CONTEXTUALIZING THE CERAMICS OF LEWIS HOLES, NEVADA

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Ceramics in the Mojave Desert are rare, but they do occur. The most common type of ceramics in the Mojave Desert are those similar to Owens Valley Brownware and other coil and scrape plainware ceramic vessels. However, Tizon Brownware and Lower Colorado Buffware represent two recent and informative ceramic styles in the desert. These two types are made through paddle-and-anvil manufacture rather than coil and scrape. Investigations at Lewis Holes in 1968 and later in 2007 revealed a habitation site with 105 collected Lower Colorado Buffware ceramic sherds. A handful of these sherds make up at least one vessel with large, preserved rim fragments. In this report, I contextualize the ceramics of Lewis Holes, Nevada, just outside the California border, within the greater ceramic framework of the Mojave Desert, and interpret the use of these ceramics and their cultural meaning.

Lewis Holes, Nevada (26CK121), is a rock art and habitation site located near the border between Nevada and California in the Castle Mountains (Figure 1). The site is on an alluvial plain eroding from the Castle Mountains at an elevation of around 4,000 ft (Moen 1968). The local flora consists of creosote scrub, including creosote, yucca, mesquite, and burro bush. Lewis Holes has had multiple recordings, the first in 1953 and the last known in 2007. The site was recorded in 1953 by Haenszel with the trinomial listed as 26CK121/169, suggesting that the site had been combined with another. This author is unaware of any known files of this additional site. The 1953 report described the site as containing "[p]etroglyphs on [the] side of [a] mountain, pecked deeper than usual. Below the cliff containing the figures, [sic] is a campsite with unbroken pottery, etc. (early 1920's)" (Haenszel 1953). The only reported artifacts at the time were potsherds. However, in 1968, the site was described to have both habitation and storage shelters in two rockshelters, an "open site" on a flat below the petroglyph features, as well as a water tank and windmill known as Stray Cow Well (Moen 1968).

In this report, adverse effects on the site are reported, such as weathering on the east- and west-facing petroglyph panels, mining claim markers and test pits, and the mention of the historic windmill and well (Moen 1968). The site's most recent update known to the author was in 2007. This recording was done through the University of Nevada, Las Vegas (UNLV), by David Yoder and Chris Brosman under the direction of Dr. Barbara Roth. This revisit elaborated on one of the previous site reports, recording lithic debitage of chert and obsidian in Rockshelter 1 and lithics and sherds in Rockshelter 2 (Roth et al. 2007).

The "open site" mentioned in 1968 was located by the UNLV team as a sparse lithic scatter of 10 flakes in a 15 x 15 m area (Roth et al. 2007). The concern of adverse effect was mirrored in the 2007 report, as it was mentioned that the site is "only 200 m from the road and is in plain sight" (Roth et al. 2007). It was noted that the site had likely been stripped of most of its surface artifacts. Curiously, these three site reports made no mention of collected artifacts from surface collections or excavations. To the author's knowledge, 105 ceramic sherds were collected from the site, with 17 fragments representing a single vessel, collected from one of the rockshelters. It is hypothesized that the 17 vessel sherds were collected from Rockshelter 2 as the 2007 recording mentioned a large bowl fragment in the locus.

Figure 1. Lewis Holes, ca. 1863. From "Photographic Views of the Mojave Route, El Dorado Canyon and Fort Mojave." Image courtesy of University of California, Berkeley, Bancroft Library.

The site has had a history much longer than these three recording episodes, however. Lewis Holes was visited by Richard D'Heureuse during his 1863 Mojave Road survey expedition. This journey took D'Heureuse through Fort Mohave in Arizona, into the San Bernardino Valley, and through the Cajon Pass in California.

GEOLOGY AND ENVIRONMENT

Lewis Holes (26CK121) is located in the Castle Mountains, a range straddling both California and Nevada in the Mojave Desert. Castle Mountains was proclaimed a national monument by presidential proclamation in 2016 by former President Obama (National Park Service 2016). The range is bounded on three sides by the Mojave National Preserve. The range is composed of Proterozoic gneiss and foliated granites overlaid by volcanic deposits (National Park Service 2016). Additionally, the Castle Mountains are home to the Umpire obsidian source (Sutton 1989). The New York Mountains provide vital recharge for the Lanfair Valley watershed, a 226-m^2 aquifer that is critical to this ecosystem and feeds Piute Spring (National Park Service 2016). Piute Spring is the only perennial stream and riparian corridor in the Mojave National Preserve, and has been radiocarbon dated to 6,825 BP by the USGS (National Park Service 2016).

