multiple loci. A key research element within the current project is an investigation of stratigraphic integrity within the mesquite dunes at the site. An exposed vertical face of one dune, cut by a sand mining operation, revealed intact layers of alternating light and dark sand to a depth of more than 5 m. This paper expects to present preliminary findings regarding the nature of this layering and its potential for archaeological research in mesquite dune environments.

### 7.9 Pallette, Drew, and Pam Pallette, Brian F. Mooney Associates, Inc., and Coachella Valley Archaeological Society
***"Preliminary Work on a Rock Ring Complex near Box Canyon in Riverside County"***

A rock ring, located in the Box Canyon area of the Mecca Hills in central Riverside County and adjacent to the shoreline of prehistoric Lake Cahuilla, provides evidence of earthquake activity along the San Andreas fault line. The ring has been offset 1.5 m in a right lateral direction and is part of a larger complex of cleared circles, rock rings, and trails found in the immediate area. A previous study found acorn shells in one of the rock rings which were dated at 1160 ±270 BP. This, along with the recent discovery of Parker Buffware sherds along one of the trails, suggests that the ring complex may be contemporary with Lake Cahuilla.

### 7.10 Pearson, Jim, California State University, Long Beach
**"*One More Time: Another Look at Dating at the Stahl Site*"**

Various attempts have been made to date the Stahl Site in Inyo County, California ever since the site was first excavated in the late 1940s. The majority of these attempts involve obsidian hydration. This paper will briefly review these efforts and discuss a relative dating sequence derived from a large number of obsidian hydration readings from obsidian recovered during recent excavations.

### 7.11 Pritchard-Parker, Mari, University of California, Riverside
**"*Terminology and Techniques Used in Current Ground Stone Analysis*"**

The recent proliferation of artifact labels may cause confusion in regional perspectives, particularly for the novice. Even the use of once-familiar, generic terms such as ground stone, is being questioned. In light of this evolution of terminology, this talk will be given in a workshop format to encourage a discussion of current goals, techniques, terminologies, and research objectives applied in the Mojave Desert region.

### 7.12 Schneider, Joan S., University of California, Riverside
**"*The Rock-Varnish Dating Wars: A History of the Issues and Precautionary Tales for the Mojave and Colorado Deserts*"**

The dating of rock surfaces using cation-ratios of rock varnish has been seriously questioned by a variety of geomorphologists, geochemists, geobiologists and archaeologists. The cation-ratio concept itself is probably in error, and calibration curves applied to cation-ratios have been proven unreliable. Furthermore, accelerator mass spectrometry (AMS) dates on organic materials within rock varnish make a number of assumptions that cannot be readily supported at the present time. This paper presents the basic concepts and reviews the history of the issues involved in the dating of archaeological surfaces using both cation-ratio and AMS dating, topics of vital interest to archaeologists in the desert regions. The present state of rock-varnish dating research will be discussed as well as directions for future research.

### 7.13 Schroth, Adella, Jeff S. Couch, Tracy A. Strope, Anita Fletcher, Jill Gardner, and Richard Cerreto, University of California, Riverside *"The Pinto Basin Survey: Results of the 1990-1992 Field Work"*

The sites found along Pinto Wash are described along with the artifacts found on the surface of the deposits. A sample of the artifacts from the original Campbell collection are also shown and described. Results of archaeometric dating are also given.

### 7.14 Warren, Claude N., University of Nevada, Las Vegas
**"*The Las Vegas Valley in Prehistory: Misconceptions and Truths*"**

Review of the archaeological and ethnohistorical works in the Las Vegas Valley as it applies to prehistory and cultural adaptations to environmental conditions. The prehistory of the Las Vegas Valley serves as an example of the misconceptions and resultant misinterpretation of the life ways of the early inhabitants in the region.

### 7.15 von Werlhof, Jay, Imperial Valley College Desert Museum
**"*A New Link: Potential Iconographic Associations in Rock and Earthen Art in the Western Colorado Desert*"**

A newly discovered rock alignment in the west desert of Imperial County raises possibilities for linking earthen art and rock art icons as well as advancing interpretations of both. The new addition to the alignment record is a concentric circle of seven spokes extending from the inner circle -- or hub --to the outer circle. This is the only example of this design so far recorded in earthen art. While there are several one-of-a-kind designs within the earthen art population, it is rare that they also show up in rock art, as this one does. There are several correlations to be made between the rock alignment solo design and the 84 nearly identical designs that appear in California/Nevada rock art.

# 8.0 2000: Death Valley Junction, October 21
## Organized by Jill K. Gardner

### 8.1 Brewer, Harold, and Barbara Brewer, University of California, Riverside
***"Rat Sticks, Chuckwalla Sticks, or Rodent Hooks"***

Throughout much of prehistory, the daily subsistence of hunter-gatherers in the arid areas of the Great Basin and the American Southwest consisted of small rodents, lizards, and insects. Margaret Wheat stated that "The most desirable husband was the man who came home at night with a dozen or more rats hanging from the thong around his waist." In 1845, Captain John Fremont noted that "Many of the Indians had long sticks, hooked at one end, which they used in hauling out lizards and other small animals from their holes." While it is certain that snares, traps, nets, and other devices also played an important part in capturing small animals, how large of a role did this particular hunting technology play in prehistory?

### 8.2 Laylander, Don, California Department of Transportation
***"Why Are There So Many Mortars at Indian Wells?"***

Caltrans conducted archaeological studies at the Indian Wells Site, west of Ridgecrest, in 1987. The substantial number of mortars (50) on boulders at the site raises some interpretive questions. Possible explanations relate the number of mortars to the size of the occupying social group, exhaustion of mortars through use, functional differentiation of mortars, and avoidance of feature reuse. These explanations are evaluated, and their broader interpretive implications are explored.

### 8.3 Rodarte, Michael, and Julie Scrivner, California State University, San Bernardino, and California State Polytechnic University, Pomona
***"You Can't Teach New Dogs Old Tricks: CRM, Academia, and One Small Site"***

Modern development in Southern California has made the conflict between academic archaeological perspectives and cultural resources management an outdated rivalry whose resolution is overdue. Although many of the projects driving CRM may have motives ulterior to preservation and scientific inquiry, opportunities for academic contributions nevertheless abound. The CRM process challenges us to reconcile the "significance" of sites in the contexts of archaeological preservation, treatment, and in many cases potential impacts. Academia must take responsibility for the fact that in today's world, many developing archaeological students will ultimately enter the CRM workplace. If the archaeological record is to be appropriately considered, students must be afforded the opportunity to augment archaeological method and theory curricula with training in preservation law and the process of evaluation. These issues will be discussed in the context of one scenario where academic precedence and creative compliance reversed a "lose/lose" situation.

## 8.4 Schneider, Joan S., University of California, Riverside
**"*To Eliminate or Not To Eliminate? That Is the Question: A Discussion of the Inclusion or Exclusion of Steep Slopes and Extreme Topography from Archaeological Survey*"**

As archaeologists preparing research designs for sample survey, it is common practice to eliminate slopes greater than 25% grade from the sample universe. Rationale for this ranges from the perception of there being limited likelihood of archaeological sites existing on steep terrain where foothold is difficult, to the cost: efficiency ratios used by cultural resource management organizations. I contend that some site-types may be missed if extreme terrain is eliminated from systematic survey. Three examples are presented: a quarry site in the Soda Mountains directly above the Desert Study Center at Zzyzx; a rock shelter high on a rock outcrop where a figurine, shell beads, and other artifacts were found; and a small shelter containing a fairly intact aboriginal basket. The latter two sites had to be reached by climbing over large boulders and climbing rock outcrops. These sites were on terrain where slope exceeded 25%.

## 8.5 Schneider, Joan S., and Harold C. L. Brewer, University of California, Riverside
***"What is Up (or Down) at Death Valley National Park?"***

During 1997 and 1998, the UC Riverside Archaeological Research Unit conducted survey in seven At-Risk Localities in Death Valley National Park under a cooperative agreement with the National Park Service. Ninety-seven archaeological sites and 219 isolates were recorded in a variety of environments and altitudes. Several of the site types identified during the project present opportunities for studying continuity and change in indigenous lifeways over extended periods of time. For example, a site in the Nevada Triangle may represent a base camp for seasonal hunting and plant procurement and processing extending from Pinto times to the Late Prehistoric Period. High-altitude remote sites in the Wildrose Canyon and Jackass Canyon areas likely represent pinyon-gathering camps used from the Late Prehistoric into the historic period. A site in Grapevine Canyon represents a Native American laborer camp used during the historic period. While many of the sites recorded are in proximity to areas of high visitor use and are probably at least moderately impacted by past and recent visitors, some of the sites appear to be pristine. We would like to bring these sites to the attention of the archaeological community and urge study of the sites, as well as consultation with the Timbisha Shoshone regarding the function of a number of features present at the sites.

## 8.6 Warren, Claude N., University of Nevada, Las Vegas
***"Fluted Points at Lake Mojave"***

Two "fluted points" found at Lake Mojave but not yet reported in the literature are described, and their archaeological context discussed. A brief review of the history of lake stands and the most probable date for "Clovis" use of the Lake Mojave Basin are also discussed.

