The prehistoric archaeological record of the Mojave Desert

Fred E. Budinger, Jr.
Budinger & Associates, San Bernardino, California

Introduction

This paper presents an overview of the prehistoric archaeological record of the Mojave Desert. The Mojave has the deepest prehistoric archaeological record in the United States, extending back to more than 200,000 years ago. Archaeology is the study of artifacts and features of past cultures in a variety of contexts. It will be useful to begin this overview in a temporal context.

Together the Pleistocene and the Holocene form the Quaternary period of geologic time. The Pleistocene was a time characterized by alternating periods of rapid and dramatic climatic changes. In North America, cool and moist periods north of about 40 degrees latitude saw cold glacial periods alternating with warmer and drier interglacials. Continental glaciation, with huge ice sheets up to two miles thick, did not occur south of about 40 degrees latitude. The Pleistocene started 2,588,000 years ago and ended 11,700 years ago. It was followed by the Holocene, a time of warmer and drier climates, which continues to the present day.

Drilled marine cores often have foraminifera. Because their shells record isotopes of oxygen and carbon they can be analyzed for records of the past composition and temperature of ancient waters. Oxygen-16 is slightly lighter than oxygen-18 (it has two fewer neutrons); it is more readily evaporated from the ocean's surface. After moving over land as water and falling as rain and snow during cold times, oxygen-16 gets enhanced in glacial ice and comparatively depleted in sea water. The changing ratios of the two isotopes of oxygen can be used as a record of the onset and duration of cold moist glacial periods and the drier interglacial periods. This is the essence of the technique for assessing Marine Oxygen Isotope Stage (MIS) numbers. The current geologic period, the comparative warm and dry Holocene, is assigned MIS 1. Working back through time, cold wet glacial periods are assigned even numbers. The Holocene (MIS 1) began approximately 11,700 years ago. It followed the last glacial period named the Wisconsin glaciation (MIS 2).

Although MIS 2 continental glacial ice did not extend as far south as California, mountain glaciers were present in the Sierra Nevada and the Transverse Ranges. The lowlands experienced times of increased rainfall, known as pluvials. More than one hundred pluvial lakes were in the Great Basin. Pluvials and interpluvials were not necessarily in step with glacial and interglacial periods.

The Manix Basin

The longest archaeological record in the Mojave Desert is in the lower Mojave River Valley. The basin held Pleistocene Lake Manix from about 500,000 years ago to about 25,000 years ago (Reheis et al., 2014). During this period, factors relating to the elevation of landforms, drainage patterns, annual precipitation, mountain snowpacks, cloud cover patterns, and evaporation were