Faunal residents include desert bighorn sheep, mule deer, bobcats, mountain lions, golden eagles, desert tortoise, Gila monsters, and two species of bat (Townsend's big-eared bat and California leaf-nosed bat). The area is a critical habitat to bighorn sheep due to its setting as a wildlife corridor between the dry Piute Mountains to the southeast and the wet New York Mountains to the northwest. This ecosystem is also home to Joshua tree forests as well as pinyon/juniper forests at higher elevations. Of particular interest are the native grasses in Castle Mountains; half of the 28 native grasses in this area are rare (National Park Service 2016).

THE CHEMEHUEVI AND SOUTHERN PAIUTE

Drawing from cultural boundary research by Heizer (1951), Kroeber (1925), Kelly and Fowler (1988), and others, the most likely occupants of the Castle Mountains and Lewis Holes are the Chemehuevi, a subgroup of the Southern Paiute. The Southern Paiute are known to occupy land from the Colorado Plateau, Basin and Range province, and Mojave Desert. The Chemehuevi are a southern Numic branch of Uto-Aztecan speakers (Kelly and Fowler 1988:368). While belonging to the Numic language group, the Chemehuevi are heavily influenced by the Yuman culture group, most notably the Mohave to the south. The Mohave are said to have given the Chemehuevi their name, a rough translation of fish eater or one who does things with fish, a riff on their dietary taboo of fish. This Yuman connection allowed the Chemehuevi to adopt traits such as ceramic use and production as well as floodplain farming (Kelly and Fowler 1988:370). While the Southern Paiute also participated in ceramic traditions, the Chemehuevi applied the Southwest tradition of paddle-and-anvil pottery, most notably Tizon Brownware and Lower Colorado Buffware, rather than the coil and scrape brownware of the Great Basin and Mojave Desert cultures. The Chemehuevi had extensive trade networks extending to the Kawaiisu, Serrano, Vanyume, Cahuilla, and Diegueno (Kelly and Fowler 1988:370). The Chemehuevi were known to travel as far as the Tehachapi Mountains and San Bernardino Mountains in California where the Southern Paiute were known to trade as far as the California coast for shell bead trading with the Chumash as well as trade with the Hopi (Kelly and Fowler 1988:377).

Other than abstaining from fish consumption (Laird 1976:46-47), the Chemehuevi followed much of Southern Paiute subsistence traditions. Due to the meager nature of resources in the Mojave Desert, the diet breadth of the Southern Paiute was wide. Resources included small game (e.g., lizards, jackrabbits, cottontail rabbits, birds), large game (e.g., bighorn sheep, mule deer, pronghorn), and numerous plants. Plant resources were essential to the Southern Paiute and included roots, tubers, berries, roasted agave hearts, seeds, and the annual pinyon nut harvest. Pine nuts played a vital role in the subsistence of the Southern Paiute and Great Basin peoples at large. They would head to higher elevations during fall and winter to harvest this resource; a local source of pinyon pine is near Las Vegas at Mount Charleston. Southern Paiute creation stories state that they came from Mount Charleston, called *Nuvagantu*.

The green pine cones were harvested and roasted to expose the pine nuts inside. Using a willow hook pole to knock down the green cones, they were collected and placed in a burden basket. A fire pit was placed in a bird's nest shape, and the cones were placed over hot coals and left to roast for a half hour (Kerr 1936). The nuts were then removed from the cones and roasted nuts were placed in a basket. The nuts were unshelled at the home site with stones, and shelled nuts were roasted again. After the nuts dried, they were ground to a powder and mixed with water to become a porridge, just as acorns were within other California tribes (Kerr 1936:5). Pine nuts are high in fat and calorically dense. This resource was often cached over the season.