## 8.7 von Werlhof, Jay, Imperial Valley College Desert Museum
***"Paths to Creation"***

The Western Yumans (Colorado Desert and Lower Gila River) prepared definite paths to sacred sites "representing" the site of creation, *Ave-Kwanu.* Although planned field work near El Mormol in Baja California (28th Meridian) will probably relate such paths aerial observed there with those in the north, it is possible that the path tradition began there. The objective for the paths is to repeat that part of Yuman mythology and oral tradition that gets at the heart of Yuman origins and death of Mastamho. Migrations to the actual site cannot easily be made for many people, and facsimile sites were probably formed to satisfy the quest to ceremonially return to tribal roots. Illustrations of some of these sites will be shown.

## 8.8 Yohe, Robert M., II, and Linda Scott-Cummings, California State University, Bakersfield, and Paleo Research Laboratories, Inc.
***"The Paleoenvironmental History of the Rose Spring Site (CA-INY-372)"***

The analysis of pollen collected during the re-excavation of the Rose Spring Site suggests a fairly stable environmental history for Rose Valley during the past 4,000 years, which is consistent with similar studies conducted at Little Lake by Mehringer and Sheppard (1978). However, the appearance of mesquite pollen in the record does not occur until post-1300 BP. The possibility of this late appearance of mesquite representing a shift towards slightly more xeric conditions after AD 700 is explored in this paper.

## 8.9 Yohe, Robert M., II, and Mark Q. Sutton, California State University, Bakersfield
***"On the Nomenclature for the Rose Spring Period in the Western Mojave Desert"***

In the western Mojave Desert, the time period between about 1,500 and 700 years ago is known by a number of names, including Rose Spring, Amargosa, Saratoga Springs, and Haiwee. Each of these time periods is largely identified by the presence of Rose Spring series projectile points. We suggest a unification of these designations, with Rose Spring as the term used to denote this period.

# 9.0 2001: Hemet, December 15
## Organized by Jill K. Gardner and Rebecca S. Orfila

### 9.1 Allen, Mark W., William Gillean, Amanda Martinez, Seth Brodie, and Thomas Melzer, California Polytechnic State University, Pomona, and New Mexico State University
***"California Polytechnic State University's Recent Research at the Red Mountain Springs Archaeological District"***

This paper summarizes recent and ongoing archaeological research at Red Mountain Spring Archaeological District. The Bureau of Land Management designated this district as a protected resource area in the 1970s, after preliminary archaeological survey and site recording identified a large number and wide variety of sites within a kilometer or so of Red Mountain Spring (formerly Squaw Spring). These sites include likely hunting blinds, petroglyphs, lithic scatters, several middens, and a large number of groundstone artifacts visible on the surface. The district also contains substantial historical resources, including those associated with a deep well and pump system that supplied water for the nearby mining communities of Red Mountain, Johannesburg, and Randsburg. California Polytechnic State University began work in the district in the spring of 2001 and will continue this project through 2003. The project is designed to address several basic questions, focused on the prehistoric components. The fieldwork included resurvey of the district, recording newly discovered sites, limited test excavations, detailed mapping, and development of a Geographic Information System for both resource management and basic research.

### 9.2 Binning, Jeanne Day, California Department of Transportation
**"*Lithic Analysis in CRM Contexts: Examples, Shortcomings, and Suggestions*"**

Many archaeometric techniques and methods, such as faunal analysis, pollen analysis, and botanical identification, have greatly improved within archaeology since the 1950s and are now considered the purview of specialists. Although our knowledge of lithic analysis has greatly improved in the last 30 years, in CRM contexts, nonspecialists or nonexperts often do lithic analysis. Some of the problems with this situation will be illustrated and discussed.

**9.3 Giambastiani, Mark A., Dayna Tinsley, Monique Pomerleau, and Jennifer Farquhar**
**"*Southern Paiute, Anasazi, or Both? The Archaeology of the Lincoln County Land Act Parcel, Mesquite, Nevada*"**

A recent inventory of over 13,000 acres north of Mesquite, Nevada, has identified and tested more than 20 prehistoric archaeological sites, including isolated rock hearths, toolstone quarrying deposits, and residential camps. Spread throughout an area that manifests Mojavean flora and fauna but lacustrine-derived, mesa-type sediments, project sites show unique spatial distributions by function and according to localized variances in surface geology and vegetation. Current theories posit an Anasazi expansion to the Virgin River Basin around AD 1000, an abandonment shortly thereafter, and a subsequent intrusion of Southern Paiute groups into the area. The kinds of sites present in the study area and their apparent ages speak to changing land-use patterns in the Virgin River region and perhaps to ethnic origins as well.

**9.4 Gold, Alan, California Department of Transportation**
***"The Little Lake Biface Cache"***

Biface caches have been found in various contexts throughout the world. Collections of multiple bifaces are often recognized and reported in mortuary contexts in burial offerings. They are also found as hoarded collections of objects sorted and intended for later use. A remarkable collection of 27 biface preforms has been curated at the Maturango Museum for the last 40 years and is now undergoing examination and analysis. This paper is a report of preliminary findings regarding the technological elements of this cache. Several models of eastern California prehistory are assessed with respect to the dating and reduction sequence for the cache. It is also evaluated with respect to the models developed for Coso obsidian reduction as reconstructed by
Robert Yohe, Adella Schroth, Bill Hildebrandt, and Amy Gilreath.

**9.5 Don Laylander, ASM Affiliates, Inc.**
**"*The Casual Look at Fort Irwin: Edge Tools and Prehistoric Mobility*"**

A concept of "casual" or "expedient" tool types and assemblages has been employed in archaeological investigations at Fort Irwin over the last decade, and relationships between degrees of "casualness" and varying mobility strategies have been inferred. The foundations for these characterizations and their interpretations are worth reevaluating. There is reason to suppose (a) that criteria other than the ones commonly employed may be more appropriate for capturing the "casual" dimension, (b) that the proposed prehistoric trend toward increasing casualness may not be valid, and (c) that the implications of this dimension with respect to mobility may not be the ones commonly proposed. Some possible directions for future investigations are also suggested.

**9.6 Orfila, Rebecca S., Hubert Switalski, Jill K. Gardner, and Blendon Walker, California State University, Bakersfield**
**"*Jasper Veins: A Preliminary Report on the Quarries at the El Mirage Off-Road Vehicle Park, Western Mojave Desert, California*"**

During Phase I survey work by the Center for Archaeological Research (CAR) at California State University, Bakersfield (CSUB), prehistoric quarrying and historical mining activities have been evident. The quarries have consisted of considerable scatters of orange and red jasper, as well as open quarry veins. This paper presents a review of some of the lithic scatters and quarry sites in the project area, a background summary of the geological assemblage of one of the sample units (Unit 58), and a brief discussion of jasper and its properties.

**9.7 Schaefer, Jerry, and Drew Pallette, ASM Affiliates, Inc.**
**"*Archaeological Investigations at the Historic Cahuilla Village of Rincon, Palm Springs, California*"**

The Cahuilla village of Rincon was home to the Panic lineage from approximately 1850 to 1900. The village represents a later stage of their occupational history within their traditional territory, centered around the Andreas and Murray canyons. The archaeological site is on the National Register of Historic Places and contains an abundance of remains, including house foundations, irrigation features, Euroamerican artifacts, and traditional Cahuilla artifacts. This presentation will discuss the results of data recovery conducted by ASM Affiliates for the Agua Caliente Band of Cahuilla Indians as they proceed with a realignment of Palm Canyon Road for the development of a new tribal community center and museum. This presentation will explore the patterns of Cahuilla acculturation during this critical period of time when the autonomous lineage territories of the Panictum and Kauisictum were combined into the Agua Caliente Reservation and the Cahuilla were adapting to a modern consumer-oriented market economy.

**9.8 Schneider, Joan S., California State Parks**
**"*The Arrow Site: The 'Secret' (That Isn't a Secret) Site in the Colorado Desert -- A Report to the Archaeological Community*"**

For over 20 years, the unique phenomenon known as the Arrow Site has been known to members of the California State Parks staff. In spite of cultural resource recommendations to keep the site and its location from public awareness, most of the local population in and around Anza-Borrego Desert State Park knows of the site, and many are aware of its location. It is time to make the site known to the archaeological community so that statements concerning the unique character of the site may be tested before the phenomenon disappears. The Arrow Site consists of numerous compound arrows inserted into three crevices high on a rock wall. Radiocarbon dates place the origin of the site at about 300 years ago. The close-up study of the artifacts--remarkable for their preservation in an exposed environment--and an assessment of the condition of the site were the subjects of a recent study conducted by the author.

**9.9 Sutton, Mark Q., California State University, Bakersfield**
***"'Because the Light's Better': On the Efficiency of Shovel Test Pitting as a Tool to Evaluate Archaeological Sites"***

In recent years, shovel test pitting has become a widely employed method of exploring the subsurface aspects of recorded archaeological sites, often in lieu of traditional test excavations. While this is a fast and inexpensive method, does it achieve the goal of providing the information necessary for a realistic evaluation of a site deposit? It is herein argued that, in many cases, the use of shovel test pits alone fails in the mission and should only be used after test excavations have established the nature and content of the deposit to be investigated.

**9.10 Warren, Claude N., and Elizabeth von Till Warren, University of Nevada, Las Vegas**
**"*A Recent Outing on the Shores of Pleistocene Lake Mojave, with Comments on Age, Archaeology, and Coming Events*"**

Results of recent investigations on Lake Mojave shorelines, including radiocarbon dates, obsidian hydration, and stratigraphic relationships.