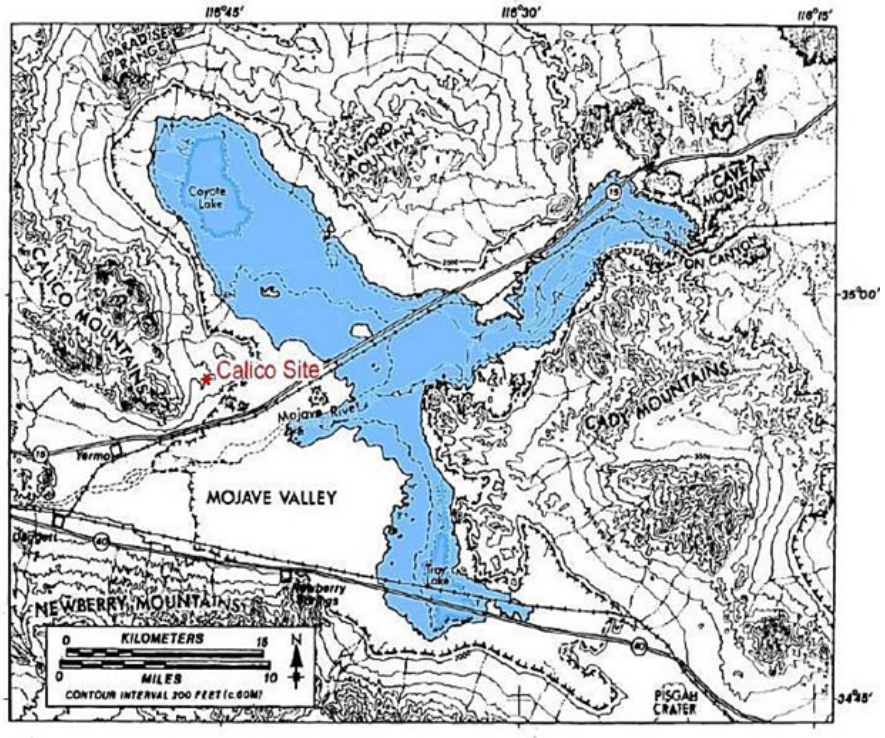

Figure 1. Map of the Manix Basin (lower Mojave River Valley) in the central Mojave Desert of southern California. Map shows the most recent stand of Pleistocene Lake Manix in blue and the Calico Early Man Archaeological Site. The dashed outline was drawn for another project and does not indicate a bigger lake. Credit: © D.M. Burke.

such that the Mojave River formed and maintained Pleistocene Lake Manix.

During the middle and late Pleistocene, the Mojave River, an endoreic stream with its source in the San Bernardino Mountains, transported water north and east to the Manix Basin. The Calico, Paradise, Alvord, Cady, and Newberry Mountains circumscribe the basin. These are composed of Paleozoic and Mesozoic basement rocks, Cenozoic non-marine sedimentary rocks, and shallow intrusive rocks. Figure 1 is a map of the Manix Basin.

The last stand of pluvial Lake Manix had its shoreline at 543 m (1780 ft) above mean sea level (AMSL). The lake had a surface area of approximately 236 km^2 and a volume of approximately 3.15 km^3. Lake Manix drained catastrophically approximately 25,000 years ago (Reheis et al. 2014). A lacustrine sedimentary section known as the Manix Formation contains Rancholabrean fauna ranging in age from approximately 20,000 years ago to more than 350,000 years ago (Jefferson 1968, 1985a, 1985b, 1987, 1989, 1991). The richest fossiliferous section has been dated by radiocarbon, uranium-series techniques, and trace element correlation of a tephra (volcanic ash) dated by potassium-argon and ^{40}Ar/^{39}Ar methods. Among the fossils recovered are camel, horse, mammoth, saber-tooth cat, dire wolf, short-faced bear, coyote, flamingo, pelican, eagle, swan, geese, mallard duck, ruddy duck, canvas-back duck, double-crested cormorant, grebe, crane, seagull, and stork. Recent surficial mapping and stratigraphic and geomorphic studies of pluvial Lake Manix and its environs include Reheis et al. (2012, 2014, 2021).

Figure 2. Lithic tools, flakes, blades, and blade cores of the Calico Lithic Industry. These specimens have been coated with powdered aluminum to accentuate surface morphologies. Credit: © Daniel J. Griffin.

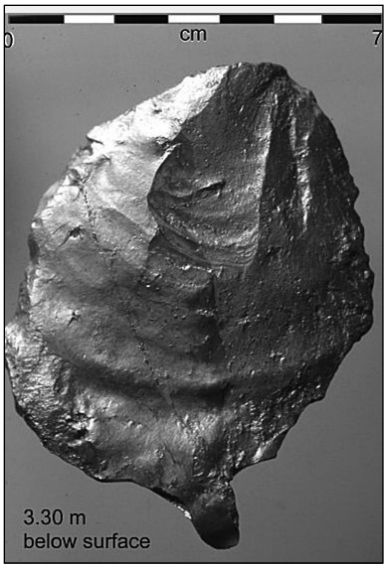

Figure 3. Large soft hammer flake with platform lipping, bulb scar, and distinct ripples. This specimen has been coated with powdered aluminum to accentuate surface morphology. © Daniel J Griffin.

The Calico site

The Calico site (CA-SBR-2102) is a simple quarry and lithic workshop explored by excavations to a depth of 6.5 m in Master Pit I and 10 m in Master Pit II. Excavations have yielded a variety of both light-duty and heavy-duty tools and more than 60,000 technical flakes and pieces of angular debitage (flintknapping debris) of chalcedony, chert, jasper, siliceous freshwater limestone, and petrified palm wood. The light-duty tools include a variety of scrapers (concave, convex, notched, straight-edged, end, convex side and end, strangulated, and thumbnail), denticulates (saw-like tools), gravers, burins (chisel-like tools), reamers, piercing tools, blades, and bladelets. Heavy-duty tools include choppers (unifacial), chopping tools (bifacial), hand axes, Calico Cutters (combination chopping and cutting tools), formed and unformed