During forays into the mountains, Paiutes would meet up with friends and family from other groups to camp communally, exchange news and stories, and solidify social bonds (Knack 2001). Agriculture was introduced shortly before European contact. The Southern Paiute farmed red, white, and yellow varieties of corn, as well as gourds, beans, sunflowers, amaranth, and devil's claw (which is known to treat pain and inflammation [Kelly and Fowler 1988:371]). Corn and squash made up the bulk of Southern Paiute agriculture, as well as melons and wheat (Kelly and Fowler 1986). Ditch dug irrigation and floodplain irrigation were both practiced, as well as watering by hand. The wide diet breadth of the Southern Paiute relied on seasonality. Summer was the hunting season for big game. Late summer was when the communal crop harvest occurred, timed with pinyon gathering in the mountains. Fall was the gathering season for other plants such as tubers. Winter relied on the fall and summer caching of food, with these caches running out in the spring. This is when the Southern Paiute would switch to undesirable or unpalatable starvation foods (Kelly and Fowler 1988).

CERAMICS OF THE MOJAVE

The notable craft of the southwestern United States is typically pottery; however, the most notable craft for Southern Paiutes was basketry. Burden baskets were common utilitarian ware, and women's basket caps were utilized as well. Paiutes also practiced the tradition of cradle-boarding their infants in successively sized boards until they were an appropriate age to roam on their own. While basketry among the Southern Paiute was truly a craft, brownware pottery was also used, but to a more utilitarian extent. Cooking vessels were of utmost importance because many Southern Paiute groups (Chemehuevi, Las Vegas, Moapa, Panaca, and Panguitch) did not utilize the Great Basin tradition of stone boiling baskets for cooking (Kelly and Fowler 1986). The ceramics of the Chemehuevi were a combination of the Great Basin Brownware as well as Lower Colorado Buffware and Tizon Brownware due to their cultural ties with Yuman groups to the southeast. Women were most often the potters while men made their own tobacco pipes and children often made ceramic toys and effigies (Kelly and Fowler 1988:375). Most Patayan ceramics were made during the Patayan II and Patayan III periods, AD 1050-1500 and AD 1500-1850, respectively (Seymour 1997:124).

Three types of pottery dominate the ceramics of the Mojave Desert – Brownware, Tizon Brownware, and Lower Colorado Buffware. Intermountain/Great Basin/Owens Valley Brownware is a coil and scrape manufactured pottery series and was almost exclusively open fired; Brownware was a utility ware. This form of pottery is well represented in the northern Mojave Desert. Tizon Brownware and Lower Colorado Buffware are the two dominant paddle-and-anvil manufacture ceramic types present in the Mojave Desert and are well represented in the southeastern portion of the desert. Lyneis (1988:147) hypothesized that paddle-and-anvil technology was brought northwest up the Lower Colorado River by the Hohokam. According to Lyneis (1988:148), the creation of Lower Colorado Buffware was the "result of the spread of pottery into upland regions where the available clays were very different." The paddle-and-anvil pottery of the Mojave is most often plain or utility ware. This is likely due to the mobile nature of Mojave Desert groups; it is counterintuitive to bring your fine china on the road. Paddle-and-anvil pottery was widely produced in the central Mojave Desert in small quantities using materials that were immediately available (Lyneis 1988:132). As noted in Arnold (1985), clay collection for pottery typically occurs within a 1-km radius from home and temper collection occurs within a few km with a maximum range of six to nine km. This is to say that collection of pottery materials is usually done close to home.

Recent investigations into pottery sites in the Mojave Desert have shown that most ceramics in the desert are locally made (Eerkens et al. 1999, 2002; McCloskey Taylor and Brem 1993). McCloskey Taylor and Brem (1993) conducted petrographic analysis to source a ceramic assemblage from Afton Canyon. What they found was that of their 31 collected sherds, 19 were local, seven were likely local, and five were intrusive based on the petrographic observations. They were able to source the temper for these ceramics to the Mojave River drainage and the base of the Soda Mountains. Eerkens et al. (1999, 2002) analyzed ceramics from the village of Sunga'va in Owens Valley, California, as well as a comparative analysis of ceramic production among small-scale societies generally. What they found was that the Paiute and Shoshone made pots locally in Owens Valley with minimal exchange. These pots were made at an individual and family level.