**9.11 von Werlhof, Jay, Imperial Valley College Desert Museum**
**"*Religious and Spiritual Icons of the Mojave/Colorado Deserts*"**

The burgeoning of recreationism throughout our desert areas is threatening as well as damaging Native American religious and spiritual icons. This scenario also parallels the rise of traditional ceremonies and activities as well as a desire to preserve sites and signs important to Indians of the desert. While our politics of forgetting has minimized the significance of sacredness to tribal groups, their politics of remembering requires an awareness of these features and a respect for what they hold sacred. Archaeologists not familiar with the prehistory of the Mojave and Colorado Deserts will not recognize many Indian icons or will fail to bring recognition of them and their significance to the record. This paper merely summarizes icons Native Americans have identified as sacred and reminds us of our responsibility to place these in the record and on the registries. What is sacred? The Native American Heritage Commission answers this simply: It is what the Indians say it is.

# 10.0 2002: Red Rock Canyon State Park, September 28-29
# Organized by Jill K. Gardner and Mark Giambastiani

## 10.1 Allen, Mark W., California State Polytechnic University, Pomona
***"Recent Research at Red Mountain Spring"***

This paper summarizes recent archaeological research at the Red Mountain Spring Archaeological District on the northeast side of Red Mountain. Cal Poly Pomona has been conducting survey, mapping, and limited test excavations in the district since the spring of 2001. The District encompasses a wide range of cultural resources, including several large midden areas up to 70 cm in depth, concentrations of surface ground stone, petroglyphs, lithic scatters, and a series of probable hunting blinds. Preliminary analyses suggest a Late Prehistoric Period component, as well as several similarities to other sites in the western Mojave Desert.

## 10.2 Basgall, Mark E., California State University, Sacramento
***"Good Times in the Middle Holocene?"***

Recent archaeological, paleoenvironmental, and geomorphological studies in the southern Mojave Desert offer reason to reconsider certain notions regarding biotic productivity, hydrology, and human adaptation during the Middle Holocene. Between ca. 6900 and 7900 RCYBP, there is evidence to suggest that certain playa basins were filled for prolonged intervals, serving as magnets for recurrent settlement activity. Significant complexes of archaeological debris attributable to Pinto components relate to this pattern.

## 10.3 Basgall, Mark E., Stephen Overly, Wendy Pierce, and Jan Lawson, California State University, Sacramento, and China Lake Naval Air Weapons Station
***"Another Look at the Paleoindian Archaeology of Pleistocene Lake China, California"***

Lake China continues to harbor one of the richest records of Late Pleistocene/Early Holocene archaeology and paleontology in the wider Great Basin. Extravagant claims made by early researchers have largely marginalized its contributions to regional Paleoindian studies. This paper reviews recent research at Lake China, involving refined mapping of the E. L. Davis collection areas, reassessment of existing artifact and faunal assemblages, as well as new excavations and surveys within key archaeological localities. The potential of this record has barely been realized.

### 10.4 Campbell, Mark M., Campbell Anthropological Research
***"Some Thoughts on Western Mojave Desert Prehistory"***

In this paper, I present a hypothetical reconstruction or model of western Mojave Desert prehistory. It draws heavily on various CRM reports produced at Edwards Air Force Base, especially the various overviews. As a model, it focuses on the "big picture" rather than the minutiae that frequently prevent us from seeing the forest because we are too busy arguing about bark and leaves. I present it as a hypothesis to be tested to determine its utility in interpreting the archaeological record and understanding western Mojave Desert prehistory.

### 10.5 Dahdul, Mariam, California State University, Fullerton
***"Shell Beads from the Coachella Valley"***

Established bead sequences for coastal and central California are generally used to date archaeological sites in other regions of southern California. The applicability of these chronologies in the Coachella Valley is investigated by comparing beads from this region with the established sequences. Two data sets were collected in order accomplish this goal: (1) careful description of individual beads found with features from two prehistoric sites in the Coachella Valley, and (2) chronometric readings, i.e., radiocarbon dates for those features.
As a result of the analysis, eight bead types were identified dating from ca. AD 1460 to 1850. Only two bead types (Cylinder, Barrel) matched the coastal and central California sequences, while five others (Cupped, Spire-lopped, Cap, Oblique Spire-lopped, Split Oval) did not. A new bead type, Whorl Ground, was also discovered during this research. Whorl Ground beads resemble the Spire-lopped type but exhibit ground surfaces around the body whorl of the shell. These findings indicate that coastal and central California bead chronologies do not apply to the Coachella Valley region.

### 10.6 Gardner, Jill K., Mark Q. Sutton, and Linda Wells, California State University, Bakersfield
**"*Molecular Analysis of Deciduous Teeth from the Cross Mountain Site, Southern Sierra Nevada*"**

One of the most exciting applications of the new molecular archaeology techniques is the investigation of the peopling of the New World. For example, data from the Wallace laboratory revealed that all Native American mtDNA variation was descended from just four founding maternal mtDNA lineages, labeled A through D (Wallace et al. 1985; Wallace and Torroni 1992). The modern Native American O-Loop sequence studies provide an excellent database for analysis of ancient DNA samples as well (Merriwether et al. 1994). Many studies have been conducted on current mtDNA samples, providing an excellent framework for comparison and analysis of ancient samples.
In the summer of 1996, salvage excavations were performed at a prehistoric village cemetery site (CA-KER-5043) in the foothills of the southern Sierra Nevada. Of the nine individuals excavated, three of them were infants buried in a common grave. One deciduous tooth from each of these three infants was removed in order to perform DNA analysis. DNA was extracted from two separate sections of each tooth. The DNA was characterized and purified, then utilized in PCR reactions with primers to mitochondrial DNA regions. The results of the PCR analysis of the DNA of the infants are discussed.

### 10.7 Harvey, Victoria, and Hubert Switalski, California State University, Bakersfield
**"*Preliminary Report on Archaeological Investigations at CA-KER-246, Red Rock Canyon State Park, Western Mojave Desert, Kern County, California*"**

In 2001, under contract with the Department of Parks and Recreation, Southern Service Center, the Center for Archaeological Research at California State University, Bakersfield, conducted archaeological investigations at CA-KER-246, a lithic reduction site in Red Rock Canyon State Park. Investigations included the removal of a hearth, which was eroding out of the side of a road, and the excavation of two 1 m x 1 m test units. This presentation highlights the preliminary results of this investigation.

### 10.8 Johnson, Lynn, Mark A. Giambastiani, and David L. Wagner, California State University, Sacramento, Albion Environmental, Inc., and California Division of Mines and Geology
***"New Research on the Early Holocene Archaeology of Death Valley National Park"***

Since the 1950s, archaeologists have known of an Early Holocene adaptation in Death Valley National Park. The earliest culture was originally termed "Death Valley I" by Alice Hunt and others and was based on patterns observed in lithic debris at only a handful of sites. For a variety of reasons, none of these sites witnessed any intensive examination and their artifacts saw only basic analysis. Broad comparisons were drawn between these sites and with other early sites in distant locations in an attempt to understand the ancient archaeology of the Mojave Desert.

Unfortunately, archaeological research in Death Valley has stagnated since the 1960s. Over the last four decades, most work has consisted of small-scale surveys and limited, single-site excavations, and few additional ancient sites have been documented. Recently, field work and analytical research by the senior author has identified several new Early Holocene sites and has opened up new avenues of investigation through obsidian studies. This paper offers an introduction to this research through discussions of previous work with Death Valley I materials and by examining basic spatial and chronological trends in obsidian data.

### 10.9 Laylander, Don, ASM Affiliates, Inc.
**"*Measuring Settlement Intensity and Dispersion in the Prehistoric Mojave Desert*"**

Two key dimensions in prehistoric settlement patterns are the amount of activity that occurred within a region during a particular period and the extent to which activity was concentrated in a few locations or was dispersed widely across the landscape. The advantages and disadvantages of several methods for measuring relative settlement intensity and dispersion are considered, and a new formulation is proposed, taking into account the available evidence concerning rates of site reuse. Basgall (2000) used a sites-per-millennium statistic to propose that settlement at Fort Irwin was much more dispersed during the latest periods than it had been during the Early or Middle Holocene. According to the calculation favored here, the increase in Late Prehistoric Period settlement dispersion was less than suggested by Basgall.

### 10.10 Lerch, Michael K., Daniel F. McCarthy, and Gwyn Alcock, Statistical Research, Inc., and San Bernardino National Forest

***"Willow Fire Archaeology, San Bernardino National Forest"***

After the Willow Fire burned nearly 64,000 acres on the north slopes of the San Bernardino Mountains in the late summer of 1999, the San Bernardino National Forest contracted with Statistical Research, Inc., to conduct archaeological investigations at several sites and to survey a 1,350-acre timber sale within the burn area. The results of the studies are presented in this paper. Various levels of investigation took place at 40 archaeological sites within the Willow Fire burn area. The prehistoric sites include seasonal base camps, temporary camps, quarries and lithic reduction activity areas, and plant processing areas; historical period sites include mines and prospects, a logging camp, and a road. The study provided evidence of pinyon exploitation as early as 4000 BP, the presence of obsidian at 11 of the sites, and the presence of local and exotic ceramic wares. The collected data demonstrate the research potential of these sites to address issues of chronology, settlement and subsistence, regional interaction, technology, and cultural affiliation. Because the project area is located within the ethnographic territory of the Serrano and within the Mojave River watershed, additional research at these sites may provide important comparative data to address regional questions raised by previous studies in eastern California and central Nevada.