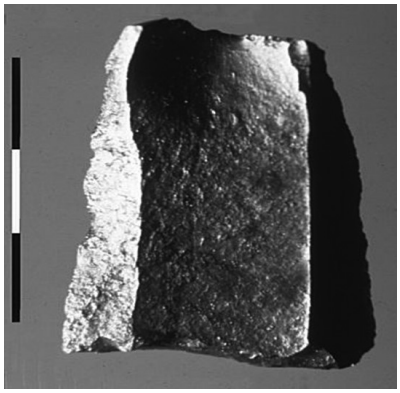

Figure 4. A concavo-convex flake. This is an unusual type of flake; it was produced by two identical strikes on the same striking platform. Thus far 296 such concavo-convex flakes have been found. This specimen has been coated with powdered aluminum to accentuate surface morphology. Credit: © Daniel J. Griffin photo.

Figure 5. Chalcedony blades from various depths from 1.45 m to 4.5 m in Master Pit I at the Calico Site. Credit: © Daniel J. Griffin.

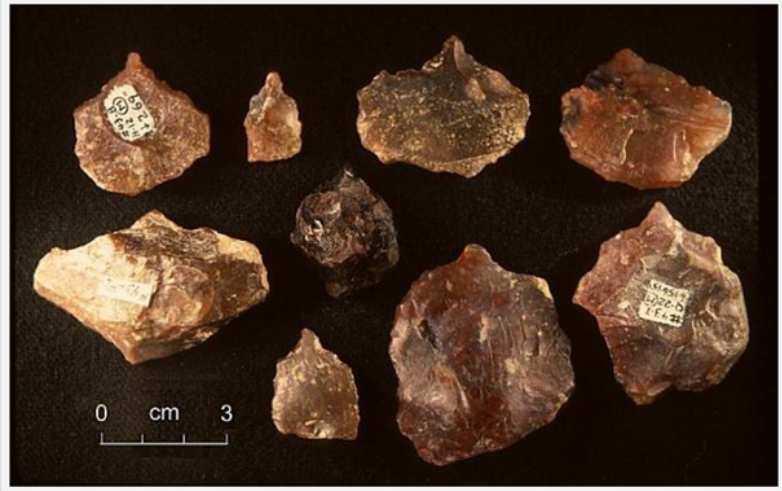

Figure 7. Nine reamers (rotational tools) from the Calico Site. Credit: © Daniel J. Griffin.

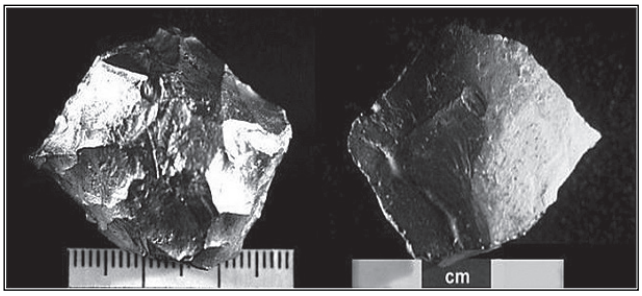

Figure 8. A graver recovered from a depth of 3.99 m in Unit P-20 in Master Pit I at the Calico Site. This specimen has been coated with powdered aluminum to accentuate surface morphology. © Daniel J. Griffin.

anvils, hammerstones, and pecking stones (Bischoff et al. 1981; Budinger 1983, 1992, 2000; Budinger and Simpson 1985; Shlemon and Budinger 1990; Schuiling 1972, 1979; Simpson 1978, 1980, 1982, 1999; Simpson et al. 1986). Figures 2-9 depict significant Calico artifacts.

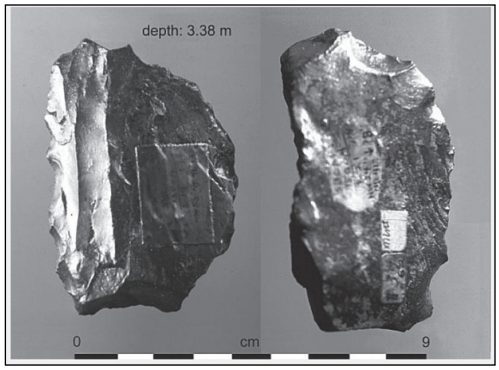

Figure 6. Two scrapers from the Calico Site. The specimens have been coated with aluminum powder to accentuate surface morphology. Credit: © Daniel J. Griffin.