The assemblage of Sunga'va dates to 1,150 BP in the Cottonwood Creek area. The pots were made from local sedimentary clays of Owens Lake and were fired in an oxidizing atmosphere, most likely from open firing (Eerkens et al. 1999:276). The pottery style was coil and scrape, but the coils were not smoothed, giving an appearance similar to coil and scrape corrugated technologies of the Southwest. It is possible that the inhabitants of Owens Valley would have had contact with groups that had knowledge of Southwestern technologies, such as the Southern Paiute and Chemehuevi, or they could have had contact with Southwestern groups themselves. The Mohave were known to make trade journeys to the California coast (Kroeber 1925).

What is most perplexing is the issue of why ceramic technologies were adopted in the Mojave Desert. Fewer than 30% of residentially mobile societies manufactured and utilized pottery (Arnold 1985). This is likely due to the numerous negative feedback mechanisms that dictate pottery adoption. In a residentially mobile society, weight and durability matter. Pots are heavy and fragile, two disadvantageous attributes for transport. For this reason, basketry was often preferred by mobile societies. Additionally, basketry is more forgiving in the manufacturing process. A basket can be started and stopped with no adverse effect on the final product, while the same cannot be said for pottery. Pottery requires at least some level of sedentism for manufacture. With all the necessary steps, making pots takes several weeks, and both the drying and firing stage require constant attention. The most popular season to manufacture pottery on a part-time basis is during the dry season, which coincides with the harvest of seeds and tubers. Women are often the collectors of these resources and they are often potters as well. Resource accessibility is an issue as well; mobile groups may not have reliable access to clay sources. Clay is also a learned material; each source behaves differently. Mobility with varying clay resources decreases the window of learning from mother to daughter for pottery production. Smaller groups may also have less economic benefit to pottery production with all of these constraints considered.

THE CERAMICS OF LEWIS HOLES

The ceramics of Lewis Holes are defined as part of the Patayan tradition. The Patayan is defined by the presence of desert series points and ceramics from the Colorado River area (Sutton 1989, Figure 4). As Sutton (1989:105) reported,

> The presence of Lower Colorado Buff Ware is indicative of the Hakatayan [Patayan] expression of the Protohistoric Period in the southern portions of the Mojave, while the presence of brown-ware and absence of buffware, characterizes the Protohistoric in the northern Mojave. Anasazi wares are present in the eastern Mojave and southern Nevada and (presumably) delineate Anasazi influence in that area (Lyneis 1982).

Sutton (1989:105) also noted that "several sites on Clark Mountain yielded both brown and buff wares (Lerch, 1985) and there was some indication that the brownware was stratigraphically superior to the buffware, perhaps reflecting some change during the Protohistoric Period." Of the ceramics at Lewis Holes, 11 are Brownware, 92 are Lower Colorado Buffware, and two are indeterminate. This ceramic assemblage is indicative of a Yuman-influenced, Patayan occupation, most likely the Chemehuevi. This conclusion is based on the Chemehuevi adoption of paddle-and-anvil ceramic technologies with the presence, albeit small, of Great Basin Type Brownware from other Southern Paiute groups.

Lewis Holes is not just on the California-Nevada geographic border, it is also in a border zone of cultures and people in the Mojave Desert. It is located along the Southwest and Mojave Desert interaction zone, as well as the Mohave and Chemehuevi/Southern Paiute borderland. As defined by Sutton (1989:100), an interaction zone is a group of "relationships within or between ethnic groups and/or social units, such as exchange patterns." Trade at Lewis Holes is seen through the varied ceramic assemblage. Temper is informative to identification of ceramic manufacture locations. While looking at the temper of a sherd may not tell you exactly where it was made, at least if the temper is sand, it can still be indicative of the homogeneity of the ceramic assemblage. By identifying outliers in temper type, it is possible to identify intrusive ceramics in the archaeological record. In addition to specific temper types, intrusive (or non-local) ceramics are often thin walled with narrower orifices and are decorated. It may be that the narrow orifice of the vessel serves to keep the contents inside, as goods inside the ceramic vessel may have been traded as well.