### 10.11 Love, Bruce, CRM Tech, Inc.

**"*The Archaic Period in the Coachella Valley*"**

In recent years, a number of archaeological projects in the Coachella Valley have resulted in the discovery of deposits from the Archaic Period, or greater than 1,000 years of age. This paper summarizes the findings and discusses the implications for interpreting the ancient past. What does the Archaic Period mean? What are the archaeological hallmarks of Archaic Period sites, and how do they compare with the Late Prehistoric findings from more recent centuries? What role did ancient Lake Cahuilla play more than 1,000 years ago? Finally, what can archaeologists say about social systems, cultural traits, settlement patterns, long-distance trade, and other questions about the people who occupied what today is known as the Coachella Valley?

### 10.12 Moore, Steven J., California State University, Sacramento

**"*Reexamination of the Emma Lou Davis Collection from the China Lake Locality near Ridgecrest, California*"**

The archaeological materials collected by Emma Lou Davis and crew between 1970 and 1974 and presented in a 1978 monograph have recently been cataloged for reanalysis. The collection was carefully mapped as it was collected, providing excellent spatial data, particularly for formal tools. This abundant concentration of artifacts provides both a solid data set to compare with Late Pleistocene/Early Holocene archaeology of the surrounding region, and a chance to examine assemblage variation on a local level.

**10.13 Orfila, Rebecca, Hubert Switalski, and Julie Minor, California State University, Bakersfield**
**"*The Miner's Camp at El Mirage: An Inventory of Artifacts and Their Significance for the Relative Dating of Historical Activity in the Shadow Mountains, San Bernardino County, California*"**

In 2001, the Center for Archaeological Research at California State University, Bakersfield, under contract with San Bernardino County and directed by Adella Schroth of the San Bernardino County Museum, discovered an encampment suspected to be of a historical nature and focused on the mining of precious ore or minerals. The location was mapped, and artifacts inventoried. Nonscientific dating methods are offered to ascertain a relative date for use of the site.

**10.14 Schroth, Adella and Robín Laska, San Bernardino County Museum**
***"Green Slate Artifacts from the San Bernardino County Museum"***

This paper looks at a collection of incised green slate artifacts from the San Bernardino County Museum. We have tried to locate the quarry or possible locations for the quarry. These artifacts are rare and seem to be centered around north-central San Bernardino County. Gerald Smith suggested that the quarry site was located somewhere near Pilot Knob in China Lake Weapons Center. These incised pendants and ceremonial objects may also be time markers.

**10.15 Swope, Karen K., Kevin B. Hallaran, Philip J. Wilke, and Meg McDonald**
**California Department of Transportation, University of California, Riverside, and San Bernardino National Forest**
***"Dry Placer Mining in the Mojave Desert"***

Dry placers are quite possibly the oldest known gold sources in the California deserts, with Mexican colonists and Native Americans first to exploit Mojave Desert deposits. In order to be profitable, dry placers must contain richer gold deposits than placers where water is available for processing. The employment of portable, waterless equipment constitutes the most efficient and economical means of recovering these deposits. Nonetheless, dry placer mining was pursued largely during difficult economic times, resulting in minor booms in the Mojave Desert during the 1890s and 1930s. Dry placers were worked extensively at various Mojave Desert locations, including Red Rock Canyon, Summit Diggings, Goler Canyon, Garlock, Jawbone Canyon, and Last Chance Canyon. The archaeological signature of dry placer mines in alluvial deposits is much like that of placer sites in the streambeds of the California Mother Lode region, and includes serial gravel piles, ridges, and berms. Archaeological and historical studies at Klondike Diggings in Red Rock Canyon State Park provide an example.

**10.16 Welsh, Patricia, California State University, Sacramento**
**"*Implications for Subsistence Variability across the Mojave Desert during the Last 9,000 Years*"**

Faunal data from various archaeological contexts in the southern, northern, and western Mojave Desert suggest dietary shifts and variability in the use of large mammals, small mammals, and reptiles across the desert during the last 9,000 years. Specific faunal data are presented that demonstrate how this variability has the potential for additional evaluations of important subsistence patterns. These patterns are believed to reflect cultural and/or environmental factors that may have influenced prehistoric subsistence activities within this study area.

**10.17 Williams, Audry, Robert M. Yohe II, Julie Minor, and Gale Grasse, California State University, Bakersfield**
***"Investigation at Haiwee Spring (CA-INY-1606): A Large Site in the Coso Range, China Lake Weapons Center"***

Investigations at Haiwee Spring began in the summer of 2001 as a graduate research project for the Master's degree in Anthropology from California State University, Bakersfield. Due to unforeseen circumstances, the project was terminated. However, in the short time that investigations were under way, a great deal of information was learned about Haiwee Spring. This paper presents the information that was gathered in the field, along with the known ethnographic information surrounding the site.

# 11.0 2003: Twentynine Palms, October 25
## Organized by Mark E. Basgall, Stephen A. Overly, Mark A. Giambastiani, and Marie G. Cottrell

### 11.1 Allen, Mark W., California State Polytechnic University, Pomona
***"Update on the Red Mountain Archaeological Research Project"***

Cal Poly Pomona has been investigating the late prehistoric component of the Red Mountain Archaeological District since the winter of 2001. This paper mainly describes results for the past year of fieldwork. A brief outline of the upcoming and final season's work is also presented. Kelso attendees will then be invited to visit us this fall, winter, or spring!

### 11.2 Basgall, Mark E., California State University, Sacramento
***"Locus I, Pandora's Box or Holy Grail?"***

When Malcolm Rogers first proposed the notion of a Pinto-Gypsum complex, he suggested that what we now know as Pinto series and Gypsum Contracting-stem projectile points were part of the same archaeological package, believing they were stratigraphically concurrent at the Salt Springs and other localities. Subsequent researchers have generally separated the two forms, seeing them as sequential time-markers in the regional record. Details continue to evolve, but Gypsum points frequently occur together with Elko series forms during the Newberry Period, while Pinto variants span portions of the early/middle-Holocene era. Recent research indicates that the situation may not be so clear cut, that Gypsum Contracting-stem points may in some cases be quite early and overlap temporally with the Pinto series in ca. 8000 BP contexts. Studies at various locations on MCAGCC provide insight into this issue.

### 11.3 Giambastiani, Mark A., Dayna R. Tinsley, and Lynn Johnson
***"Bits and Pieces from Death Valley and MCAGCC"***

This brief discussion outlines current progress on the Death Valley Archaeological Overview project and recent fieldwork at toolstone quarries in the Quackenbush Training Area, MCAGCC.

### 11.4 Hall, M. C., University of California, Riverside
**"*New Arrivals' and Naming of the Late Prehistoric Period in the Mojave Desert*"**

Various terms have been used in reference to the final 700-1,000 years of Mojave Desert prehistory. Geographic and historical evidence is presented for a renaming of this time period.

### 11.5 Harvey, Victoria L., Mark Q. Sutton, and Roger W. Robinson, California State University, Bakersfield, and Antelope Valley College
***"Archaeological Investigations at the Cal City Cave, CA-KER-517, Kern County, California"***

A small east-facing Eocene cave, badly vandalized by pothunters, was brought to the attention of Roger W. Robinson in 1976. A preliminary investigation noted a small but well-developed midden with a high concentration of modified rock and charcoal and a hearth, originally inside of the cave, removed during an act of vandalism and left along the apron of the cave. Excavation to preserve the remaining cultural material began in July of 1976 and continued through the summer and into the fall. Due to unfortunate circumstances, much of the faunal material, composed largely of burned desert tortoise (Gopherus agassizii) bone, was lost before analysis could be completed. In 1995, crews from California State University, Bakersfield and Antelope Valley College revisited the site and excavated two test units in the hopes of recovering more faunal material. This paper will present the field and laboratory results of both excavations.

### 11.6 Laylander, Don, and Jerry Schaefer, ASM Affiliates, Inc.
**"*The Tahquitz Man: A Unique Cahuilla Burial in Palm Springs*"**

An anomalous burial was encountered in the Tahquitz Canyon area of Palm Springs. The body of a man in his forties had been interred in a pit that was centered within an excavated semi-subterranean structure, probably a sweat house. The body was flexed, the head was oriented toward the south, the feet were severed and placed underneath the shoulders, and the burial pit was backfilled with large cobbles. Afterwards, the overlying structure was burned. Possible interpretations for this burial pattern are discussed. It may reflect: (a) mid-nineteenth-century cultural change among the Cahuilla, (b) hasty disposal associated with an event such as a smallpox epidemic, (c) burial of a non-Cahuilla, or (d) burial of someone who was considered dangerous, such as a malevolent shaman.

### 11.7 Moore, Steven J., and Stephen A. Overly, California State University, Sacramento
***"Update on the Rosamond Lake Basin Project"***

Personnel from the Archaeological Research Center of California State University, Sacramento are conducting excavations at 43 prehistoric sites within the Rosamond Lake basin, Edwards Air Force Base. Work has been finished at 36 sites and provides a diverse array of archaeological debris. Although slated for completion after the conference, significant spatial variation in the location of residential deposits, specialized feature concentrations, and opportunistic quarrying debris are evident. The current presentation characterizes the project area, details completed work, and summarizes some of the more obvious patterns in the nature and distribution of archaeological material recovered to date.