No homonin fossils have been found. The Calico Project has two foci of investigation and debate: (1) the authenticity of the specimens as *bona fide* artifacts (the "artifact/geofact" issue); and (2) the age of the host alluvial fan deposits. The Calico site is situated in alluvial deposits dated by sediment thermoluminescence (TL) to 135,000 years ago (Debenham 1998, 1999), more than 200,000 years ago by uranium-thorium dating (Bischoff *et al.* 1981), and greater than 198,000 years ago by cosmogenic beryllium-10 dating (Owen et al. 2011).

The Bassett Point site

During geoarchaeological investigations of the Manix Formation, a modified chalcedony specimen with a prominent force bulb, radial force lines, step-flaking, and unifacial edge modification was recovered. This artifact

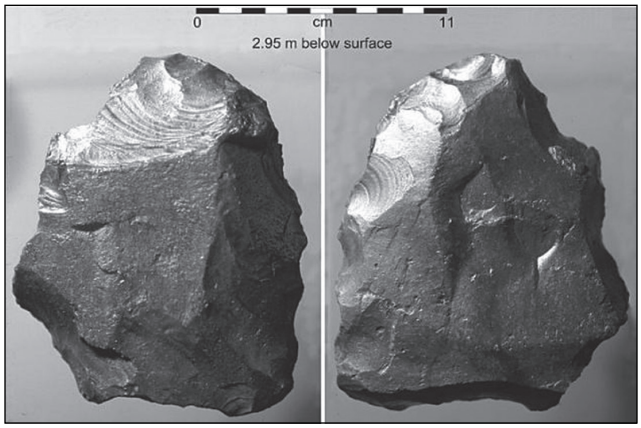

Figure 9. This Calico Cutter, a combination chopping and cutting tool recovered from a depth of 2.95 m. Three large oblique crests were produced as cutting edges. Alternate bifacial flaking was done to produce a chopping edge. This specimen has been coated with powdered aluminum to accentuate surface morphology. Credit: © Daniel J. Griffin.

Figure 10. A chopping tool recovered from Master Pit I at a depth of 4.75 m. A sample of the calcium carbonate rind covering distinct flake scars was dated to 205 +2.9/-2.8 ka by uranium-series dating (cite reference). © Fred E. Budinger, Jr.

Figure 11. Lake Manix Lithic Industry artifacts cover the Calico Hills down to an elevation of 453 m. That elevation contour was the shoreline of the last stand of Pleistocene Lake Manix. The lake drained approximately 25 ka and the artifacts are at least that old. Credit: © Daniel J. Griffin photo.

was found *in situ* in the uppermost part of Lower Member B of the Manix Formation (Jefferson 1985b) 5 m below the Long Canyon tephra (Budinger 1992, 2000). This tephra was sourced to Long Canyon in the southern Sierra Nevada dated to 185±50 ka by the K-Ar method (Bacon and Duffield 1981, Izett 1981, Sarna-Wojcicki *et al.* 1984). This tephra has been redated to 174±4 ka by the $^{40}Ar/^{39}Ar$ method (Reheis et al. 2014).

Later work at Bassett Point yielded twenty-one specimens with edge and face modification of probable cultural origin. Most exhibit unifacial flaking; a few show alternate bifacial edge flaking. Edge modification is localized on fortuitously shaped clasts, especially ones with natural concavities. Such concavities were sometimes worked by percussion flaking into concave or hollow scraper edges. All specimens show fluvial abrasion indicative of transport, possibly from the Calico site, some 16 km upstream.

Lake Manix Lithic Industry

The Lake Manix Lithic Industry consists of oval bifaces, scrapers (end, straight, concave, pointed, convex, and plano-convex), cutting tools, choppers, stout picks, rotational tools, gravers, cores, anvils, and hammerstones (Simpson 1960, 1976; Alsoszatai-Patheo 1975, Binning et al. 1985). The tools, core, and flakes are typically chalcedony, chert, or jasper; hammerstones are typically dacite or andesite. Artifacts are usually covered with rock varnish and often embedded in desert pavements. Younger Paleoindian artifacts at lower elevations are not varnished and not embedded in desert pavements. Tools and flakes are found above, but very rarely below, the 543 m (1780 ft) highstand level of pluvial Lake Manix. This juxtaposition suggests that the people who made the tools interacted with the lake.

