

**A CLAMSHELL DISK BEAD MANUFACTURING KIT FROM CA-SON-2294/H,  
PETALUMA ADOBE STATE HISTORIC PARK, SONOMA COUNTY, CALIFORNIA**

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*Recent flooding at Petaluma Adobe exposed a refuse pit that included a clamshell disk bead manufacturing kit. Clamshell disk bead manufacture is reported in the local ethnographic record and found in archaeological context. *Saxidomus nuttalli* perforated disk beads travelled eastward from the coast to the Sierras and upper Sacramento Valley and are temporal markers for these areas. We propose that the discovery of this specialized kit, from a discrete time frame and setting, implies a response to the fast-spreading smallpox epidemic of 1837-38.*

The New Year's Eve 2005-2006 flooding of Adobe Creek exposed the cross-section of a pit-like deposit in the stream bank east of Petaluma Adobe in Sonoma County (Figure 1). Materials were recovered under extreme conditions by Senior State Archaeologist Breck Parkman (2006, 2007). Mudflow, rapid bank erosion, and fluctuating stream depth necessitated salvage excavation (Figures 2 and 3). This emergency action revealed a discrete accumulation of Mexican Republic-period (1821-1846) ceramics, glass, metal, and dietary debris, as well as clamshell fragments and disk beads, glass beads, and bone and stone tools associated with the native population living just east of the adobe in colonial times (Figure 4) (Parkman 2007). Many of these items suggest a high-status household. This "New Year Feature" (NYF) was exceptional because of the variety and quality of its constituents.

Among items of value, this unintentional "time capsule" yielded components of a clamshell disk bead manufacturing kit, comprised of a whole *Saxidomus nuttalli* shell, primary- and secondary-stage bead blanks, finished and polished beads of varying sizes, and lithic and metal implements suitable for use as bead perforation drills (Figure 5). Discovery of specialized craft items and objects of value among refuse associated with the setting and events of a specific time period generated questions. Primary among them was, "Why would the kit components be tossed into a rubbish pit?" Research resulted in the hypothesis that a cataclysmic event in the mid to late 1830s caused dramatic disruption of the resident native population. Such an event may have involved hostilities between colonists and local Indians, or resulted from disputes between disenfranchised mission Indians and non-mission Indians, or—and this seems most likely—disease may have forced abandonment and obliteration of residences and possessions. Isolating the event is our challenge.

The archaeological site within Petaluma Adobe Historic State Park is well-studied. In 1958, Adán Treganza reported a thin layer of midden on both sides of Adobe Creek (Treganza 1958). In 1961, during Pacific Gas & Electric Company excavation in the park east of Adobe Creek, Charles Bisbee documented two shallow "basin" or "pit-like" features containing evidence of burning, and, in a 1962 study, Charles Gebhardt (1963) excavated 31 units, including two in midden on the west stream bank of Adobe Creek, across from the NYF. Finally, between 1996 and 1998, Steve Silliman's fieldwork resulted in a comprehensive archaeological study east of the creek (Silliman 2000, 2002). Prior to discovery of the New Year Feature, site investigations yielded only two clamshell disk beads.

Area exploration narratives describe native possession and use of clamshell disk beads. However, ongoing clamshell disk bead manufacture under constraints of foreign intrusion is not mentioned at all. Ethnohistoric records confirm that Bodega Miwok people controlled bay mudflat sources of *Saxidomus nuttalli* and that Pomoan people living on surrounding terrain dominated bead manufacture and export (Kelly 1978, 1991; Kroeber 1925). Crafted from thick *Saxidomus* shells into perforated disks of varying



*Figure 1. Location of Petaluma Adobe, Sonoma County, California.*



*Figure 2. Adobe Creek flood with the New Year Feature visible in the upper left, December 31, 2005 (photo by Sara Skinner).*



Figure 3. Profile of New Year Feature, May 19, 2006 (photo by Breck Parkman).

sizes and polished to pearl-like luster, beads were strung on fiber string and are understood to have served as a medium of exchange, mortuary gifts, bride price, and ornaments (Abel-Vidor et al. 1996; Beardsley 1948, 1954; Harrington 1942; Kroeber 1925). Clamshell disk beads are established temporal markers for cultural activities between A.D. 1500 and 1850 (Bennyhoff 1977:43-46; Milliken and Bennyhoff 1993).