### 11.8 Schaefer, Jerry, ASM Affiliates, Inc.
**"*Petrographic and Neutron Activation Analysis of Clay Sources and Brown Ware Ceramics from Southern Owens Valley*"**

Recently completed technical studies of Owens Valley Brown Ware and nearby clay sources for the Olancha-Cartago Four-Lane Improvement Project have conclusively demonstrated for the first time that the clay was locally derived from decomposing granitic material in the alluvial fans that emanate from major canyons on the eastern slopes of the Sierra Nevada, in essence a residual source within an alluvial geomorphic formation. Residual clays in the Alabama Hills were another source with the same chemical signature. Sedimentary clays from springs along fault lines and lacustrine sources on the valley bottom proved to produce dysfunctional ceramics or negative matches with archaeological specimens, paralleling similar results by Eerkens, Neff, Glascock, Griset, and Pierce, and indicating a different pattern of clay procurement than suggested by ethnographic data from northern Owens Valley and the Sierras. Results of the Olancha-Cartago ceramics analysis also complement the previous investigators' evidence that ceramic manufacture was widespread and very localized. The evidence does not support Julian Steward's consultant, who maintained that only a few specialists manufactured and traded their wares across the Owens Valley. Instrumental Neutron Activation Analysis (INNA) of a small sample of sherds from six sites matched southern Owens Valley principal components as previously defined by Eerkens et al., and none fell within the exclusively Northern or Central groupings. Petrographic analysis also demonstrated strong correlations between sherds and some local clays. These findings suggest that exclusivity of usable clay sources was never an inhibitor to the adoption of ceramic technology and that other factors must be considered in understanding the very late and languid tradition among the Owens Valley hunters and gatherers.

### 11.9 Schneider, Joan S., and G. Dicken Everson
**"*New Work at the Oasis of Mara, Twentynine Palms, California*"**

The Oasis of Mara has been a focus of human occupation of the Twentynine Palms area as far back in time as is known. Recent work for the Joshua Tree National Park involved a reassessment of National Register eligibility. We carried out literature, archival, and records searches, reviewed oral histories, and carried out survey, collection, and test excavation in the easternmost part of the Oasis. The locations of several historically known features were found: mill tailings marked the location of the Old Adobe that held a unique place in the history of Twentynine Palms and the Oasis. For the first time, the chain of ownership of the Oasis has become clear. The Willie Boy saga and the subsequent abandonment of the Oasis by the Chemehuevi and Serrano, who had lived there for many generations, was perhaps the most intriguing part of our study. This paper will present our new findings as well as provide a history of the Oasis of Mara, the location of the 2003 Kelso Conference.

## 11.10 Smith, Paul
### "*Pinto Mountain Fault Study, 2003*"

A study of the Pinto Mountain Fault, located at the Oasis of Mara in Twentynine Palms, California, was commenced in early 2003. Funded by a grant from the Southern California Earthquake Center, the study was initiated by faculty and graduate students from geology departments at the University of Central Washington and San Diego State University. An excavation cut was made perpendicular to the suspected location of the fault at the west end of the Oasis, the resulting trench being approximately 220 ft. long, 10 to 14 ft. deep, and 3 ft. wide. Trench support structures were used throughout. The first 3 ft. of excavation was unsurprisingly material comprising alluvium of fairly recent geologic age. But then carne the surprise. Approximately 3-4 ft. below the surface, the backhoe unearthed a bed of rich dark organic material which cried out for further laboratory analysis. Below this, for an indeterminate depth, was a bed of fine white powder. Initial speculation was that the powder might represent volcanic ash from the Mono Craters eruption some 900,000 years ago. But analysis under glass indicated that the material was a fine powdery silica sand. How and why did this fine silica dust find its way underneath the organic layer, and when? Speculation about the source of the silica is not completed, but the best guess is that it is a product of a "sifting" effect due to liquefaction during strong and sustained quake interludes. The original source of the sand is unknown but could possibly be an indication of early sand dunes or pluvial deposits. The study indicated that there have been five major events in the past 14,000 years at this site on the Pinto Mountain Fault. Radiocarbon dating indicates that the thick organic bed dates back 9,400 years. This would place the area in a possible Early Man sequence when compared to nearby sites at Pinto Basin, Soda Lake, and Silver Lake, and it is logical to speculate that the Oasis of Mara was a site of very early human habitation. Biological evaluation of surface salt-tolerant vegetation indicates that the rich, moist site was large, perhaps as much as ½ mi. in diameter surrounding the subject investigation. Due to the surprising and unique results of the excavation, the study is expected to be ongoing for some time as the scientists continue to evaluate what they discovered.

## 11.11 von Werlhof, Jay, Imperial Valley College Desert Museum
### "*A Suttonian Case of Bad Archaeology: The Albee Dance Circle*"

In the recent SCA Newsletter, Mark Sutton published a timely -- and perhaps long overdue --article on bad archaeology that has fed into the state's expanding grey literature. While much of this comes from CRM groups unfamiliar with their assigned territory, other examples come from archaeologists knowledgeable of a given area but who are apparently swayed through personal reasons to distort or overlook evidence. Such a case occurred with an archaeological site that Malcolm Rogers originally recorded along the east shoreline of ancient Lake Cahuilla, a gravel extraction site known as the Albee Site. Agreeably, this was long recognized as a seasonal exploitation site that the Quechan or Halchidoma utilized during the annual high stand of the lake which formed a back-embayment behind the "skinny bar" facing the lake frontage. During its seasonal encampment, the band held ceremonial or recreational dances at a small circle staged outside the camp area. The measurements fitted 11 other such sites recorded within the Yuma territory, and a Quechan elder further identified the site as a dance circle. A dispute arose from BLM whether the circle was not a cyclists' brodie, which a CRM desert specialist claimed. To settle the matter, another BLM archaeologist was brought in to examine the disputed site. Using the eyeball technique alone, she quickly asserted that it was a brodie. Despite the compaction and other tests that I conducted showing a cyclist could not have formed the circle, BLM gave the gravel company permission to destroy the site, which it promptly did. This, I believe, is the kind of archaeological analysis that Mark Sutton was talking about.

## 11.12 Warren, Claude N.
**"*Archaeology at Lake Mojave: The November 2002 Excavations*"**

Excavations at three sites have provided information on site formation and the age of the Lake Mojave Complex at Lake Mojave. Data from a geological strata trench across the outlet channel indicate that explanations of changing lake levels due to discontinuous erosion of the sill of the outlet channel are in error, and that there was a super wet period ca. 13,350 BP during which the outlet channel was cut to an elevation lower than previously thought. Other data from units excavated to depths of ca. 110 cm in the lowest of the high beach lines, dated to ca. 10,500 to 9300, exposed cultural material to a depth of 95 cm. Radiocarbon dates on Anodonta shell from this beach deposit suggests more about site formation than age of the artifacts. But the artifacts date from early in the history of the beach formation.

# 12.0 2015: Zzyzx, October 31
## Organized by Bridget Wall and Mark E. Basgall

### 12.1 Basgall, Mark, Bridget Wall, Dave Glover, Marcelle Powers, and Margaret Biorn, California State University, Sacramento, and California Department of Transportation
***"Poster Presentations on Some Ongoing and Recent Projects in the Southwestern Great Basin"***

Our presentation will be in poster format, summarizing four ongoing or recent projects the Archaeological Research Center (ARC) has undertaken in the southwestern Great Basin. The first of these is a synthesis of prehistoric archaeology at the Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, based on more than three decades of concerted research across the installation. A second project relates to the Desert Renewable Energy Conservation Plan (DRECP), where ARC is assembling detailed site record information with the goal of establishing areas of higher and lower heritage value that can be used in future energy planning activities. The last two posters relate to individual archaeological investigations, one looking at the late Pleistocene/early Holocene surface record of the Lake China basin and another reexamining the work done at Owens Lake by Elizabeth Campbell between 1920 and 1940.

### 12.2 Binning, Jeanne Day, C. Jill Minar, Clifford J. Walker, and Daniel Stueber, Fresno City College, California Department of Transportation, Mojave River Museum, and Archaeological Investigations Northwest, Inc.
***"A Biface Cache from Paradise Springs, Central Mojave Desert"***

A cache of eight pressure-flaked bifaces, including two Humboldt Basal-notched knives of Coso obsidian and six chert dart point preforms, was found at Paradise Springs, south of Fort Irwin in the Central Mojave Desert. Hydration rinds on the two Humboldt bifaces indicate that the cache dates to about 1400 cal BP. The function of the cache within its social context, the special role of the Humboldt Basal-notched knife, and the persistence of the atlatl and dart into bow and arrow times are discussed.