The East Rim site (CA-SBR-2129), about 2.5 miles east of the Calico site, is a lithic workshop with artifacts on and beneath the surface to a depth of 15 cm (Alsoszatai-Patheo 1975). Pinyon and juniper pollen indicate that tools and flakes were deposited 14,000 to 17,000 years ago. Artifacts include choppers, scrapers (inside and convex), bifaces (ovate, wedge-shaped, and generalized), cutting tools, utilized flakes, hammer stones, pecking tools, and pointed tools. Figure 11 shows representative specimens of the Lake Manix Lithic Industry.

The Rock Wren locality at the Calico site

A well-formed chalcedony biface was recovered 50 cm (19 in) below the surface in a drainage channel in the nested

Figure 12. The Rock Wren biface was found in a nested inset of alluvium dated to 14.4±2.2 ka. It shows evidence of heat treatment. Credit: © Daniel J. Griffin.

unit of alluvium at a location approximately 50 m (164 ft) east northeast of Master Pit I at the Calico site. Discovered during a hike when a rock wren bird nest was found on the rocky surface, it has come to be euphemistically called the Rock Wren biface. Figure 12 is a photograph of both faces of this specimen. The specimen's face and edge modifications reflect a technique of controlled knapping not evident on either the surface artifacts of the Lake Manix Lithic Industry or the late middle Pleistocene Calico specimens.

Thermoluminescence analysis of sediment stratigraphically equivalent to the base of the biface indicates deposition occurred 14,400±2,200 years ago (Debenham 1998, 1999). This suggests the Rock Wren biface is an age equivalent to Clovis-era artifacts or slightly earlier.

The Paleoindian period

The Paleoindian period dates to approximately 11,000 to 7,500 years ago (Warren 1984; Warren and Crabtree 1986). In the Mojave Desert, archaeological sites created by these hunters and gatherers are usually found near old streams or lakes. The temporally diagnostic projectile points are the Lake Mojave and Silver Lake forms. These were used to tip atlatl (spear thrower) darts for hunting deer and bighorn sheep. Lake Mojave projectile points are typically oval to diamond-shaped with long tapering stems. Silver Lake projectile points usually have a shoulder, a short stem, and a convex base. No confirmed Clovis projectile points have yet been found in the Mojave Desert.

The Pinto period

With the onset of the Holocene, the Mojave Desert began to warm and dry. Many lakes and streams disappeared; floral and faunal species changed dramatically. The time span from 7,000 to 4,000 years ago is termed the Pinto period (Warren 1984; Warren and Crabtree 1986). Most Pinto period sites are sparse surface scatters of flakes and a few tools and cores. Midden deposits are typically shallow, suggesting that sites were occupied temporarily and by limited numbers of people. Pinto atlatl dart points were typically thick, crudely fashioned triangular points with notched shoulders, broad stems, and indented bases. Other artifacts often found at Pinto sites include plano-convex bifaces, scraper planes, choppers, hammerstones, and flat grinding slabs.

Evidence of the Pinto culture was initially found in the Pinto Basin in Riverside County (Campbell and Cambell 1935). The Stahl site near Little Lake in Inyo County is a significant Pinto period site (Harrington 1957). Other significant research papers about the Pinto culture include Lanning 1963; Sutton 1984; Basgall and Hall 1994; and Schroth 1994.

Gypsum period

The Gypsum period, from about 4,000 to 1,500 years ago, coincided with a return to moist conditions in the Mojave Desert (Warren 1984; Warren and Crabtree 1986). The moist conditions allowed for more intensive occupation of the Mojave and a general broadening of subsistence activities. Typical artifacts of the Gypsum Period included milling equipment (for processing small hard seeds), mortars and pestles (for processing mesquite), and diverse projectile points including Humboldt Concave Base points, Gypsum points, Elko Eared points, and Elko Corner-Notched dart points (Warren 1984; Warren and Crabtree 1986). Other artifacts included leaf-shaped projectile points, knives, drills, scraper planes, choppers, dart shaft straighteners, drilled slate tubes, and incised stone pendants. The bow and arrow appeared in the Mojave Desert approximately two thousand years ago as evidenced by the occurrence of the small Rose Spring projectile points.