Intrusive ceramics are present at Lewis Holes in the form of 12 confirmed and seven likely Pyramid Gray sherds. These sherds are all thin walled; only one is a rim sherd and is too small to measure the rim diameter with any degree of accuracy. They are tempered with angular ground quartz, a temper no other sherds share. The distinctive gray color of the sherds, achieved by firing in a reducing atmosphere, is unique as well. Pyramid Gray is a gray paste ceramic with a temper consisting of crushed quartzose rock at 30-40% of the vessel (Seymour 1997:55). Pyramid Gray dates from AD 1100-1400 and is found between Barstow and the Colorado River. Seymour (1997:55) noted that these sherds may have been imported to the Mojave Sink area.

The temper variety of the Lewis Holes ceramics are 59 sand, 19 quartz, 19 sand and mica, five sand with carbonates, two indeterminate, and one sand and organic (Figure 2). The sand temper is consistent with the Salton Series of Lower Colorado Buffware with subtypes of Topoc Buff, Topoc Fugitive Red, Topoc Red-on-buff, and Topoc Stucco (Seymour 1997:42). Fugitive red was observed on two sherds in this collection, one likely Topoc Buff and one likely Pyramid Gray. Schroeder (1958) dated these ceramics to Patayan II at post-AD 1150. There are two sherds with stucco finish with a temper of large angular ground quartz. These appear to be similar to Pyramid Gray in manufacture but are a lighter pink buff paste color rather than gray. These sherds could be part of the Gila Bend Series or Parker Stucco, which would benefit from the analysis of a more advanced ceramicist. What is clear, however, is that the stucco finish and Pyramid Gray ceramics are not local to the area because of their measurable departure from the dominant sand-tempered ceramics.

Additionally, a handful of sherds were tempered with sand and mica. Sand and mica are known to have been used in Palomas Buff, dating to the same chronologic range as Topoc Buff and post-dating Pyramid Gray (AD 900-1150). However, the date range for Pyramid Gray may be more recent as Seymour (1997:124) suggested that Pyramid Gray is of squarely Patayan II manufacture. A small number of ceramics had a temper of sand with carbonates. Carbonate-bearing temper in Lower Colorado Buffware is represented by the subtypes of Salton Buff, which is known to have occasional pieces of *Anodonta* shell in the temper (Seymour 1997:54). There are additional unknown sherds that may fall into the category of Salton Buff because of the inclusion of rounded feldspar pellets and red jasper within the temper matrix.

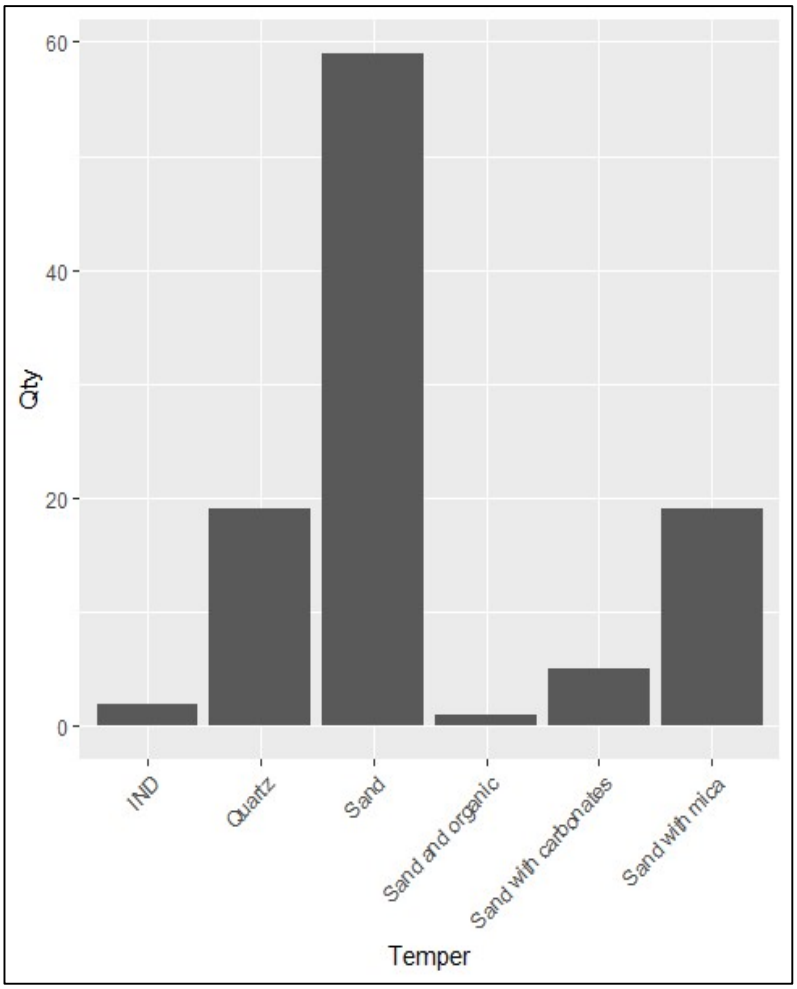

Figure 2. Temper types in the Lewis Holes collection.