Pre-contact goods, including clamshell disk beads, moved from the coast eastward as far as the Sierras and northward into upper Sacramento Valley (Davis 1974). North of San Francisco Bay, archaeological sites in valleys drained by Petaluma and Napa rivers, as well as in Lake and Mendocino Counties, have yielded artifacts associated with clamshell disk bead manufacture, indicating that the craft was ongoing through time (e.g., Hartzell 1991; Heizer 1953; Keswick 1990; Parker 1980). Information that disk bead manufacture and use persisted during northern California's Hispanic and American settlement periods is scarce. Nonetheless, late-nineteenth-century recorded details of bead-making after the craft's decline due to Hispanic dominance on the landscape are significant (Hudson 1897; Yates 1875). Evidence of specialized native crafts in local Rancho-period archaeological data also provides records of continuity of bead and/or stone and bone tool manufacture (Silliman 2000).

The Spanish government and successor Mexican regime perceived the environment and coastal access north of San Francisco Bay as ideal for colonization, as well as a fortuitous "barrier" against Fort Ross-based Russian intrusion onto Hispanic lands. In order to discourage Russian advancement, in 1823 the most northerly Franciscan mission was established at Sonoma. Just in the nick of time, the nearly simultaneous independence from Spain won Mexico a promising new frontier in Alta California. Locally,



Figure 4. Selected items of value from the New Year Feature (majolica, buckle, Spanish knife blade, pintle, phoenix button, bone button, lead shot and musket ball, lance counterweight, glass trade beads, obsidian projectile point, bone awl, and ring).

the new hidalgos, mostly hardened military men, were granted vast tracts of land north of San Francisco Bay. Foreign expansion over established routes presaged eventual vaporization of native lifeways. Goods and people invading central California brought destructive elements, including diseases and slave raids, to previously untainted domains.

Within a five-year period (1833-1838), Mexican expansion conveyed colonists and military force to North Bay valleys. In 1834, Mariano G. Vallejo was appointed *comisionado* for secularization of mission properties, a task he completed by 1835-1836 (Bancroft 1885:292, 720-721). In the same year, he disarmed colonists and founded the pueblo of Sonoma (Bancroft 1885:280-281, 294). During this same period, local native people experienced stresses from foreign intrusion. Missionized Indians were wedged between Mexican government and mission administration squabbles over colonial efforts to develop mission lands. Additionally, non-mission natives as well as disenfranchised mission Indians were caught in hostilities with colonists. One such incident culminated in a military campaign near Santa Rosa, resulting in the massacre of many native people. Finally, Indians faced decimation from introduced diseases. Either through his presence or his correspondence, Vallejo bound these people and events together. It is unclear when he began construction of the adobe facing the Sonoma-to-coast road, but Petaluma rancho activities, including grain cultivation, livestock herding, and some building construction, began in spring 1833 and were complemented in autumn by resident military personnel and colonists.



Figure 5. Clamshell disk bead manufacturing kit items from the New Year Feature: whole *Saxidomus nuttali* shell, cut shell fragments, primary and secondary bead blanks, partially and completely finished beads, and lithic, glass, and metal perforation implements.