Newberry Cave is an important Gypsum period site in the Manix Basin. It is the only California site with split-twig figures (small woven willow twig representations of deer and bighorn sheep). The Newberry specimens are like split- twig figurines found at the Grand Canyon and at other locations in Arizona, Nevada, and Utah. Artifacts at Newbery Cave included more than a thousand atlatl shaft fragments, seventy-eight atlatl projectile points (primarily Gypsum Cave and Elko-series projectile points), pigment stones, sandals, cordage, wrapped feathers, fire drill sets, lithic and bone tools, and quartz crystals. These artifacts date to approximately 3,500 years ago.

Saratoga Springs period

The Saratoga Springs period dates from about 1,500 to 800 years ago (Warren 1984; Warren and Crabtree 1986). During this time, several significant regional cultural changes occurred. Basketmaker III pottery from the American Southwest appeared in the eastern Mojave Desert. Turquoise mining at Halloran Springs is also indicative of people from the Southwest (Warren and Crabtree 1986). Typical artifacts of this cultural period include milling equipment, mortars and pestles, ceramics, ornamental and ritual objects, and Cottonwood Triangular and Desert Side-Notch projectile points. Subsistence and settlement patterns featured larger villages and specialized outlying temporary camps and resource processing stations. Food procurement was more generalized and less mobile than in earlier periods.

Shoshonean period

The Shoshonean period extended from 800 years ago to the time of historic contact by Father Garcés in 1776 (Warren 1984; Warren and Crabtree 1986). Influence by the Ancestral Puebloan in the American Southwest was reduced compared to that during the earlier Saratoga Springs period. Ceramics continued to proliferate and were more common in the southern part of the Mojave Desert (Warren and Crabtree 1986). Trade with people at the Colorado River and the Pacific Coast increased along established routes. Characteristic projectile points of

this period were the Desert Side-Notch and Cottonwood Triangular forms (Warren 1984; Warren and Crabtree 1986).

Conclusion

This paper has presented a brief overview of the prehistoric archaeological record of the Mojave Desert. The Mojave Desert has the deepest prehistoric archaeological record yet discovered in the United States, extending back to more than 200,000 years ago.

References

Alsozatai-Petheo, J., 1975, *The East-Rim Site, California (S. B. C. M. 1803): An Early Western Lithic Co-tradition*. Unpublished Master's thesis, Eastern New Mexico State College, Portales, New Mexico.

Bacon, C.R., and L.A. Duffield, 1981, Late Cenozoic Rhyolite of the Kern Plateau, Southern Sierra Nevada. *American Journal of Science* 281:1-34.

Basgall, M.E., and M.C. Hall, 1994, Perspectives on the Early Holocene Archaeological Record of the Mojave Desert. In *Council Conference Papers* 1987-1992, edited by G.D. Everson and J.S. Snyder, pp. 63-81. California State University, Bakersfield, Museum of Anthropology, *Occasional Papers in Anthropology* 4.

Binning, J.D, R.S. Brown, N. Meek, and E.B. Weil, 1985, *Intermountain Power Project (IPP): The Cultural Resources Study of the Ground Electrode Facility at Coyote Lake, San Bernardino County, California.* Prepared for the City of Los Angeles, Department of Water and Power by Applied Conservation Technology, Inc., Westminster, California.

Bischoff, J.L., R.J. Shlemon, T.L. Ku, R.D. Simpson, R.J. Rosenbauer, and F.E. Budinger, Jr., 1981, Uranium-series and Soils-geomorphic Dating of the Calico Archaeological Site, *Geology* 9(12):576-582.

Budinger, F.E., Jr., 1983, Evidence for Pleistocene Man in America: The Calico Early Man Site, San Bernardino County, California. *California Geology* 36(4): 75-82.

Budinger, F.E., Jr., 1992, *Targeting Early Man Sites in the Western United States: An Assessment of the Manix Type Section, Central Mojave Desert, California*. Unpublished Master's thesis, California State University, San Bernardino.

Budinger, F.E., Jr., 1996, A Search Strategy for Evidence of Early Man in America: A Preliminary Assessment of the Manix Type Section, Central Mojave Desert, California. *Proceedings of the Society for California Archaeology* 9:113-119.