The function of the ceramic vessels at Lewis Holes is unclear due to the fragmentary nature of the sherds and the limited number of rim fragments. Of the 105 ceramic sherds present, only five were rim sherds with one neck sherd and one shoulder/body sherd. Four of the five rim sherds likely came from the same vessel, a Lower Colorado Buffware vessel that could have been a cooking pot. This vessel is likely a cooking pot as it exhibits both blackening on the outside of the vessel body and pitting on the interior of the vessel. This is present in a total of 14 sherds in the collection, six of which are from the individual vessel. This orifice of this vessel measures approximately 25 cm in diameter and was found in one of the rockshelters at the site, likely Rockshelter 2.

Assemblage Conclusions

A few conclusions can be drawn here from the Lewis Holes ceramic assemblage. First, the ceramics of Lewis Holes are representative of utilitarian pottery. There are no ornately decorated wares, and the only form of paint on any vessels is a handful of some fugitive red painted vessels. The vessels could have been

locally manufactured as well, at least in the case of the sand-tempered sherds. Lewis Holes is on an alluvial fan of the Castle Mountains and could have had relatively close clay sources. Two such locations are Cima Dome and Hackberry Mountain, both about 30 miles from Lewis Holes. Although there is no recorded date on clay deposits so far in the Castle Mountains, further investigations may lead to such evidence. Lewis Holes is also in a great location for the collection of sand tempers by being close to Piute Spring and other water sources with eroded mineralogy deposits.

In addition to plainware ceramics, the assemblage from Lewis Holes is likely representative of at least a few cooking pots and some storage vessels (one of the rockshelters was used for storage). The presence of both pitting and blackening on sherds is evidence of cooking and food preparation use. The incidence of blackening could be greater in the assemblage, but with small sherds it is hard to discern blackening from fire-clouding, especially on the edge of a sherd. Pottery was not manufactured here for economic benefit or trade; rather, it is likely that the inhabitants of Lewis Holes made pots to use at family and individual levels, as evidenced by the presence of carbon cores from an open fire on some of the sherds.

DISCUSSION

The location of the site suggests that this could have been a seasonal place for the inhabitants of Lewis Holes. Following the Southern Paiute seasonal patterns, it is possible that this would have been a fall and winter locale due to its proximity to wildlife and is only a few days' travel from the pinyon juniper forest of Mount Charleston, although the Castle Mountains are home to pinyon pine as well. If the rock-shelters were indeed used for storage, this location would be a good spot to stash food stores from winter through spring. The rock art at the site, while not closely examined by this author, could represent a tie of the Chemehuevi to this area. The ceramic assemblage of Patayan II ceramics, as well as Great Basin Brownware, could represent people moving from the drying of Lake Cahuilla, which occurred at the beginning of Patayan III. It is possible that during this drying, the group could have moved to more reliable water sources, namely the Colorado River. Dating the site using ceramic typologies is especially difficult as Lower Colorado Buffware is notoriously difficult to type with a great degree of uncertainty, mostly due to the small variations in color and the mineralogy of sand temper.

The typing of these ceramics is still contentious as there are at least three different models and criteria for categorization. Additionally, many of these ceramics have similar time spans, confounding the usefulness of relative dating by ceramic type. Lewis Holes is not mentioned or photographed as being inhabited during the expedition of Richard D'Heureuse in 1863, so the site was apparently abandoned at least by that time. Also, the construction of an undated historic windmill and well of Stray Cow Well likely took place after site abandonment. While some elements of Lewis Holes may be difficult to interpret, it is clear that the site plays a role in the greater theme of paddle-and-anvil technology in the Mojave Desert, and could likely have been home to the Chemehuevi as evidenced by the Patayan and Mojave artifact assemblage. This site continues to inform the dialogue of the Patayan tradition in the eastern Mojave Desert.