**12.3 Byerly, Ryan M., and Joanna C. Roberson, Far Western Anthropological Research Group, Inc.**
**"*Gypsum, Deadman Lake, and the Early-to-Middle Holocene Record aboard the Marine Corps Air Ground Combat Center in Twentynine Palms, California*"**

Extensive inventories, test excavations, and collections of archaeological sites conducted over the past 30 years aboard the Marine Corps Air Ground Combat Center (MCAGCC) in Twentynine Palms, California, have revealed an expanding signal of Early-to-Middle Holocene era occupation by desert-adapted hunter-gatherers. Many of these occupations are subsumed within the framework of the Deadman Lake Complex, a relatively recent technological label applied to Pinto-era archaeological sites associated with Gypsum-like contracting-stem projectile points and a variety of other artifacts. These projectile points are ill-defined, however, and seem to exhibit considerable morphological overlap with otherwise uncharacteristic and poorly dated contracting-stem and leaf-shaped dart points, as well as Gypsum projectiles, which are typically considered a Late Holocene temporal marker throughout the Great Basin. This paper presents morphometric analyses of the currently known assemblage of Gypsum, Deadman Lake, miscellaneous contracting-stem, and leaf-shaped projectile points collected from MCGACC and surrounding areas to better examine what the Deadman Complex is, what it is not, and what Gypsum means in the south-central Mojave Desert.

**12.4 Campbell, Mark M.**
**"*A Preliminary Examination of the Prehistoric Use of Gem Hill and the Rosamond Hills*"**

The Rosamond Hills are northwest-to-southeast trending hills that extend from northwest of the community of Rosamond to Edwards Air Force Base east of Rosamond Dry Lake. While the archaeology of the Rosamond Hills has been well known to locals, including artifact collectors and rockhounds, its study by trained archaeologists has been piecemeal. This presentation will provide an overview of what has been recorded and excavated in the Rosamond Hills. It will present some preliminary observations from an ongoing volunteer effort to survey and record prehistoric resources in the vicinity of Gem Hill in the western portion of the Rosamond Hills.

**12.5 Duke, Daron, Far Western Anthropological Research Group, Inc.**
**"*An Updated Take on the Non-Projectile Point Quarries of the Mojave Desert*"**

The use of fine-grained volcanic (FGV) rock in the Desert West contradicts many archaeologist's notions of lithic technological efficiency. FGV quarries exhibit massive amounts of waste seemingly at odds with the types and quantities of tools found locally, and the stone is usually considered suboptimal. The quarries also tend to lack projectile points, and some early Mojave Desert researchers considered them evidence for a pre- or non-projectile point cultural phase. More recent work generally rebuffs them as atemporal. In this paper, I will discuss two large quarries from the Superior Valley vicinity within Fort Irwin in terms of functional requirements and reduction investments that changed through time.

## 12.6 Foster, Brandon, and Ashley Blythe, U.S. Bureau of Land Management
## "*35 Years On: A Synthesis of the California Desert Study Program and the Contributions of the West Mojave Plan Revisions*"

In 1980, the Bureau of Land Management (BLM) began implementation of the California Desert Area Conservation Area Plan (CDCA) in response to increasing conflicts between human use of the area and the natural environment. As part of this plan, the BLM and Archaeological Resources, Inc., conducted sample inventories of the western Mojave Desert, which resulted in the evaluation of how environmental variables corresponded to site type and density. Over the last year, field crews in the Ridgecrest and Barstow field offices conducted a 1% sample inventory of BLM land in the western Mojave Desert as part of the West Mojave Plan (WEMO). This paper serves as a synthesis of the California Desert Study Program methodologies and results. Through an analysis of the data collected during the current WEMO study, the effectiveness of the methodologies used in the CDCA Study Program will be determined. In the end, the WEMO field data will enhance a sensitivity model that was created as a tool to inform BLM land-use management policies to protect cultural resources.

## 12.7 Giacinto, Adam, Brad Comeau, and Micah Hale, Dudek, Inc.
## "*Shifting Cultural Concepts of the 'Isolate' in Cultural Resources Management*"

The emergence of Cultural Resource Management (CRM) as a practice has followed a series of increasingly more intensive episodes of development that were promoted by a growing body of legislation associated with the management of government permitted impacts upon areas of cultural value. The term "cultural resource" became largely synonymous with discrete and bounded "archaeological sites," and the best archaeological practices for managing such resources came to be guided through legislation. Over time, paradigmatic and social shifts resulted in the passage of additional legislation that was more inclusive of Native American and local communities, serving to promote alternative and often intangible understandings of "cultural resources." As these understandings have been redefined through implementation, they have come to be both disjunctive and inclusive of commonly applied anthropological and archaeological perspectives. This paper pertains to the shifting concepts of "cultural resource" in cultural resources management. This draws on recent experience from our energy work in the desert and highlights the variable concepts of heritage by the multiple involved stakeholders as they relate to the handling of non-significant resources. At the heart of this paper is a discussion of the burial of isolated artifacts discovered during the course of construction. We hope to provide an opportunity for some additional conversation surrounding the broader implications of this shift in practice and definition.

### 12.8 Girado, Amy, U.S. Bureau of Land Management
**"*Updates on Recent Archaeological Investigations in the Vicinity of Walker Basin, Kern County, California*"**

As far as California goes, the communities of Walker Basin, Loraine, and Twin Oaks are incredibly isolated and rural areas located in the extreme southern Sierra Nevada. A sparse amount of archaeological research has been conducted in the area in the last several decades. Several research projects are in the works, including documentation of a prehistoric hunting camp dating to 9000 BP, a historic community associated with the Joe Walker Mine, several mines within the Amalie Mining District, in addition to prehistoric paintings and engravings found in the higher elevations. Preliminary data will be provided on these recent projects.

### 12.9 Hall, M. C., University of California, Riverside
**"*A Few Reflections on the Study and Management of California Desert Archaeology*"**

In preparation for the final phase toward commencing fully digital operations, over the past two years the Eastern Information Center (EIC) of the California Historical Resources Information System has been reconciling conflicts between described and mapped locations of cultural-historical resources sites (45,000+ records) and studies (12,000+ reports) in Riverside, Inyo, and Mono counties. Although focused on systematically verifying spatial rather than comprehensively affirming content elements of the EIC inventory, because the latter must often be consulted in order to resolve mapping questions, the review process has encouraged assorted impressions to form about the evolution of archaeological resources recordation, evaluation, interpretation, and management methodologies in the Mojave and Sonoran (Colorado) desert portions of California since scholarly investigations began almost a century ago. This presentation is expressly not a critical historical assessment, but merely offers some thoughts on various aspects of prehistoric research in the region today from the dual perspectives of a "data custodian" and occasional practicing archaeologist.

### 12.10 Knell, Edward J., and Ricky Saldana, California State University, Fullerton
***"Prehistoric Settlement Strategies around Lake Mojave"***

We use multiple lines of evidence to establish terminal Pleistocene-early Holocene (TP-EH) through Late Prehistoric spatio-temporal patterns and settlement strategies around Lake Mojave (Soda and Silver Lake playas). Data from six survey areas along the shorelines of Soda and Silver Lake are analyzed to establish whether prehistoric settlement strategies varied in accordance with changes in the lake water level. Prior analysis of the Little Cowhole survey area revealed that, over time, TP-EH foragers gradually shifted their habitations to lower elevations as the lake level receded. Other survey areas at Soda and Silver Lake have TP-EH through Late Prehistoric age sites, providing the opportunity to evaluate whether post-TP-EH foragers also shifted their habitations in accordance with the receding water level. We find that the Middle and Late Holocene sites are at sequentially lower elevations than the TP-EH sites, and that foragers around Lake Mojave employed a time-transgressive settlement pattern in which their habitation areas shifted to lower elevations in lockstep with the reduction in lake level through time. Future iterations of this analysis will use GIS modeling to predict the likely locations of prehistoric marshes and assess whether a correspondence exists between these resource patches and the prehistoric settlement patterns around Lake Mojave.

### 12.11 Laylander, Don, Julia Bendímez Patterson, and Antonio Porcayo Michelini, ASM Affiliates, Inc., and Instituto Nacional de Antropología e Historia
***"Lake Cahuilla's Little Sister: Exploring the Role of Laguna Macuata in Colorado Desert Prehistory"***

Laguna Macuata is a southwestern branch of the Colorado River's delta. It lies between the Peninsular Ranges' Sierra Juárez to the west and the lower-elevation Sierra Cucapá and Sierra Mayor to the east. Like the much larger Salton Basin immediately to its north, Laguna Macuata's floor extends below sea level, and it has been flooded at intervals with waters from the Colorado River and possibly also from the Gulf of California. The importance of Laguna Macuata in the prehistory of the Colorado Desert still remains largely unexplored. The modern characteristics of the basin, its early historic record, its ethnographic record, and the archaeological evidence available so far are reviewed here, and some research opportunities are suggested. Laguna Macuata's likely role in Colorado Desert prehistory is compared and contrasted with that of its much larger neighbor to the north, Lake Cahuilla. Both lakes offer important research opportunities as case studies of aboriginal adaptations to exceptionally unstable natural environments.

### 12.12 Pritchard-Parker, Mari A., CH2M

**"*Refining Our Understanding of the Lake Mojave Period: What Are Those Eccentric Crescentic Thingies Anyway?*"**

During two field survey projects conducted by CH2M in January-April of 2015 around the Paiute Pounds area of Edwards AFB, four crescentics were identified and collected. These tools are site-type markers for sites dating to the Lake Mojave Period (LMP). These and other LMP artifacts at a number of sites identified during these projects allowed us to focus testing to this period. We hope to undertake a techno-functional analysis of Lake Mojave artifacts from Edwards AFB, including crescentics, and propose the creation of a Lake Mojave Period District for the Rosamond Lake area.