Budinger, F.E., Jr., 2024, The Legacy of the Calico Early Man Project. *Proceedings of the Society for California Archaeology* 37:110-127. (https://scahome.org/page-18327)

Budinger, F.E., Jr. and R.D. Simpson, 1985, Evidence for Middle and Late Pleistocene Man in the Central Mojave Desert of Southern California. In *Woman, Poet, Scientist: Essays in the New World Anthropology Honoring Dr. Emma Louise Davis*, compiled and edited by the Great Basin Foundation, pp. 16-36. Ballena Press, Los Altos, California.

Campbell, E. W. C. And W. H., 1935, The Pinto Basin Site: An Ancient Aboriginal Campground in the California Desert. Los Angeles, *Southwest Museum Papers* 9:1-51.

Debenham, N., 1998, Thermoluminescence Dating of Sediment from the Calico Site (California) (CAL1). Quaternary TL surveys, Nottingham, United Kingdom.

Debenham, N., 1999, Thermoluminescence Dating of Sediment from the Calico Site (California) (CAL2). Quaternary TL surveys, Nottingham, United Kingdom.

Hunt, A.P., 1960, Archaeology of the Death Valley Salt Pan, California. Salt Lake City, University of Utah Anthropological Papers 47

Izett, G.A., 1981, Volcanic Ash Beds: Recorders of Upper Cenozoic Silicic Pyroclastic Volcanism in the Western United States. *Journal of Geophysical Research* 86 (B 11): 10,200-10,222.

Jefferson, G.T., 1968, *The Camp Cady Local Fauna from Pleistocene Lake Manix, Mojave Desert, California.* Unpublished Master's thesis, University of California, Riverside.

Jefferson, G.T., 1985a, Review of the Late Pleistocene Avifauna from Lake Manix, Central Mojave Deset, *California. History Museum of Los Angeles, Contributions in Science* 362:1-13.

Jefferson, G.T., 1985b, Stratigraphy and Geologic History of the Pleistocene Manix Formation, Central Mojave Deset, California. In *Cajon Pass to Manix Lake; Geologic Investigations Along Interstate 15,* compiled by R.E. Reynolds, pp. 157-169. San Bernardino County Museum, Redlands, California.

Jefferson, G.T., 1989, Late Pleistocene and Earliest Holocene Fossil Localities and Vertebrate Taxa from the Western Mojave Desert. In *The West-central Mojave Desert: Quaternary Studies between Kramer and Afton Canyon*, edited by R.E. Reynolds, pp. 27-40, Special Publication, San Bernardino County Museum Association, Redlands, California.

Jefferson, G.T., 1991, A Catalog of Late Quaternary Vertebrates from California: Part One, Nonmarine Lower Vertebrate and Avian Taxa. *Natural History Museum of Los Angeles County, Technical Reports*, No. 5.

Lanning, E. P., 1963, The Archaeology of the Rose Spring Site (INY-372). *University of California Publications in American Archaeology and Ethnology* 49 (3): 237-336.

Meek, N., 1989, Physiographic History of the Afton basin, Revisited. In *The West-central Mojave: Quaternary Studies Between Kramer and Afton Canyon*, edited by R. E. Reynolds, pp. 78-83. San Bernardino County Museum Association, Redlands, California.

Meek, N., 1990, *Late Quaternary Geochronology and Geomorphology of the Manix Basin, San Bernardino County, California*. Unpublished PhD dissertation, University of California, Los Angeles.

Meek, N., 1999, New Discoveries about the Late Wisconsinan History of the Mojave River System. In *Tracks Along the Mojave: A Field Guide from Cajon Pass to the Calico Mountains and Coyote Lake*, edited by R. E. Reynolds and J. Reynolds, San Bernardino County Museum Association, Redlands California.

Owen, L.A., T. Davis, M.W. Caffee, F. Budinger, and D. Nash, 2011, Surface Ages and Rates of Erosion at the Calico

Archaeological Site in the Mojave Desert. *Geomorphology* 125:4050.

Reheis, M.C., J. Bright, S.P. Lund, and D.M. Miller, 2012, A Half-million Year Paleoclimate from the Manix Core, Mojave Desert, California. *Paleogeography, Paleoclimatology, Paleoecology* 365-366:11-37.