REFERENCES CITED

Arnold, Dean E.
1985 *Ceramic Theory and Cultural Process*. Cambridge University Press, Cambridge.

Eerkens, Jelmer W., Hector Neff, and Michael D. Glascock
1999 Early Pottery from Sunga'va and Implications for the Development of Ceramic Technology in Owens Valley, California. *Journal of California and Great Basin Anthropology* 21(2):275-285.
2002 Ceramic Production Among Small-Scale and Mobile Hunters and Gatherers: A Case Study from the Southwestern Great Basin. *Journal of Anthropological Archaeology* 21(2):200-229.
Haenszel, Arda M.
1953 *Archaeological Site Survey Record of Lewis Holes, NV.* Archaeological Site Survey Report. Copies available from Nevada State Historic Preservation Office upon request.
Heizer, Robert F., and Mary A. Whipple (eds.)
1951 *The California Indians: A Source Book.* University of California Press, Berkeley.
Kelly, Isabel T., and Catherine S. Fowler
1988 Southern Paiute. In *Great Basin*, edited by Warren L. d'Azevedo, pp. 368-397. Handbook of North American Indians, Vol. 11. Washington, D.C.: Smithsonian Institution.
Kerr, Mark
1980 *The Shoshoni Indians of Inyo County, California: The Kerr Manuscript*, edited, annotated, and with Introductory Preface by Charles N. Irwin. Ballena Press Publications in Archaeology, Ethnology, and History No. 15.
Knack, Martha C.
2005 *Boundaries Between: The Southern Paiutes, 1775-1995.* University of Nebraska Press, Lincoln.
Kroeber, Alfred L.
1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin* 78.
Laird, Carobeth
1976 *The Chemehuevis*. Malki Museum Press, Banning, CA.
Lerch, Michael K.
1985 *Archaeological Studies at the Colosseum Mine: Surface Collections and Test Excavations at CA-SBr-4889, -5300, and -5303, Clark Mountain Range, San Bernardino County, California*. Report on file at the Archaeological Research Unit, University of California, Riverside.
Lyneis, Margaret M.
1982 Prehistory in the Southern Great Basin. In *Man and Environment in the Great Basin*, edited by David B. Madsen and James F. O'Connell, pp. 172-185. Society for American Archaeology Papers No. 2.
1988 Tizon Brown Ware and the Problems Raised by Paddle-and-Anvil Pottery in the Mojave Desert. *Journal of California and Great Basin Anthropology* 10(2):146-155.
McCloskey Taylor, Diann L., and Gerald F. Brem
1993 Late Prehistoric Ceramics from Afton Canyon (CA-SBr-85) and Crucero Valley (CA-SBr-3572): Indigenous or Intrusive? *Proceedings of the Society for California Archaeology* 6:121-127.
Moen, M.
1968 *Archaeological Site Survey Record of Lewis Holes, NV.* Record on file at Nevada State Historic Preservation Office, Carson City, NV.
National Park Service
2016 *Castle Mountains National Monument Site Bulletin.* National Parks Service, U.S. Department of the Interior, Washington, D.C.
Roth, Barbara J., David Yoder, and Chris Brosman
2007 *Addendum for Site No. 26CK121. Archaeological Site Survey Record of Lewis Holes, NV.* Copies available from Nevada State Historic Preservation Office upon request.

Seymour, Gregory R.
1997 *A Reevaluation of Lower Colorado Buff Ware Ceramics: Redefining the Patayan in Southern Nevada*. Master's thesis, Department of Anthropology, University of Nevada, Las Vegas.
Schroeder, Albert H.
1958 Lower Colorado Buff Ware. In *Pottery Types of the Southwest*, edited by Harold S. Colton. Museum of Northern Arizona, Ceramic Series 3D, Flagstaff.
Sutton, Mark Q.
1989 Late Prehistoric Interaction Spheres in the Mojave Desert. *North American Archaeologist*, 10(2):95-121.
University of California Archives
1863 *Photographic Views of the Mojave Route, El Dorado Canyon and Fort Mojave, 1863*. Photograph Collection of Richard D'Heureuse, Bancroft Library, University of California, Berkeley.