### 12.13 Roberson, Joanna C., and Ryan M. Byerly, Far Western Anthropological Research Group, Inc.

**"*Estimated Hydration Rates for Bristol Mountains (Bagdad) Obsidian: Implications for Prehistoric Demography in the South-Central Mojave Desert*"**

Geochemical data for Bristol Mountains (cf. Bagdad) obsidian was first reported in 1994. Since then, resource management efforts at the nearby Marine Corps Air Ground Combat Center (MCAGCC), in Twentynine Palms (San Bernardino County), California, have produced a growing body of artifacts made from this obsidian for which hydration rims have been measured. However, a hydration rate has not yet been satisfactorily developed for this source due to a paucity of secure chronological associations, which has frustrated site age assessments and interpolation of regional prehistoric toolstone procurement and use patterns. This paper presents three new rates developed for Bristol Mountains obsidian using a novel method to estimate obsidian hydration rates for sources with limited temporal correlates using a linear least-squares best fit model that employs general age ranges for temporally diagnostic projectile points weighted by level of confidence in the accuracy of the temporal spans of each type. Estimates were derived based on three varied Mojave Desert cultural chronologies, and resultant temporal profiles are contrasted against MCAGCC radiocarbon and Coso obsidian profiles.

### 12.14 Saldana, Melanie P., California State University, Los Angeles

***"Small Stone Spheres in the Western Mojave Desert"***

A breccia stone sphere was recorded on the surface of CA-SBR-47, a rock shelter located in the Pothunter Spring Archaeological District at Naval Air Weapons Station, China Lake in January 2014. The small, pecked sphere is approximately 3 cm in diameter, without signs of wear. While not common in the western Mojave Desert, these artifacts are found in surrounding areas with greater frequency. This paper will synthesize limited information on similar artifacts and attempt to define their function.

### 12.15 Warren, Claude, and Joan Schneider, University of Nevada, Las Vegas, and California State Parks

***"A New Look at Old Features on the Shores of Silver Lake: Unpublished Enigmas"***

Over the last 25+ years, we have observed, photographed, and drawn cultural features around the north and eastern shorelines of Silver Lake (northern lobe of Lake Mojave) but have not had the opportunity to further research and/or place these chronologically. These two old archaeologists want to pass these research problems on to the next generation of archaeologists.

### 12.16 Wells, Helen, California State University, Los Angeles

***"Still Tracking Bierman and Mohr with Cal State LA"***

The ninth season of our desert field school is currently under way on the Naval Air Weapons Station, China Lake. As we move across the South Range, testing rock shelter sites, we have revisited several sites that were originally investigated by Agnes Bierman and Al Mohr in the late 1940s. Although many of these sites were relocated in a 2004 project, we have rediscovered and tested several others.

# 13.0 2017: Zzyzx, October 28
# Organized by Helen Wells

## 13.1 Basgall, Mark, and Margaret (Tina) Biorn, Ambrose West Anthropological Consortium

**"*Geochemical Analysis of Late-Pleistocene/Early-Holocene Marker Artifacts of Fine-Grained Igneous Toolstone from the Greater Mojave Desert*"**

This paper presents a preliminary assessment of XRF data on 305 fine-grained volcanic (FGV) artifacts from the Mojave Desert. Analysis was done primarily on late-Pleistocene/early Holocene markers, including Great Basin Concave-base, Western Stemmed, Pinto, and Deadman Contracting-stem points from seven general geographic localities. Results indicate significant variation in the dispersion of basalt/dacite materials from known source areas but indicate that more sophisticated statistical analysis will be necessary to sort out variability in rhyolitic and other FGV variants.

## 13.2 Binning, Jeanne, Craig E. Skinner, and Jennifer J. Thatcher, California Department of Transportation

***"An Obsidian Biface Cache from the Extreme Northeastern Mojave Desert"***

An obsidian biface cache of 29 bifaces was recovered from the Mineral Mountains in southern Utah. For each biface, the source of the raw material, the width of the hydration rind, and the distinguishing lithic technology were determined. The resulting data contribute to the long-standing discussion of the function of these phenomena in various geographic and temporal contexts.

## 13.3 Foster, Brandon G., Bridget R. Wall, and Marcelle M. Powers, California State University, Sacramento

**"*A Distributional Analysis of Prehistoric Ceramics from the Marine Corps Air Ground Combat Center, Twentynine Palms*"**

The Marine Corps Air Ground Combat Center is located near the southern edge of the Mojave Desert. As such, it is bounded by various ceramic production areas, making it a suitable location for the study of regional ceramic use, settlement, and material conveyance during the late prehistoric era. Over the past 30 years, extensive archaeological research has been carried out on base, including numerous surveys and evaluations in support of their mission to protect cultural resources. This has resulted in an exceptionally detailed dataset. As part of an ongoing project, the Archaeological Research Center is assembling a comprehensive database of archaeological attributes across the entire installation that includes information regarding the distribution of various features, flaked and ground stone artifacts, exotic items (e.g., shell beads, turquoise, foreign toolstone), and their association with relevant environmental variables. We employ these data to discuss the role of ceramics in prehistoric settlement systems in the broader Mojave Desert during the last thousand years of prehistory.

### 13.4 Laylander, Don

**"*Analyzing Prehistoric Pottery Forms in the Mojave and Colorado Deserts: Some Blind Alleys and Opportunities*"**

Diverse types of analysis and interpretive goals have been applied to aboriginal ceramics in the California deserts. This brief discussion focuses specifically on vessel forms as clues to functional patterns in the archaeological landscapes, and the contributions that can potentially be made at the level of field observations and basic laboratory analysis. Some previous approaches seem to suffer from poor replicability, too limited applicability, interpretive sterility, and/or insufficient documentation. An alternative focus on a small number of simple, relatively well-defined, and interpretively significant attributes is proposed.

# 14.0 2019: Zzyzx, November 2
# Organized by Edward J. Knell

## 14.1 Arend, Tiffany, Diane Winslow, and Jim Shearer
***"Calico Revisited"***

The Calico Mountain Archaeological District and the Calico Early Man Site have a long and storied history. Part of this story includes a site where emerging approaches to the science of archaeology have been tested. In this paper we present a preliminary sketch of a new approach to considering the significance of Calico not as an archaeological site but as a location with historic significance for the study of archaeology. This significance will be important as the Bureau of Land Management wrestles with the very real human health and safety concerns of the site.

## 14.2 Barton, Loukas, Mark Basgall, Ryan Brady, Jessica Colston, Brad Comeau, and Micah Hale
**"*The Bissell Basin Archaeological District in Light of Western Mojave Paleoclimate and Prehistory*"**

The Bissell Basin Archaeological District sits on the northwest portion of Edwards Air Force Base, some 10 km north of Rosamond Dry Lake, on a tributary of Mojave Creek which itself drains into Rogers Lake bed, both of which were mere portions of an expansive Pleistocene Lake Thompson. The District – which was always well beyond the lake margins – is rich in evidence of human activity throughout nearly all phases of the Holocene, though the characteristics of each site differ from those of other sites from the same periods found in other well-studied areas. Namely, the bulk of the current evidence suggests this area was most commonly visited by small groups of people for short periods of time. There is little evidence of permanent or persistent occupation, yet the region is saturated in evidence for human activity, suggesting that people of nearly all time periods occupied the region for some portion of the year, perhaps regularly. As regional environmental change (specifically that governed by change in precipitation, evaporation, and snow-melt) surely played a significant role in the distribution and abundance of food (and therefore how people moved about and manipulated a landscape of resources), understanding the record of the BBAD in light of regional environmental change, as well as known archaeological patterns throughout the region, is essential for a better understanding of culture change throughout the western Mojave. Here we articulate the primary variables in the relationship between environmental change and cultural response and outline our research design for investigating it in the coming years.

### 14.3 Binning, Jeanne
**"*Prehistoric Tool Stone Acquisition and Processing in the Greater Mojave River Valley*"**

Diverse rocks from the Precambrian to the Late Cenozoic are exposed across the greater Mojave Desert Region. In the central Mojave, locations with concentrations of knappable materials are prevalent. Most of these sources are deflated alluvial fan deposits; less than 5% are outcrops. Over the 13,000+ years people have been using the area, percussion biface reduction dominated at both the material extraction sites and habitation and special activity sites. Igneous materials were preferred by people using the area during the early Holocene, and chert was preferred during the middle and late Holocene. The size of bifacial cores remains consistent within material types throughout most of the Holocene; however, about 1,500 years ago, there is a significant reduction in the size of these cores. Finally, there is evidence that much of the stone, after being tested, was found to be undesirable and left at the extraction sites. Explanations for these patterns are presented.

### 14.4 Byerly, Ryan M., and Joanna C. Roberson
**"*Late Holocene Drought and the Archaeology of the South-Central Mojave Desert*"**

The scale and grain of potential impacts of the Medieval Climatic Anomaly (MCA) on hunter-gatherer lifeways in the Western Mojave Desert have been well-studied, leading to conclusions of nominal to severe cultural influences. This presentation explores how MCA conditions might have affected people in the central Mojave Desert, specifically that area now encompassed by the Marine Corps Air Ground Combat Center (MCAGCC). As with other investigations, our study assesses aspects of local Late Holocene site chronology, site location and size, artifact assemblage diversity, and faunal patterns in the times prior to (i.e., pre-MCA, ca. AD 300-800), during (i.e., MCA, ca. AD 800-1300), and after (i.e., post-MCA, ca. AD 1300-1800) the MCA.