Reheis, M.C., J.R. Redwine, E. Wan, J.P. McGeehin, and D. Paco VanSistine , 2014, *Surficial Geology of Pleistocene Lake Manix, San Bernardino County, California.* Pamphlet to Accompany Scientific Investigations Map 3312. U.S. Geological Survey.

Reheis, M.C, D.M. Miller, J.B. Paces, C.G. Oviatt, J.R. Redwine, D.S. Kaufman, J. Bright, and E. Wan, 2021 Geomorphic History of Lake Manix, Mojave Desert, California: Evolution of a Complex Terminal Lake Basin. *Geomorphology* 392(1) November 2021, 107901.

Rogers, M. J, 1939, Early Lithic Industries in the Basin of the Colorado River and Adjacent Desert Areas. *San Diego Museum of Man Papers* 3.

Sarna-Wojcicki, A.M., R.H. Bowman, C.E. Meyer, P.C. Russell, M.J. Woodward, G. McCoy, J.J. Rowe, Jr. P.A. Baedecker, F. Asaro, and M. Michael, 1984, *Chemical Analyses, Correlations, and Ages of Upper Pliocene and Pleistocene Ash Layers of East Central and Southern California*. U.S. Geological Survey Professional Paper 1293.

Schroth, A. B, 1994, *The Pinto Point Controversy in the Western United States.* Unpublished PhD Dissertation, University of California Riverside.

Schuiling, W. (editor), 1972, *Pleistocene Man at Calico*. San Bernardino County Museum Association, Bloomington, California.

Schuiling, W. (editor), 1979, *Pleistocene Man at Calico*. San Bernardino County Museum Association, Redlands, California.

Shlemon, R.J. and F.E. Budinger, Jr., 1990, The Archaeological Geology of the Calico Site, Mojave Desert, California. In *Archaeological Geology of North America*, edited by N. P. Lasker and J. Donahue, pp. 301-313. *Centennial Special Volume 4*, *Decade of North America Geology* series, Geological Society of America, Boulder, Colorado.

Shutler, R., Jr., 1968, The Great Basin Archaic. In *Prehistory of the United States* 1(3): 24-26, edited by C. Irwin-Williams, Eastern New Mexico University.

Simpson, R. D., 1960, Archaeological Survey of the Eastern Calico Mountains. *The Masterkey* 34 (1): 25-35.

Simpson, R. D., 1976, The Manix Lake Industry: Early Lithic Tradition or Workshop Refuse? A Commentary on W. Glennon's Article. *Journal of New World Archaeology* 1(1):63-66.

Simpson, R. D., 1978, *The Calico Mountains Archaeological Site.* In *Early Man in America from a Circum-Pacific Prospective*, edited by A. L. Brian, PP. 218-220. Department of Anthropology, University of Alberta, Occasional Papers, No. 1.

Simpson, R. D., 1980, The Calico Mountains Site: Pleistocene Archaeology and the Mojave Desert. In *Early Native Americans: Prehistoric Demography, Economy, and Technology*, edited by D. I. Broman, pp. 7-20. Mouton, The Hague.

Simpson, R. D., 1982, The Calico Mountains Archaeological Project: A Progress Report. In *Peopling of the New World*, edited by J. Erickson, R. Berger, and R.E. Taylor, pp.181-192. Ballena Press, Palo Alto, California.

Simpson, R. D., 1999, An Introduction to the Calico Early Man Lithic Assemblage. *San Bernardino County Museum Association Quarterly* 46(4).

Simpson, R. D., L.W. Patterson, and C.A. Singer, 1986, Lithic Technology of the Calico Mountains Site, Southern California. In *Evidence of the Pleistocene Peopling of the Americas*, edited by A.L. Brian, pp. 89-105. Center for the Study of Early Man, University of Maine, Orono.

Sutton, M. Q., 1996, The Current Status of Archaeological Research in the Mojave Desert. *Journal of California and Great Basin Anthropology* 18 (22) 21-257.

Wallace W. J., 1977, *Death Valley National Monuments Prehistoric Past: An Archaeological Overview.* Tucson, Report to the National Park Service.

Warren, C. N., 1984, The Desert Region. In *California Archaeology*, by M. Moratto, pp. 339-430. Academic Press, Orlando, Florida.

Warren, C.N. and R. H. Crabtree, 1986, *Indians, Volume 11, Great Basin*, edited by W. L. d'Azevedo, pp. 183-193. W. C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.