But what of the Indians? Newly discharged from missions, they no doubt hoped to resettle traditional lands and to reestablish lifeways snatched from them long ago. Locally, after the mission's mere 13-year influence over the natives, secularization resulted in two categories of Indians. Missionized Indians, who nonetheless retained traditional values, were considered "tame" (*"mansitos"*), while those who resisted missionization, living wild, now posed a threat to colonists and to former neophytes struggling to build a life beyond mission confines (Fremont 1845:246). Hostilities near Rancho Petaluma forced former neophytes to entrust Vallejo with their newly acquired possessions, mostly cattle, received when the neophytes were sent from the mission. Under Vallejo's husbandry, the Indians' livestock prospered among his own herd. In a single opportune moment, Vallejo increased his herds and acquired a native workforce that eventually burgeoned into an Indian populace of soldiers, vaqueros, field hands, and domestic servants. Visitors noted that only native labor allowed Californios to achieve the empire's aspirations in Alta California; Indians did the hard work of planting and harvesting grain, manufacturing

adobe bricks, and herding livestock, as well as performing domestic tasks such as weaving, candle-making, and cooking (Fremont 1845:244-246; Simpson 1847). In less than 18 months, however, the fateful passage of Ignacio Miramontes from Fort Ross along Sonoma Road past Rancho Petaluma spread smallpox throughout North Bay valleys, into villages from the mouth of the Russian River to Sebastopol, and into upper Sacramento Valley and the Sierra foothills (Cook 1976).

Silliman's (2000) Petaluma Rancho archaeological data not only include evidence for continuity of lithic tool manufacture but also contribute to understanding on-site burning that suggests a response to a devastating event. Further evidence of on-site burning is confirmed by Bisbee (1961) and Parkman (2006). Prior to discovery of the New Year Feature, Bisbee (1961) and Silliman (2000) described five "basin-shaped" "pits" or "trenches" within CA-SON-2294/H. Pits were encountered between 24 and 35 cm below the present ground surface. The New Year Feature appears to be a trench lying perpendicular to the stream bank, but due to torrential rain, only about 8 cm of overburden remained (Parkman 2006). Although it is obvious that a considerable amount of the feature washed away, the visible portion of the trench measured 2.35 m long, 1.4 m wide, and 0.6 m deep (Parkman 2007:12). A total of 1.6 m<sup>3</sup> of the feature was salvaged. Gephardt's 1962 excavation within midden on the west side of Adobe Creek revealed charcoal to a depth of 1.37 m (Gephardt 1963). The NYF also contained charcoal, burned wood, and burned dietary debris. Evidence of burning may link to a specific event.

The significance of the discovery of a complete clamshell disk bead manufacturing kit retrieved from a discrete deposit inspires many questions, chief among them being:

- a. Was clamshell disk bead manufacture locale-specific, that is, an activity confined to an area at or near the New Year Feature?
- b. Were bead kit components and other items of value simply tossed out with rubbish, including dietary debris, in the course of routine compound cleanup?
- c. Or was the kit's disposal a reaction to calamity?

As mentioned, in 1837 Miramontes passed by Rancho Petaluma on his return to Sonoma from Fort Ross. Although Californios and Chief Solano were vaccinated against smallpox, rancho Indians were not immunized, and most succumbed to the dread disease. To date, information is elusive regarding the local disposition of natives and their possessions upon their demise due to smallpox. Burning residences was an accepted remedy in many places when smallpox swept the land. Local historian Honoria Tuomey (1926) wrote that natives were burned on pyres and buried in trenches. However, other burial practices are reported in an April 9, 1917 *Argus* article relating that "an old cemetery" a quarter of a mile from the old adobe contained "fifty bodies." Pioneer John Lawler also described a "knoll which was used as a cemetery by the people of the Vallejo adobe and many Indians are also buried therein" (Petaluma *Argus*, 9 May 1917:28). We have Vallejo's documentation that the 1837-1838 smallpox epidemic dramatically impacted the Petaluma Rancho Indian population (Vallejo to the *comandante* of San Diego, May 23, 1838; Bancroft 1886:73). Moreover, the archaeological evidence, including burned artifacts, charcoal, and burned wood found throughout the site, as well as unique items such as burned-clay house daub with vegetable impressions (Figure 6), all point to a specific burning event (Bisbee 1961; Gebhardt 1963; Parkman 2006, 2007; Silliman 2000). Given all this evidence, we believe that the New Year Feature and disposal within it of the clamshell disk bead manufacturing kit and other valued items were directly associated with the Miramontes smallpox epidemic.



Figure 6. Burned-clay house daub.

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