### 14.5 Dahdul, Mariam
**"*Historical Context and Archaeological Research Design for the Antelope Valley*"**

The California Department of Transportation (Caltrans) developed a regional historical context and research design to guide the Department's investigations of Native American archaeological resources in the Antelope Valley. Specifically, the research design provides a framework for evaluating the information potential of sites in the region for eligibility for the National Register of Historic Places. The document provides information on the natural and cultural setting of the Antelope Valley, theoretical orientation, research themes and questions, and data needs. The document is available to researchers to aid their investigations in the region as well as to update the document periodically to reflect future advances in archaeological methods and theory along with incorporating the results of future archaeological investigations in the Antelope Valley.

## 14.6 Figueroa, Jeffrey Rosa
**"*Still Relevant: Applying the Monitor Valley Key to a Recently Recovered Collection of Projectile Points Found in Monitor Valley, Nevada*"**

The Zumstein collection, consisting of artifacts from various locations in eastern California and central Nevada, was recently received by the Bureau of Land Management (BLM) Bishop Field Office. The BLM gave California State University, Los Angeles students the opportunity to analyze a portion of this material, consisting of projectile points and other chipped stone artifacts that a collector had stored in small boxes labeled Monitor Valley. The analysis consists of measuring and typing the projectile points using the Monitor Valley classification system, originally developed by David Hurst Thomas (1981), and subsequently modified by Thomas and his colleagues, for the purpose of classifying points from Gatecliff Shelter and other Monitor Valley sites. In addition to the analysis of measuring and typing projectile points from this collection, understanding source availability and the type of material, in particular obsidian, presents important data to understanding the use of obsidian in the Chert Core of the central Great Basin.

## 14.7 Gilliland, Susan H., and Joan S. Schneider
***"Excavating the Blue Goose"***

Claude N. Warren, a renowned California archaeologist for 60+ years, has worked nearly that long in the desert regions. He is especially known for his research in the Mojave Desert, but also for his work at the Harris Site, CA-SDI-149, in San Diego. Warren has published multiple articles about this site but has never produced a completed report of his own 1960s excavations. This presentation is the first public talk about a multi-person, multi-disciplinary effort to recover, assemble, curate, and publish Claude's previously incomplete work from those excavations. His work to-date includes excavation techniques, collections, artifact descriptions, maps, drawings of trench and unit profiles, and both typological and radiocarbon analyses. Although he has continued to work on the project over many years, his advanced age finally precluded completion.

My colleague, Joan Schneider, approached Claude and his family for access to his collections and files and recruited, cajoled, and energized a number of colleagues and volunteers to make this (the forthcoming report and appropriate curation) happen. Over the years this project has been under way, Claude still took the lead; circumstances, however, came together very recently that necessitated speeding up the process. This presentation shares the history, the mystery, and the current status of the project.

The presenter's interest and involvement in the project is from a curatorial standpoint. She is committed to the recovery of "Legacy Collections" that have not been curated and made available for research. Completing this project fills in a hole in Early Period archaeological research conducted at the Harris Site and honors the lifelong work of Professor Emeritus Claude N. Warren.

### 14.8 Girado, Amy
**"*Thoughtful Boundaries at the Walker Pass National Historic Landmark, Kern County, California*"**

Walker Pass was designated as a National Historic Landmark in 1961 for its association with Joseph R. Walker and was listed on the National Register of Historic Places in 1989. The boundary for this resource is a triangle drawn between three peaks on land managed jointly by the Bureau of Land Management and the Sequoia National Forest. The original / arbitrary boundary is being redrawn to represent the archaeological and historical record. The Bakersfield Field Office is in the process of conducting field inventory in portions of the NHL as well as updating the narrative to reflect current thoughts on the role of Native Americans in the exploration of the American West.

### 14.9 Knell, Edward J., and Mark Q. Sutton
**"*Regional Stylistic Continuity among Mojave Desert Terminal Pleistocene/Early Holocene Projectile Points*"**

Metric measurements from 458 Great Basin Concave (GBC), Lake Mohave, Silver Lake, and nondiagnostic Western Stemmed (WST) projectile points from the western (Edwards AFB), north-central (China Lake, Ft. Irwin, Lake Mojave, Borden Collection), and south-central (Twentynine Palms Marine Base) Mojave Desert were analyzed to establish whether regional stylistic continuity existed or if these points varied nondescriptly across space (no stylistic continuity). Data for eight metric and three angle variables from gray literature reports (primary data for Lake Mojave) were obtained to address this question. GBC and WST points, and Lake Mohave and Silver Lake points, represent different statistical populations. Though we determine that the point styles generally represent stylistic continuity both within the Mojave Desert region and in comparison to large point collections from the Great Basin (Eastern Nevada Comparative Collection and the Old River Bed Delta; Beck and Jones 2009 and Madsen et al. 2015, respectively), we ultimately conclude that their final shape was influenced by local conditions such as lithic raw material availability, mobility, and curation rate. Temporal variation is of interest, but not evaluated since the age of these point types is poorly understood in the Mojave Desert.

### 14.10 Laylander, Don
**"*Comparing Eight Conferences: Approaches to Sharing Data and Ideas about Mojave-Colorado Desert Prehistory*"**

Some commonalities and variations are identified in the organizational characteristics of eight recurring conferences that address, at least in part, the prehistory of the Mojave and Colorado Deserts. Possible future application of a few of their characteristics to the Kelso Conference are briefly considered.

### 14.11 Morales, Anthony

**"*An Interdisciplinary Approach to Understanding the Rose Valley Site (CA-INY-1799): A Paleoindian Site in the Western Great Basin*"**

In 2017, California State University, Los Angeles, began a multi-year investigation of the Rose Valley Site (CA-INY-1799). As an enhancement of our archaeological methodology, my study has emphasized an interdisciplinary approach that incorporates geological research and geospatial technologies. This includes the use of geostatistical analyses, extensive subsurface soil sampling, and the utilization of drones for topographical surveying and detailed mapping. Utilizing this approach, the resultant maps and datasets were used to identify statistically significant patterns amongst the spatial distribution of artifacts and aid in the reconstruction of the natural and cultural depositional processes at this highly significant site.

### 14.12 Schneider, Joan S.

**"*Looking for Arrows in the Archaeological Record: Why Do Projectile Points Limit Our Views of Late Prehistoric Technology?*"**

For at least 350 years, remnants of 37 compound arrows made of carrizo (cane) and hardwood have remained in high crevices in a canyon wall in the Colorado Desert of southern California. This paper considers the fact that the majority of southern California's indigenous peoples used only organic materials to make their hunting weapons. Therefore, an absence of evidence does not constitute evidence of absence (of hunting and other activities) when we interpret the activities that took place at the sites we study. The Arrow Site and the research conducted to interpret its function forms the basis of this "case-in-point."

### 14.13 Schroeder, David D.

**"*Technological Organization Strategies at the Baker Site: A Rhyolite Quarry on the Margins of Pluvial Lake Mojave, California*"**

A sample of the extant Baker Site lithic assemblage (CA-SBR-541), a well-known Mojave Desert rhyolite source, was analyzed to understand how prehistoric hunter-gatherers organized their fine-grained volcanic stone tool technology as a component of their local lifeways around pluvial Lake Mojave and regional movements across the Mojave Desert and Great Basin. An analysis of the tools, cores, and debitage from the Baker Site suggests the site primarily functioned as a rhyolite toolstone source with a focus on tabular core reduction and the production of early-stage bifaces and flake tool blanks for off-site transport. The overwhelming percentage of rhyolite in the sample, the heavy occurrence of core reduction flaking debris and shatter, and the presence of worn-out and discarded technologically finished tools all support the identification of the Baker Site as a raw material procurement site. Interestingly, a Levallois-like core reduction strategy is evident on nearly 20% of the analyzed cores, possibly as a work-around to produce flake blanks from the small raw material package size and less-than-ideal stone quality. A comparative study of 50 cores from the nearby Soda Mountain felsite quarry/workshop complex analyzed by Knell (2014) shows many similarities between the lithic technological organization of felsite and rhyolite procurement and use around Lake Mojave, with raw material package size representing the most substantial difference.

### 14.14 Taylor, Jan
**"*An Optimal Foraging Theory-Based Land Use Model for Pluvial Lake Mojave*"**

My study develops a testable land use model that predicts how terminal Pleistocene/early Holocene (TP/EH) hunter-gatherers optimally exploited pluvial Lake Mojave on a seasonal basis. The model uses optimal foraging theory to predict how hunter-gatherers decided between land use strategies based on the predicted combination of flora and fauna at pluvial Lake Mojave as compared to other potential resource patches (in this case, upland areas of Fort Irwin). The predictive model that will result from this study, and ultimately my MA thesis, can be tested using archaeological data derived by researchers working in the area. Overall, this study contributes to our current understanding of land use and subsistence strategies among the Mojave Desert's early populations.

### 14.15 Wells, Helen, and Melanie Saldana
**"*Ceramics from the South Range, Naval Air Weapons Station, China Lake: A Summary of Artifacts and Data from Test Excavations, 2007-2016*"**

Field school investigations yielded few, but varied, ceramic specimens, including sherds, unfired clay coils, one clay bead, and one fragment of a pendant or figurine. Pottery wares comprise Great Basin Brownware, Paddle and Anvil Thinned specimens, and one decorated sherd that originated in Hopi Mesa. Neutron activation analysis of the plain ware sherds suggests little overlap in material sources.